Part I A
Technical Proposal

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303 W. Capitol Avenue · Suite 330
Little Rock, AR 72201

+501 687 2350

info@protechsolutions.com
www.protechsolutions.com

Executive Summary

Protech Solutions is pleased to respond to the RFP 3462 for the Child Support Enforcement System Replacement. The NCSEAS project is a major undertaking for the Department of Health and Human Services. The scale of Nevada's vision as presented in the RFP and associated documents is impressive and vast. We have read through these in detail and are honored to present a detailed response to the RFP, which will position NCSEAS as the most comprehensive, advanced and effective system in the nation. Our company and our partners are committed and excited about this project. We are a leading systems integration and consulting services vendor to CSES, having successfully implemented multiple certified systems across the country. As an indication of our commitment to the success of this project, we propose a project team whose members are instrumental to success of our past projects. Protech recognizes that Nevada's fundamental objective [redacted] the highest level o[redacted] excellent and efficient customer service, [redacted] improved collections and distribution [redacted] ents. Protech's solution has met and ex[redacted] ing built systems that have met Federal [redacted] ged, we are confident in our ability to [redacted] ar none.

Success Through Partnership

Our technology and solution implementing expertise are unmatched in the industry. We bring our award-winning expertise to implementing NCSEAS for DWSS/CSEP through an open, collaborative partnership

[redacted] f the few companies that have had a [redacted] rack record implementing Child Support [redacted] y organization to build certified systems [redacted] always been at the forefront of system [redacted]

Man[redacted] we faced challenges in the past with their C[redacted] ild Support implementations, and some are s[redacted] assachusetts [redacted] e successful management of risk is not a [redacted] esson [redacted] f balloonin[redacted] s as in Texas, or the risk of using poorly [redacted] uctur[redacted] with complex, ineffective technolo[redacted] Massachusetts. We have avoided such [redacted] ges [redacted] gy, [redacted] essiv[redacted] risk management and collaborative [redacted] hips. Risk managemen[redacted] emen[redacted] tions, and we do this by establishing [redacted] and [redacted] ured [redacted] esses in the States that we have been engag[redacted] of decad[redacted]

[redacted] ver twenty years of [redacted] e in im[redacted] uccessful child support systems, we are unique[redacted] S/CSEP in[redacted] jectives and implementing the system [redacted] thin the specified timeframe of fort[redacted] success in providing CSE Systems (CSES)

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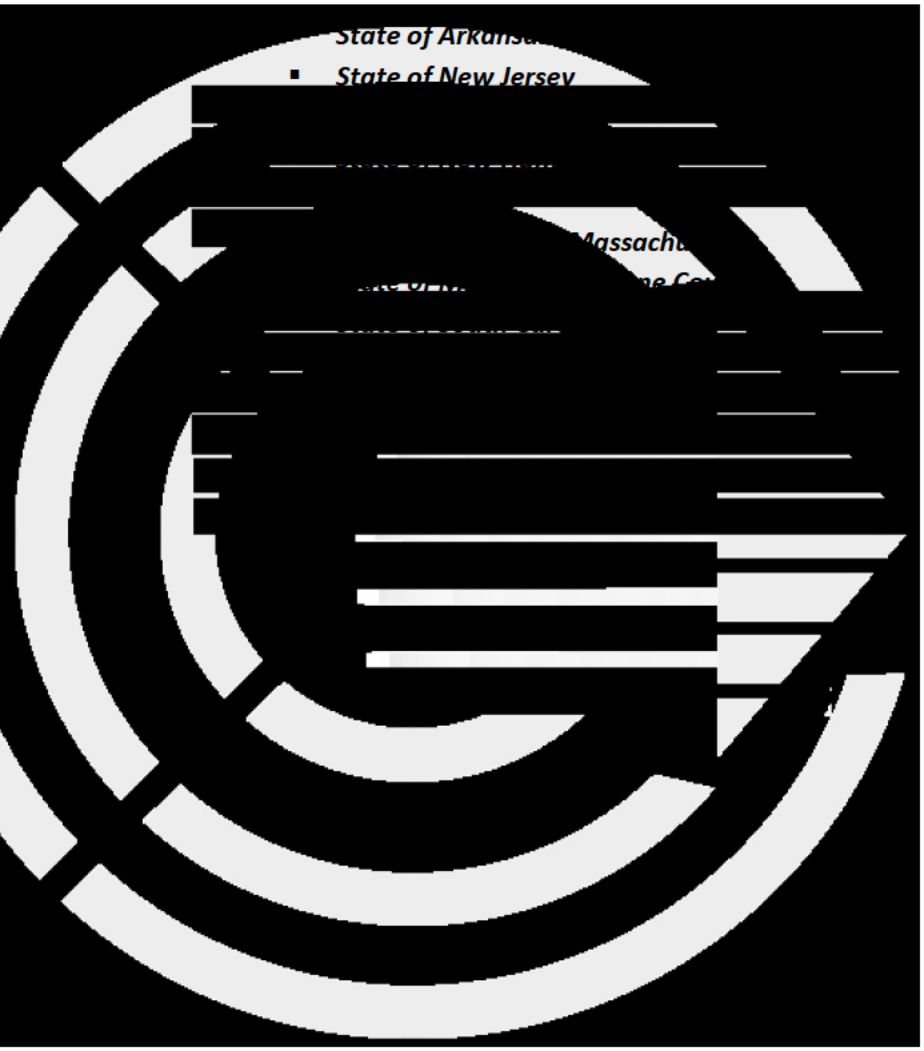
is unmatched in the industry and our clients willingly vouch to our capability, integrity, and professionalism.

Some of our key accomplishments in child support include:

- ***Achieving one of the first PRWORA certifications in the state of Arkansas***
- ***Assisting the State of New Jersey in achieving FSA88 and PRWORA certification***
- ***Implementing a complex hybrid, certified solution in less than nine months for the Commonwealth of Massachusetts***
- ***Implementing a certified system in Delaware***
- ***Working with the State of South Carolina with an implementation target of 2018***
- ***Implementing a certified system in Maine***

We have been the prime vendor or provided significant system integration services on seven successful Child Support Systems including:



Our Clients

Protech is nationally recognized for its exceptional technical capabilities and extensive knowledge in automated child support enforcement systems, policy, and business processes. Stan C. King's, former CIO for the State of Arkansas, expressed his respect and appreciation for Protech's commitment to the child support mission with the following words:

> **A Powerful**
>
> *Be fully prepared to see and experience a Child Support application deployed by a powerful team that blends expert functional child support knowledge with technological expertise.*

"Protech Solutions, Inc. has been very instrumental in the success of developing financial programs and in consulting in the creation of the new Arkansas SDU. Arkansas OCSE was successfully certified in meeting the PRWORA requirements in October 2012. Protech [illegible] dous cost savings for Arkansas [illegible] y reducing technical operating [illegible] creasing the efficiency of staff [illegible]

[illegible] anyone [illegible] ested [illegible] ewing on of their successful [illegible] come to the Arkansas OCSE [illegible] to see and experience a next [illegible]

[illegible] at makes Protech uniquely qualified is our [illegible] child support systems, from planning to [illegible] f the fact that our experience designing, [illegible] testing implementing and certifying [illegible] y applications was achieved in close [illegible] Protech can hit the ground running and [illegible] en me [illegible] s.

[illegible] ber 2000 [illegible] ons, [illegible] plies [illegible] tate of New Jersey with a highly capable [illegible] e and o [illegible] ns. In [illegible] ords of Alisha Griffin, IV-D Director for the State of [illegible] merly New [illegible] IV-D D [illegible] nd NJKiDS project sponsor:

[illegible] approa [illegible] child support goals by being [illegible] sed on what [illegible] project has its challenges, and during those critical tim [illegible] vendor can right the course to success. The Business Intelligence project implemented for New Jersey child support was one done right the first time–on time and within budget."

State of New Jersey
DEPARTMENT OF HUMAN SERVICES
DIVISION OF FAMILY DEVELOPMENT
PO Box 716
TRENTON, NJ 08625-0716

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

JENNIFER VELEZ
Commissioner

JEANETTE PAGE-HAWKINS
Director
Tel: (609) 588-2600

November 13, 2014

Jared Chancey
Office of State Procurement
1509 West Seventh Street, Room 300
Little Rock, AR 72201-4222

Re: Reference for Protech Solutions, Inc.

To Whom It May Concern:

The structure of the New Jersey child support enforcement program is complex as New Jersey is a state administered, state and county-operated program. Local program services are provided by the County Welfare Agencies (CWA) and local court systems through its respective Family, Probation and Finance Divisions. These entities collaborate to secure financial support and healthcare provisions for children and families in state and intergovernmental.

With a successful bid response to the New Jersey Department of Human Services Request For Proposal in 2006, Protech Solutions, Inc. became the primary contractor and architect of New Jersey's second generation web-based Title IV-D automated child support enforcement system. This automated system, New Jersey Kids Deserve Support (NJKIDS) has been operational statewide for more than five years following its October 2008 pilot and successful statewide implementation by September 2009. Today, Protech Solutions, Inc. (Protech) provides comprehensive maintenance and operations services for NJKIDS, which is now in full maintenance mode.

The NJKIDS application achieved full federal system certification in July 2010. Currently, there are more than 230 batch/interface programs that are integral components of this state-of-the-art system. NJKIDS continues to represent the gold standard across the nation in second generation automated child support enforcement and management development.

As the primary contractor on this large-scale project, Protech was charged with project design, development, implementation and training. Protech's original contract deliverables to the State were met on-time and under budget. As with any new system there exists at any point in time open system change requests for enhancements and defect management. Protech has consistently demonstrated flexibility and responsiveness in meeting these State requests. The company leverages its technological savvy to proactively engage stakeholders in an effort to continuously improve child support service delivery.

New Jersey is An Equal Opportunity Employer

Throughout its partnership with the State, Protech has consistently demonstrated a deep understanding of and commitment to assisting the Division of Family Development/Office of Child Support Services (OCSS) in establishing business strategies and tools that are in alignment with the five federal performance measures in child support program administration. Protech developed a fully-integrated and robust system that now includes business intelligence and reporting capabilities used to improve workflow and to monitor the State's overall performance in its child support operation.

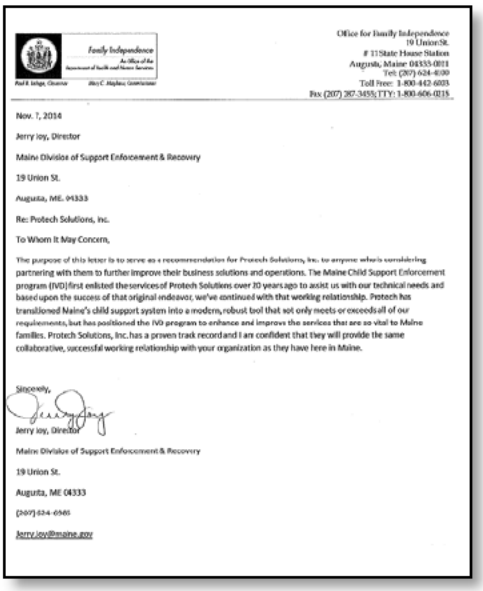
Should you have any questions regarding the information presented above or require further information regarding the State of New Jersey's contractual relationship with Protech Solutions, Inc., please feel free to contact me or Dina Thompson of my staff at (609) 631-2786 or at Dina.Thompson@dhs.state.nj.us. Ms. Thompson serves as the functional manager for NJKIDS and is intimately involved in the daily operational aspects of the system.

Sincerely,

Patricia Risch
Assistant Director

Other clients have also expressed deep appreciation to the work performed by our staff throughout many years of working closely together. Among our successful partnership, Patricia Risch, IV-D Director for the State of New Jersey, highlighted one of the most important traits that characterize our mutual success:

"As the primary contractor on this large-scale project, Protech was charged with the project design, development, implementation, and training. Protech's contract deliverables were met nd under budget. As with any em there exists at any point in n system change requests for nents and defect nent. Protech has consistently rated flexibility and eness in meeting these State The company leverages its ical savvy to proactively stakeholders in an effort to ly improve child support service



Office for Family Independence
19 Union St.
11 State House Station
Augusta, Maine 04333-0011
Tel: (207) 624-4100
Toll Free: 1-800-442-6003
Fax (207) 287-3455; TTY: 1-800-606-0215

Nov. 7, 2014

Jerry Joy, Director

Maine Division of Support Enforcement & Recovery

19 Union St.

Augusta, ME. 04333

Re: Protech Solutions, Inc.

To Whom It May Concern,

The purpose of this letter is to serve as a recommendation for Protech Solutions, Inc. to anyone who is considering partnering with them to further improve their business solutions and operations. The Maine Child Support Enforcement program (IVD) first enlisted the services of Protech Solutions over 10 years ago to assist us with our technical needs and based upon the success of that original endeavor, we've continued with that working relationship. Protech has transitioned Maine's child support system into a modern, robust tool that not only meets or exceeds all of our requirements, but has positioned the IVD program to enhance and improve the services that are so vital to Maine families. Protech Solutions, Inc. has a proven track record and I am confident that they will provide the same collaborative, successful working relationship with your organization as they have here in Maine.

Sincerely,

Jerry Joy, Director

Maine Division of Support Enforcement & Recovery

19 Union St.

Augusta, ME 04333

(207) 624-6985

Jerry.joy@maine.gov

Jerry Joy, Director of Maine's Division of Support Enforcement and recovery, has also expressed her gratitude and admiration with the following words:

"Protech has transitioned Maine's child support system into a modern, robust tool that not only meets or exceeds all of our requirements, but has positioned the IV-D program to enhance and improve the services that are so vital to Maine families. Protech Solutions, Inc. has a proven track record and I am confident that they will provide the same collaborative, successful working relationship with your organization as they have here in Maine."

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Sincerely,

Jerry Joy, Director

Maine Division of Support Enforcement & Recovery

19 Union St.

Augusta, ME 04333

(207) 624-6985

Jerry.joy@maine.gov

xpress the work Protech has accomplished

a ou ial planning efforts, Protech State with a creative strategy te the need for the mainframe licenses that were about to n our tight budget constraints, vailability of our staff, and verall effectiveness of our rogram."

We have n ked with any other vendors in the spa would have taken on this task with the limitations documented t on did Protech take them on but d the tion on time and within our d bud

Our Partners

Protech is pleased to team with Tech Mahindra, Courtland Consulting and Winning Strategies as partners for this project. Each of these entities represents best in class in their respective areas of expertise. We present a brief company background and how we propose to use their services for this project.

Tech Mahindra Ltd is part of the Mahindra Group, a USD 16.7 billion Industrial conglomerate, with a strong presence in IT, Automotive & Farm Equipment, Trade, Retail & Logistics, Infrastructure and Financial Services. Tech Mahindra offers innovative and customer-centric information technology services and solutions.

We also wish to point out that our partner Tech Mahindra is developing a state-wide Motor Vehicles [illegible] ra provides unmatched expertise in IBM's [illegible] M stack, document managemen[illegible] d business rules engines for Child Support [illegible]

[illegible] d Co[illegible] is a social change leader and nationally recog[illegible] as th[illegible] system delivery vendor for child support [illegible] fficient and passionate about delivering [illegible] et the needs of our clients and ultimately [illegible] nd is comprised of a team of talented staff [illegible]

[illegible] anaging training and implementation for [illegible] Carolina.

Winning Strategies ITS specializes in innovative technology solutions and offers a tailored approach to online marketing. They have worked with Protech in building the customer service portal for Child Support services in New Jersey. They exchange information in real time, online with the NJKiDS Child Support system.

They have worked with the State of California to create a comprehensive roadmap for a Customer and Employer Services Portal, together with Mobile apps and integration with CCSAS.

Our People

We have proposed project resources who have demonstrated the ability to lead, manage and deliver large scale projects such NCSEAS. Our project management team has worked on very large system integration projects. The functional team is comprised of team leads, business analysts and consultants that have many years of Child Support experience. The technical team has architected similar solutions on other projects. We introduce eight key senior resources in the following paragraphs, to illustrate the depth and breadth of the talent we are proposing for this program.

Tom Kelliher, our Project Director, is a seasoned Manager with extensive project management, IV&V, QM, large scale systems implementation, and Child Support Experience. His experience spans twenty-five (25) years across 12 Child Support Projects. He is currently serving as our Project Director for the New Hampshire CSES Upgrade and Enhancement Project. He has a strong record of accomplishment in consulting services executive management, delivery, and operations. His career includes experience [illegible] th GovConnect, eight years with Deloitte [illegible] onsulting practicing in the HHS m[illegible] Child Support and five years as the Deputy [illegible] the Commonwealth of Massachusetts [illegible] Child Support Systems.

[illegible] the Proj[illegible]nager[illegible] s project. Having worked with Protech as [illegible] teen [illegible] she [illegible] s a wealth of experience, principles, [illegible] pport projects across the country. She has [illegible] and we believe that she is best suited for [illegible]

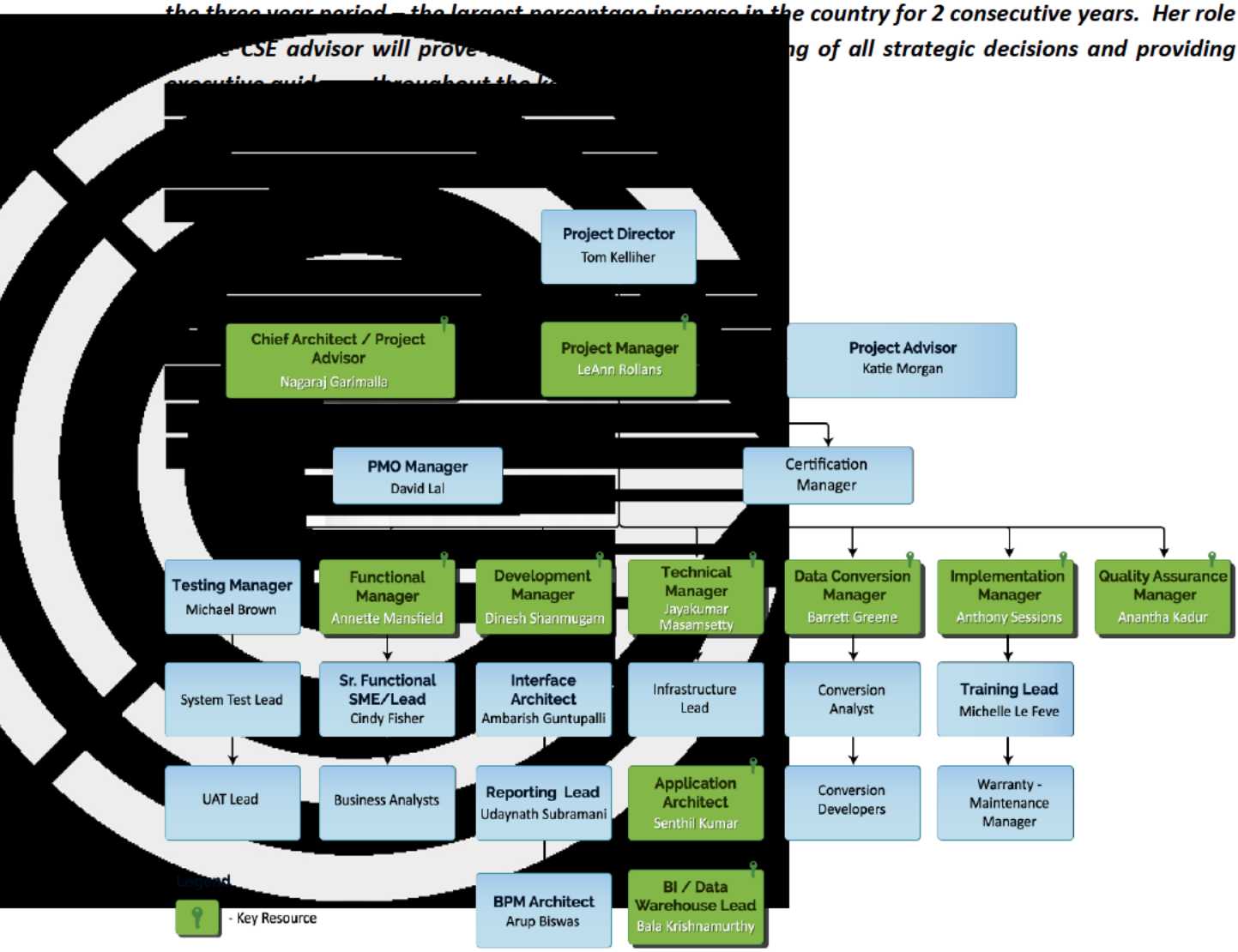
[illegible] ect has over twenty-seven (27) years of [illegible] nation technology to creative and practical so[illegible] entities. He h[illegible] in depth project management experience in [illegible] a and establishing comprehensive [illegible] am and system solutions in complex orga[illegible] ents. H[illegible] erved as the Chief Architect on our Child [illegible] edge [illegible] uildi[illegible] successful Child Support systems, from [illegible] egic planning and concept[illegible] t [illegible] h pro[illegible] am and the SDLC.

Ju[illegible] present[illegible] ur Tec[illegible] Manager is a Management Professional with ove[illegible] of experi[illegible] desig[illegible] pment and implementation of large scale [illegible] tem replacement projects fo[illegible] upport[illegible] sing transfer solutions as a base. He has [illegible] ration u[illegible] Oracle, Microsoft, and IBM Technologies and succe[illegible] Child Suppor[illegible] ms using these technologies for the Status [illegible] Maine, Michigan, Massachu[illegible] is very familiar with the technology and workings of the CCSAS transfer system and worked on analysis and modernization roadmap of the system for the last two years. He fully understands PRWORA / DRA compliance and operational

requirements. He has also led data conversion efforts in Massachusetts and orchestrated the conversion and development teams in New Jersey.

Dinesh Shanmugam, our Project Development Manager is a certified Project Management Professional, has twenty-two (22) years of extensive experience in the design, development, implementation, maintenance and operations of Application/System Software, with 20 of those years in developing enterprise child support applications for Arkansas, Michigan, Massachusetts, New Jersey and Delaware. As a Process and Technical Leader in the analysis and design of automated child support enforcement systems, he has acquired in-depth knowledge and understanding of Child Support Enforcement Policies, PRWORA-DRA compliance, Procedures, Rules and Regulations.

Katie Morgan, as the CSE Advisor is a former IV-D Director from South Carolina comes with 28 years of experience in state government in South Carolina. Among other roles she served as South Carolina's Child Support Director from 2013 to 2016, increasing collections from $252 million to $298 million over the three year period – the largest percentage increase in the country for 2 consecutive years. Her role [redacted] CSE advisor will prove [redacted] ng of all strategic decisions and providing executive guid[redacted] throughout the k[redacted]



David Lal, a seasoned PMP professional is proposed as our PMO Manager. He has directed large, complex management information systems in the areas of project management, vendor/third party management, independent validation and verification, risk management, requirements definition and systems integration for twenty (20) years. He has worked with Health and Human Services agencies for seventeen (17) years including Child Support and other Human Services systems. He has also received the CA Governor's recognition award for Right way of development.

Senthil Kumar Balasubramanian who we present as the Application Architect brings sixteen (16) years of deep functional and technical knowledge of the CCSAS (California child support system) program, having worked as Architect and Lead Software Engineer for CCSAS. He is very familiar with the technology and workings of the CCSAS transfer system. He fully understands PRWORA / DRA compliance and operational requirements. He led large teams which were responsible for process modeling, technical and functional architecture, data model, hibernate and struts implementations, batch processes, testing and automation.

Annette Mansfield, who we present[illegible] ager was Responsible for the coordination, [illegible] e Washoe County Family Support Division. [illegible] res, and worked to implement changes in [illegible] federal p[illegible] nd leg[illegible] She was an integral part of NOMADS and th[illegible] as a lia[illegible] etwee[illegible] ounty and the state.

[illegible] n Manager has twenty-four (24) years of [illegible] solutions for IV-A, IV-E and IV-D federal [illegible] and PMI-PMP Certifications. He is an [illegible] er having managed and executed project [illegible] nd South Carolina. He has held a variety of ro[illegible] managing and l[illegible] ding multiple projects; ranging from less th[illegible] ving betwee[illegible] and 10,000 end-users.

Ana[illegible] er in h[illegible] n ri[illegible] t as he has proven through his 20 years of [illegible] rience in [illegible] industry [illegible] no[illegible] esent[illegible] im as our Quality Assurance Manager. [illegible] ut the years, he [illegible] roles [illegible] uding Application Developer, Senior IV&V [illegible] & Char[illegible] anage[illegible] lity Manager, and Senior Project Lead. He is exper[illegible] project pl[illegible] uality [illegible] e plans, risk management and mitigations [illegible] ich all reflect methodologies [illegible] ate to [illegible] nt processes and technologies. He is also [illegible] tifying i[illegible] e an im[illegible] ions and ensuring the timely resolution of these is[illegible] paring detail[illegible] arly communicate benefits, barriers, risks, [illegible] tingencies, and costs.

Ambarish Guntupalli, who we present as the Interfaces Lead/Architect brings twelve years of experience working in the enterprise system development. He has experience in developing and deploying Enterprise Applications using latest JEE technologies. He also brings a wealth of experience and knowledge working on CCSAS system as a Software Engineer who focused on interface and batch architecture.

Barrett Greene, who we propose as the Data Conversion Manager has over twenty-one (21) year of experience working with large enterprise system implementations. Having served in various roles on such projects including Project Manager, Data Conversion Manager, Senior Software Engineer, and Programmer/Analyst, Barrett is capable of seeing the project from a wide range of perspectives. Most notably, Barrett served the Delaware Child Support Program for 12 years in the roles of Project Manager, Data Conversion Manager, and Program Manager. His experience in Delaware gives him uncommon insight into the factors that must be considered when converting databases that contain complex and large volumes of data into a new platform, which will be invaluable to the NCSEAS project.

We propose Rob Krishnamurthy as [illegible] l. He has 15 years of experience in business [illegible] duct management. He is experienced with [illegible] multi-tier architecture. For the past 11 [illegible] and similar [illegible] ities f[illegible] te of Indiana's Child Support Program as a Se[illegible] d Ware[illegible] Archi[illegible] ala is also more than capable of operating [illegible] Professional (PMP).

[illegible] ience of 150 child support man-years, will [illegible] nd lessons learned to the NCSEAS project. [illegible] nd effectiveness, and that the DWSS/CSEP [illegible] ns of Nevada.

Our Approach

We have provided a detailed solution and response for all of the services as requested by the RFP. Protech will be responsible for integrating all of the different technologies and custom software into one seamless system. We understand that a project of this size and complexity needs to be well managed and should follow a structured methodology, such as the one we are proposing, that utilizes industry recognized techniques and methods. Protech's methodology framework has been designed to take the maximum advantage of the best practices in the industry; our own hard-earned experience and also the team's special skills and expertise. Protech recognizes that a consistent approach to project management, with consistent processes, will ensure that that the NCSEAS project will succeed spectacularly. The Protech Project Management Methodology (Protech-PM) is our proven, tested and robust methodology that utilizes proven techniques adapted from the Project Management Institute as well as our own best practices developed through years of experience providing services to our clients. Protech-PM addresses full lifecycle methodologies from project initiation through system

Our Experience – Transferring Systems

[illegible] methodologies where we apply several [illegible] r Level-3 certification, we follow the SEI – [illegible] p a comprehensive approach to project [illegible] pline of Project Management Framework, [illegible] e a well-defined and robust methodology. [illegible] ion of our years of system implementation [illegible] various states.

In [illegible] and implementation of the NJKiDS was a str[illegible] risk-discovery strategies and augmenting solu[illegible] aterfall methodology was to leverage the trans[illegible] Michigan and the financials from Maine [illegible] Massa[illegible] these into the waterfall methodology [illegible] a creative approach [illegible] risk-discovery planning, management, and [illegible] red, and the success behind the NJKIDS impl[illegible] AS. Applying PMBOK based methodologies [illegible] will be our primary goal in order [illegible] with [illegible] CSEP program. We believe an augmented [illegible] expedites the [illegible] esign, d[illegible] nd implementation of the NCSEAS system and [illegible] presents thi[illegible] ghlights the areas and phases where this [illegible] pproach benefits the State of Nev[illegible]

Migration Considerations for CCSAS

Being a first generation system, CCSAS uses the proprietary GRNDS framework and older versions of Java. Due to long development cycles, CCSAS was quite behind in technology and California is planning to migrate to newer technologies. Key financial reports take several weeks to prepare, among other challenges. Oregon is facing similar challenges and could potentially end up with similar technology, including dated JSP and Java libraries being currently used in CCSAS.

We bring the background and knowledge to create documented data model patterns, web page patterns, batch patterns and web services patterns for CCSAS. Currently, California is in the process of creating documentation for CCSAS since it is difficult for the agency to make progress without such documentation. We also provide the background knowledge of the roadmap for the Customer Services Portals based on CCSAS data, which was made by members of our team. We bring this roadmap knowledge to the NCSEAS project, to reduce the risk of poorly documented source systems, which is

Pro[illegible]posed solution for NCSEAS uses Californi[illegible]stem as the baseline. We have thoroughly revie[illegible]ies, prac[illegible]d implementation of the CCSAS system and [illegible]ate CSAS to a modern, state-of-the-art system [illegible] a risk-managed migratio[illegible]ce[illegible]trate[illegible]

A[illegible]sented [illegible] begin[illegible]of Section 4 of our response and illustrates the wid[illegible]entary, [illegible] solut[illegible] form the contours of the modern NCSEAS [illegible]em. We comply with the [illegible] transf[illegible]ents while uniquely understanding the [illegible] to NCSEA[illegible]

Summary

The Protech Team brings to the State of Nevada:

- ✓ ***Large-scale system integration experience***
- ✓ ***A solution that meets and exceeds all the needs of the State***
- ✓ ***Child support knowledge and experience***
- ✓ ***Use of enabling technologies***
- ✓ ***Partnership approach to projects***
- ✓ ***Commitment to knowledge transfer***
- ✓ ***Proven ability to deliver projects on time and on budget***

Project Management

The company culture promotes attention to detail and planning for contingency. We propose a very detailed process to plan, manage, control and deliver the NCSEAS system.

ur role on this project as integrators, nd knowledge transfer agents to enable meet their objectives. Our proposed team ned Child Support experience and we will tnership with DHSS/CSEP as one cohesive plement each organization's skill sets.

are excited and enthused that Nevada has your journey towards an advanced, state-

Section I

Title Page

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[redacted]

Section I

Title Page

REQUIREMENT:

11.2.2.1 The title page must include the following:

Part I A – Technical Proposal	
RFP Title:	Child Support Enforcement System Replacement (DD&I)
RFP:	3462
Vendor Name:	***Protech Solutions, Inc. (Protech)***
Address:	***301 W. Capitol Ave., Suite 330*** ***Little Rock, AR 72201***
Opening Date:	September 21, 2017
Opening Time:	2:00 PM

[redacted]

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Section II

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© 2017 Protech Solutions, Inc.

[redacted]

SECTION II

Table of Contents

REQUIREMENT:

11.2.2.2 An accurate and updated table of contents must be provided.

A table of contents is provided at the front of Sections IV – X which are also provided on the following pages.

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Section III

Vendor Information Sheet

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[redacted]

SECTION III

Vendor Information Sheet

REQUIREMENT:

11.2.2.3 The vendor information sheet shall be completed and signed by an individual authorized to bind the organization.

VENDOR INFORMATION SHEET FOR RFP 3462

Vendor Shall:

A) Provide all requested information in the space provided next to each numbered question. The information provided in Sections V1 through V6 shall be used for development of the contract;

B) Type or print responses; and

C) Include this Vendor Information Sheet in Section III of the Technical Proposal.

V1	Company Name	*Protech Solutions, Inc.*
V2	Street Address	*303 W. Capitol Ave., Suite 330*
V3	City, State, ZIP	*Little Rock, AR 72201*

V4	Telephone Number		
	Area Code: *501*	Number: *687-2350*	Extension:
V5	Facsimile Number		
	Area Code: *501*	Number: *687-2307*	Extension:
V6	Toll Free Number		
	Area Code:	Number:	Extension:

V7	***Contact Person for Questions / Contract Negotiations, including address if different than above***
	Name: *Francis Powell*
	Title: *Systems Manager*
	Address: *Same as above*
	Email Address: *francis.powell@protechsolutions.com*

V8	Telephone Number for Contact Person		
	Area Code: *501*	Number: *687-2327*	Extension:
V9	Facsimile Number for Contact Person		
	Area Code: *501*	Number: *687-2307*	Extension:

V10	***Name of Individual Authorized to Bind the Organization***	
	Name: *Satish Garimalla*	Title: *Chief Executive Officer*

V11	Signature ***(Individual shall be legally authorized to bind the vendor per NRS 333.337)***	
	Signature: CEO	Date: 09/19/2017

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[redacted]

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Section IV

State Documents

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SECTION IV

State Documents

A. Signature Page

REQUIREMENT:

11.2.2.4 The State documents section must include the following:
11.2.2.4 – A. The signature page from all amendments with an original signature by an individual authorized to bind the organization.

Signed copies of Amendment 1 dated August 22, 2017 and Amendment 2 dated August 3, 2017 are provided on the following pages.

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Amendment 1 to Request for Proposal 3462

State of Nevada
Department Administration
Purchasing Division
515 E. Musser Street, Suite 300
Carson City, NV 89701

Brian Sandoval
Governor

Jeffrey Haag
Administrator

SUBJECT:	Amendment 1 to Request for Proposal 3462
RFP TITLE:	Child Support Enforcement System Replacement Design Development & Implementation Services
DATE OF AMENDMENT:	August 22, 2017
DATE OF RFP RELEASE:	August 3, 2017
OPENING DATE:	September 21, 2017
OPENING TIME:	2:00 PM
CONTACT:	Ronda Miller, Purchasing Officer II

The following shall be a part of RFP 3462. If a vendor has already returned a proposal and any of the information provided below changes that proposal, please submit the changes along with this amendment. You need not re-submit an entire proposal prior to the opening date and time.

RFP CHANGES:

Old Language:

Section 3.6: Refer to ***Attachment N (Requirements Matrix)*** and ***Attachment O (Implementation Vendor Requirements)***.

New Language:

Section 3.6: Refer to ***Attachment L (Requirements Matrix)*** and ***Attachment M (Implementation Vendor Requirements)***."

Old Language:

Section 3.3 TECHNICAL REQUIREMENTS For the functional requirements, see ***Section 2 of Attachment O, Implementation Vendor Requirements.***

New Language:

Section 3.3 TECHNICAL REQUIREMENTS is revised to read, "For the technical requirements, see ***Section 3 of Attachment M, Implementation Vendor Requirements.***"

Old Language:

Section 3.4 FUNCTIONAL REQUIREMENTS: For the functional requirements, see ***Section 2 of Attachment O, Implementation Vendor Requirements.***

Amendment 1 *RFP 3462* *Page 1 of 5*

New Language:

Section 3.4 FUNCTIONAL REQUIREMENTS is revised to read, "For the functional requirements, see ***Section 2 of Attachment M, Implementation Vendor Requirements***."

Old Language:

Section 11.2.2.10: Section X – Requirements Matrix: Vendors must include their completed requirements matrix (refer to ***Attachment ??, Requirements Matrix***) in this section.

New Language:

Section 11.2.2.10: Section X – Requirements Matrix: Vendors must include their completed requirements matrix (refer to ***Attachment L Requirements Matrix***) in this section.

QUESTIONS & ANSWERS

1. Section 3.6, requirement 3.6.3 indicates that we should "Tie each data element/function to the vendor's project plan by task number." Is this a requirement for the proposal response or a task/deliverable to be produced during execution of the project?

   Refer to beginning of this amendment. Subsection 3.6.3 is a requirement for the vendor's proposed project plan to be included in the vendor's response.

2. To the extent that a vendor has rights to the CCSAS solution from California and has made significant upgrades to both the software and application architecture to allow it to more closely match the Nevada requirements (for example; making all data exchanges NIEM compliant) would the State consider that solution?

   DWSS conducted a feasibility study, which concluded in early 2016 and found that transferring California's Child Support System (i.e. CCSAS) is the most appropriate approach for replacing Nevada's current CSE system. This approach has been approved by the federal Office of Child Support Enforcement (OCSE). We expect the selected vendor to modify and modernize California's system to meet Nevada's requirements.

3. Requirement 4.38.3.4 states "Any subsequent deliverable dependent upon the State's acceptance of a prior deliverable will not be accepted for review until all issues related to the previous deliverable have been resolved." Would the State consider the possibility of a 'conditionally approved' deliverable, where the team can acknowledge that a deliverable substantially meets the State's requirements for approval, as long as certain conditions are completed? Thus, subsequent dependent deliverables could continue to be submitted so that significant project delays do not occur.

   Requirement 4.38.3.4 will not be changed. Exceptions to this requirement may be considered on a case-by-case basis.

4. Attachment M: Implementation Vendor Requirements: Limited Services
   (#19) The system must accommodate and identify cases for recovery of state debt only.
   Is this tracked as a non-IVD case or other new case type?

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No, these are IV-D cases.

5. Attachment M: Implementation Vendor Requirements: Contact Documentation (#768) The online contact function must provide:
• Provision for setting up future messages for the operational report for specific cases and specific staff.
What is 'the operational report'? What future messages would be 'set up'?

Refer to Attachment M, requirement #656 for an explanation of operational reports. Future messages will be defined during the detailed requirements phase.

6. Attachment M: Implementation Vendor Requirements: Contact Documentation: (#768) The online contact function must provide:
• Provision for expedited follow-up on frequently occurring events that follow on contact with case participants (e.g., review and adjustment, administrative review, document generation, deferral of pending case closures, address changes and verification, employer changes and verification).
Is this proactive outreach regarding significant events occurring on a case? In what way is document generation (which is a form of outreach itself) one of those events that we would inform a client about?

Yes, this is proactive outreach regarding significant events occurring on a case. The outreach could be internal (e.g. to a caseworker) or external (e.g. to a client).

7. Will the State consider extending the response deadline for this RFP by three weeks to allow bidders to develop complete, accurate and compelling proposals?

No. Due to time constraints for meeting the project start date, the State cannot extend the response deadline.

8. The RFP currently requires a Performance Bond of 30% of the total contract value. Would the State consider reducing the Performance Bond requirement to 10% of the total contract value to be more in line with Industry Standards? Another option would be to limit the performance bond amount to the value of the current contract year versus the entire contract value. This change would most likely increase the number of compelling bids submitted by the vendor community.

The vendor must raise, in their proposal, any concerns they have with the performance bond requirements and any concerns may be discussed during contract negotiations with the awarded vendor at that time.

9. Response Section V - System Requirements.
Attachment M and Attachment L both have a Project Requirements section to respond to; there is no response section for Project Management in Response Section V - System Requirements. Please confirm if the only Project Requirements response is in Attachment L Requirements Matrix.

Section V - System Requirements is related to RFP section 3.0 SYSTEM REQUIREMENTS.

Section X - Requirements Matrix is related to Attachment L, which is provided for vendors to record their responses to each Implementation Requirement listed in Attachment M –

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Implementation Requirements including section 4, Project Requirements. The only Project Requirements response is in Attachment L - Requirements Matrix. Section 3.6 provides instructions for completing the Requirements Matrix.

Refer to the beginning of this amendment.

10. RFP Section 2.1.3, page 8
Can the state clarify the intent of the statement "In addition to California's data warehouse and reporting components, Nevada's existing data warehouse and reporting components need to be modernized and incorporated into the new child support system"?

Nevada CSE currently uses numerous reports that are based on the structure of its existing data warehouse. To continue using those reports, the new CSE system will need to populate our data warehouse using its existing structure.

11. Our understanding is that the State would like to transfer concepts of California 's data warehouse and reporting components to modernize Nevada's existing data warehouse and reporting components to be incorporated in the new child support system. We request the State to confirm our understanding.

Refer to response to question 10.

12. Response Section VI - Scope of Work
In regards to the 5-page limit for each of the 38 subsections within Response Section VI Scope of Work, could this requirement be changed to a total 190 page limit overall, allowing some of the task-level subsections to go beyond the 5 pages?

Yes, we will allow this change.

13. RFP 3.5.10, page 23
Question: Is there currently a Network Access Control (NAC) solution in place? If so, what solution is in place?

No, we do not currently have a Network Access Control (NAC) solution in place.

14. RFP 3.5, page 21-24
Question: There are several references to items (events) that need to be logged and designed to interface with the current DWSS Splunk implementation. Is the vendor expected to perform the integration of the log sources with Splunk or will the State be responsible for that activity?

We expect the vendor to perform the integration of log sources with Splunk.

15. The RFP requires that the responses be submitted in Bold Italics. Is it acceptable to use a standard font that is bold and italicized?

Yes, it is acceptable to use a standard font that is bold and italicized for the responses.

16. Is it acceptable to provide technical solutions that are competitive and provide significant value to the State? How different can the proposed solution be, from the technical, functional and transfer specifications of the RFP?

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Refer to response to question 2.

ALL ELSE REMAINS THE SAME FOR RFP 3462.

Vendor must sign and return this amendment with proposal submitted.

Vendor Name: **Protech Solutions, Inc.**

Authorized Signature: CEO

Title: **Chief Executive Officer** Date: **September 18, 2017**

This document must be submitted in the "State Documents" section of vendors' technical proposal.

[redacted]

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Amendment 2 to Request for Proposal 3462

State of Nevada
Department Administration
Purchasing Division
515 E. Musser Street, Suite 300
Carson City, NV 89701

Brian Sandoval
Governor

Jeffrey Haag
Administrator

SUBJECT:	Amendment 2 to Request for Proposal 3462
RFP TITLE:	Child Support Enforcement System Replacement Design Development & Implementation Services
DATE OF AMENDMENT:	
DATE OF RFP RELEASE:	August 3, 2017
OPENING DATE:	September 21, 2017
OPENING TIME:	2:00 PM
CONTACT:	Ronda Miller, Purchasing Officer II

The following shall be a part of RFP 3462. If a vendor has already returned a proposal and any of the information provided below changes that proposal, please submit the changes along with this amendment. You need not re-submit an entire proposal prior to the opening date and time.

1. Section 1.1.5.2 Staff Augmentation: How may we be informed of RFPs for expert and specialized skills per noted section (1.1.5.2)?

   At this time we do not anticipate releasing a separate RFP for staff augmentation services. We will notify the selected vendor through a contract change order at the time augmentation services are required.

2. Section 1.1.5.2: What will we need to provide to respond only to the expert/specialized skills section?

   The vendor selected to provide DD&I services as outlined in RFP 3462 may be called upon to provide staff augmentation services.

3. Can the State confirm the current version of the SAP Data Services (ETL Tool for the Data Warehouse)? Does the State have adequate licenses for the SAP Data Services tool to perform the necessary ETL services?

   All vendors must submit total licensing and implementation costs for all components of their proposed solution.

4. Can the State confirm if vendors are required to include pricing for a Database monitoring tool?

   Refer to question 3 response.

Amendment 2 *RFP 3462* *Page 1 of 2*

ALL ELSE REMAINS THE SAME FOR RFP 3462.

Vendor must sign and return this amendment with proposal submitted.

Vendor Name: ***Protech Solutions, Inc.***

Authorized Signature: CEO

Title: ***Chief Executive Officer*** Date: ***September 18, 2017***

This document must be submitted in the "State Documents" section of vendors' technical proposal.

Amendment 2 *RFP 3462* *Page 2 of 2*

[redacted]

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B. Attachment A – Confidentiality and Certification of Indemnification

REQUIREMENT:

11.2.2.4 – B. Attachment A – Confidentiality and Certification of Indemnification signed by an individual authorized to bind the organization.

ATTACHMENT A – CONFIDENTIALITY AND CERTIFICATION OF INDEMNIFICATION

Submitted proposals, which are marked "confidential" in their entirety, or those in which a significant portion of the submitted proposal is marked "confidential" **shall not** be accepted by the State of Nevada. Pursuant to NRS 333.333, only specific parts of the proposal may be labeled a "trade secret" as defined in NRS 600A.030(5). All proposals are confidential until the contract is awarded; at which time, both successful and unsuccessful vendors' technical and cost proposals become public information.

In accordance with the submittal instructions of this RFP, vendors are requested to submit confidential information in separate files marked "**Part IB Confidential Technical**" and "**Part III Confidential Financial**".

The State shall not be responsible for any information contained within the proposal. If vendors do not comply with the labeling and packing requirements, proposals shall be released as submitted. In the event a governing board acts as the final authority, there may be public discussion regarding the submitted proposals that shall be in an open meeting format, the proposals shall remain confidential.

By signing below, I understand it is my responsibility as the vendor to act in protection of the labeled information and agree to defend and indemnify the State of Nevada for honoring such designation. I duly realize failure to so act shall constitute a complete waiver and all submitted information shall become public information; additionally, failure to label any information that is released by the State shall constitute a complete waiver of any and all claims for damages caused by the release of the information.

This proposal contains Confidential Information, Trade Secrets and/or Proprietary information.

Please initial the appropriate response in the boxes below and provide the justification for confidential status.

Part IB – Confidential Technical Information			
YES	X	NO	
Justification for Confidential Status			
It contains confidential information of the vendor's proprietary software components.			

Part III – Confidential Financial Information			
YES	X	NO	
Justification for Confidential Status			
Vendor and all but one subcontractor are privately held companies and do not publicly share financial information.			

Protech Solutions, Inc.
Company Name

CEO
Signature

Satish Garimalla, Chief Executive Officer
Print Name

September 19, 2017
Date

This document shall be submitted in Section IV of vendor's technical proposal

DD&I *RFP 3462* *Page 132 of 145*

[redacted]

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C. Attachment B – Vendor Certifications

REQUIREMENT:

11.2.2.4 – C. Attachment B – Vendor Certifications signed by an individual authorized to bind the organization.

ATTACHMENT B – VENDOR CERTIFICATIONS

Vendor agrees and shall comply with the following:

(1) Any and all prices that may be charged under the terms of the contract do not and shall not violate any existing federal, State or municipal laws or regulations concerning discrimination and/or price fixing. The vendor agrees to indemnify, exonerate and hold the State harmless from liability for any such violation now and throughout the term of the contract.

(2) All proposed capabilities can be demonstrated by the vendor.

(3) The price(s) and amount of this proposal have been arrived at independently and without consultation, communication, agreement or disclosure with or to any other contractor, vendor or potential vendor.

(4) All proposal terms, including prices, shall remain in effect for a minimum of 180 days after the proposal due date. In the case of the awarded vendor, all proposal terms, including prices, shall remain in effect throughout the contract negotiation process.

(5) No attempt has been made at any time to induce any firm or person to refrain from proposing or to submit a proposal higher than this proposal, or to submit any intentionally high or noncompetitive proposal. All proposals shall be made in good faith and without collusion.

(6) All conditions and provisions of this RFP are deemed to be accepted by the vendor and incorporated by reference in the proposal, except such conditions and provisions that the vendor expressly excludes in the proposal. Any exclusion shall be in writing and included in the proposal at the time of submission.

(7) Each vendor shall disclose any existing or potential conflict of interest relative to the performance of the contractual services resulting from this RFP. Any such relationship that might be perceived or represented as a conflict shall be disclosed. By submitting a proposal in response to this RFP, vendors affirm that they have not given, nor intend to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant or any employee or representative of same, in connection with this procurement. Any attempt to intentionally or unintentionally conceal or obfuscate a conflict of interest shall automatically result in the disqualification of a vendor's proposal. An award shall not be made where a conflict of interest exists. The State shall determine whether a conflict of interest exists and whether it may reflect negatively on the State's selection of a vendor. The State reserves the right to disqualify any vendor on the grounds of actual or apparent conflict of interest.

(8) All employees assigned to the project are authorized to work in this country.

(9) The company has a written equal opportunity policy that does not discriminate in employment practices with regard to race, color, national origin, physical condition, creed, religion, age, sex, marital status, sexual orientation, developmental disability or handicap.

(10) The company has a written policy regarding compliance for maintaining a drug-free workplace.

(11) Vendor understands and acknowledges that the representations within their proposal are material and important, and shall be relied on by the State in evaluation of the proposal. Any vendor misrepresentations shall be treated as fraudulent concealment from the State of the true facts relating to the proposal.

(12) Vendor shall certify that any and all subcontractors comply with Sections 7, 8, 9, and 10, above.

(13) The proposal shall be signed by the individual(s) legally authorized to bind the vendor per NRS 333.337.

Protech Solutions, Inc.
Vendor Company Name

CEO
Vendor Signature

Satish Garimalla, Chief Executive Officer — ***September 18, 2017***
Print Name — Date

This document shall be submitted in Section IV of vendor's technical proposal

DD&I *RFP 3462* *Page 133 of 145*

D. Attachment J – Certification Regarding Lobbying

REQUIREMENT:

11.2.2.4 – D. Attachment J – Certification Regarding Lobbying signed by an individual authorized to bind the organization.

ATTACHMENT J – CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or shall be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federally appropriated funds have been paid or shall be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers (including subcontracts, sub grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

By: CEO
Signature of Official Authorized to Sign Application

September 18, 2017
Date

For: *Protech Solutions, Inc.*
Vendor Name

Nevada Child Support Enforcement System Replacement – RFP – 3462
Project Title

This document shall be submitted in Section IV of vendor's technical proposal

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E. Vendor Licensing Agreements

REQUIREMENT:

11.2.2.4 – E. Copies of any vendor licensing agreements and/or hardware and software maintenance agreements.

Protech has no licensing agreements and/or hardware and software maintenance agreements to provide.

F. Applicable Certifications and/or Licenses

REQUIREMENT:

11.2.2.4 – F. Copies of applicable certifications and/or licenses.

Protech has no certifications and/or licenses to provide.

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Section V

System Requirements

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Section V
V-3.0 System Requirements

REQUIREMENT:

11.2.2.5/3. Vendors must place their written response(s) in bold/italics immediately following the applicable RFP question, statement, and/or section.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted] ***Please review these paragraphs in conjunction with that report for the context of the overviews.***

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CASE INITIATION

Combined with comprehensive case assignment rules (state, regional, county, alpha, round-robin, load-balancing) for assigning cases and referrals, we provide Nevada with the best solution sets from California and other States.

Using California's solution as a baseline and improving its technology and processes, we provide Nevada with an advanced, state-of-the-art solution for Case Initiation.

LOCATE

[redacted]

CASE MANAGEMENT

Case Management, in our solution, is an integrative functionality in the Case Lifecycle that addresses:

1. ***Continuous case monitoring, including intergovernmental cases***
2. ***Reviewing and modifying obligations***

3. [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Notifications and workflow for Review & Mod are informed by case conditions such as assistance status and Continuing Exclusive Jurisdiction (CEJ) status of the order. If not, an intergovernmental initiating workflow is started that requests R&M from the other state.

The steps in this workflow are customizable as in other workflows. The generation of a notice is optional.

[redacted]

[redacted]

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V-3.1 Vendor Response to System Requirements

REQUIREMENT:

11.2.2.5/3.1 The Implementation Contractor will prepare the RTM deliverable to document each of the baseline requirements, the changes that adjusted or expanded the requirements, the system components that implemented each requirement and the tests that verified them. The Implementation Contractor will maintain the RTM on an ongoing basis. The QA contractor will review the RTM on a periodic basis to ensure that all entries conform to project requirements. The Implementation Contractor will purchase the RTM software tool, subject to the Program's approval of the tool. The Program's staff, the PMO contractor, and the QA contractor will have copies of this tool so they can read and review the RTM. Functional designs, technical designs, test case development, code construction and unit testing, test execution, and training materials will address all requirements.

The successful management and implementation of the requirements traceability matrix (RTM) deliverable is key to the successful implementation of any project especially a project as large and complex as the NCSEAS project. We fully integrate analysis of State requirements, BPR, technical requirements and federal certification requirements into the RTM using requirements version tools. All requirements are included in our requirements traceability matrix throughout all phases of the NCSEAS implementation, including new requirements, changes and deletes. We provide requirements management reports to the State and QA teams for review and comment.

Consequently, our solution offers a traceable roadmap to federal, state and technical compliance since we trance requirements through every stage of the SDLC. It also facilitates successful end-user adaptation and helps deliver a federally certified solution.

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V-3.2 Computing Platform

3.2.1 Computing Platform

REQUIREMENT:

11.2.2.5/3.2.1 The system should conform to State of Nevada standards for architecture, system development, and operations:
11.2.2.5/3.2.1.1 Java/JEE as the programming language and platform;
11.2.2.5/3.2.1.2 WebSphere as the application container;
11.2.2.5/3.2.1.3 DB2 as the database platform;
11.2.2.5/3.2.1.4 AIX and Suse Linux as the operating systems;
11.2.2.5/3.2.1.5 PowerVM as the AIX virtualization technology;
11.2.2.5/3.2.1.6 VMware as the Intel virtualization technology;
11.2.2.5/3.2.1.7 FileNet as the content management system
11.2.2.5/3.2.1.8 Novell E-Directory as the credential store

[redacted]

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[redacted]

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V-3.3 Technical Requirements

REQUIREMENT:

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The following points summarize key highlights of our proposed architecture.

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the CA child Support System (CCSAS) from the proprietary GRNDS framework to Spring. The JEE layered

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- *Review and validate conformance of the solution to enterprise architecture principles.*

(3) Attachment M – Technical Requirements and Elaborations

(3.1) Core Architecture

REQUIREMENT: (#1) The system should conform to State of Nevada standards for architecture, system development and operations:

- Java / JEE as the programming language and platform
- WebSphere as the application container
- DB2 as the database platform
- AIX and Linux as the operating systems
- PowerVM as the virtualization technology for the AIX platform
- VMWare as the virtualization technology for the Intel platform (Windows / Linux)
- FileNet as the content management system

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The following two use cases illustrate our architecture's layered and service-oriented organization, which promotes orchestrated interactions between human, services, and components. The first use case involves a simplified model case creation process, while the second one involves notice generation and appointment scheduling.

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[redacted] *information to the process server which in turn notifies the case worker about the appointment*

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Logical Architecture

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The technology mapping across proposed layers of architecture is presented in the table below.

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as follows: "When NCP's payment due is above $500, send an alert to supervisor".

[redacted]

Rules and Rule Flow

The diagrams below depict the rules defined as BAL and Decision table in Rule Designer:

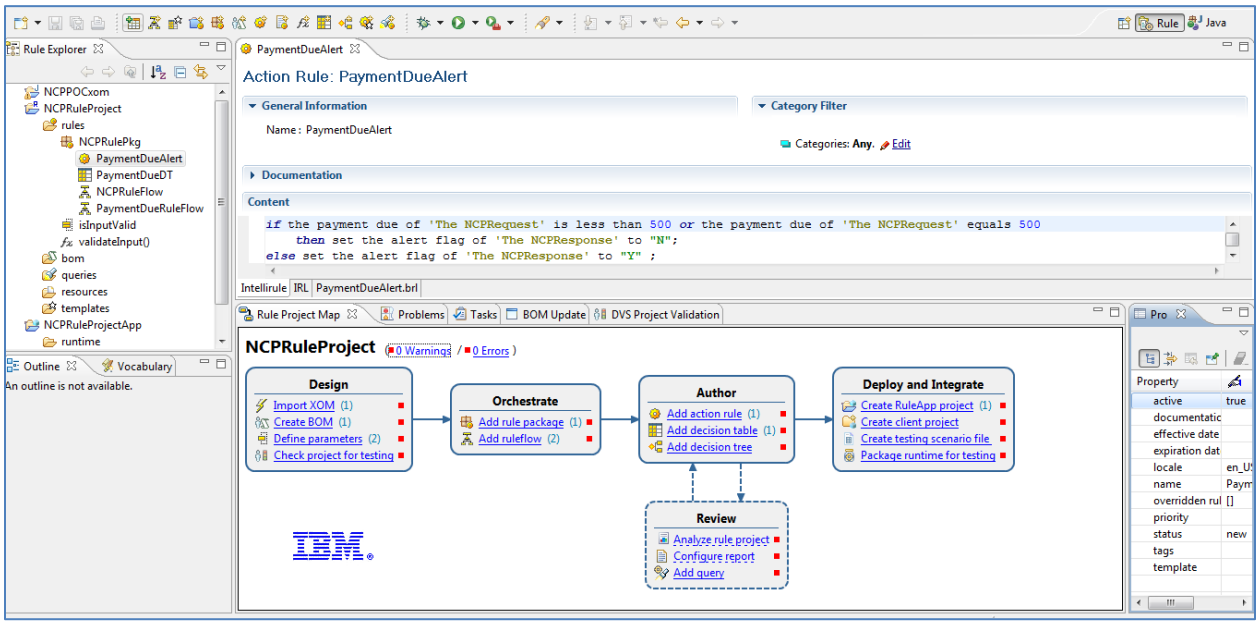

Figure 3.3-7. Rules Defined BAL

The best practice is generally to use the decision table where we need to implement homogeneous business rules. In the below diagram it shows the following business rules:

- *If the payment due is less than $500 and payment method is ATM, then EmailAlertNotification is "E"*
- *If the payment due is equal to $500 and payment method is ATM, then EmailAlertNotification is "N"*
- *If the payment due is more than $500 and payment method is ATM, then EmailAlertNotification is "Y"*
- *If the payment due is less than $500 and payment method is CREDITCARD, then EmailAlertNotification is "E"*
- *If the payment due is equal to $500 and payment method is CREDITCARD, then EmailAlertNotification is "N"*
- *If the payment due is more than $500 and payment method is CREDITCARD, then EmailAlertNotification is "Y"*

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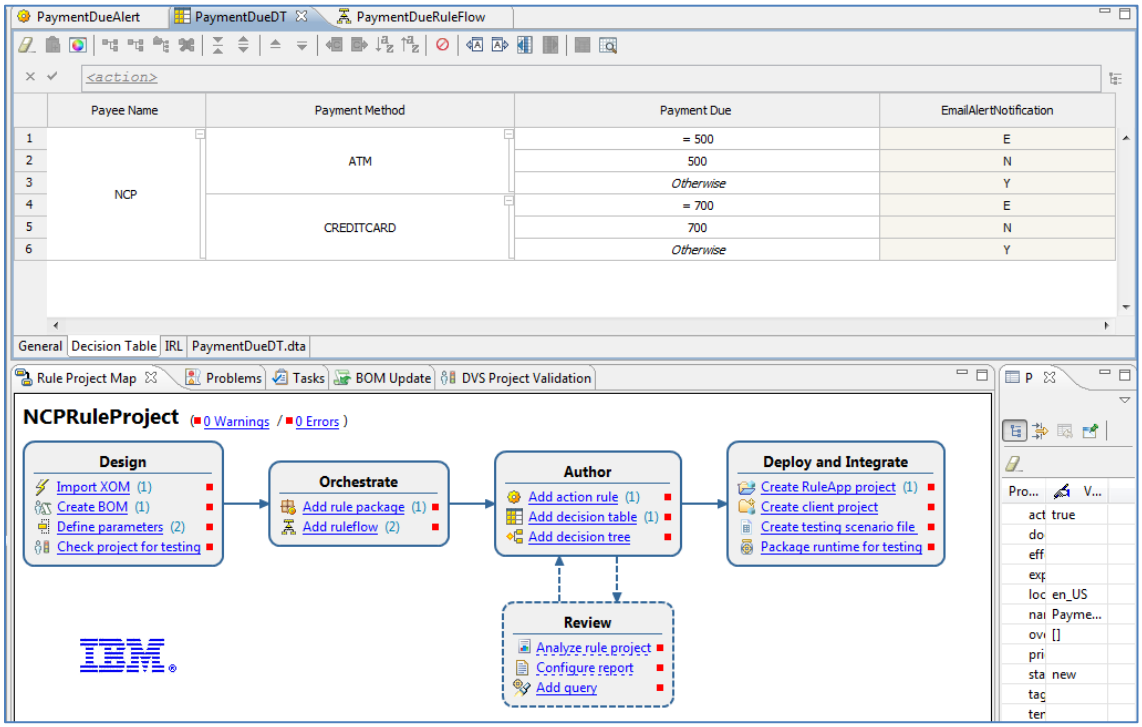

Figure 3.3-8. Rules Defined as Decision Table

A business rule service can be composed of one or many rules, and the rule flow orchestrates the rule sequences and runtime executions. Here the rule flow contains only one rule – "PaymentDueAlert":

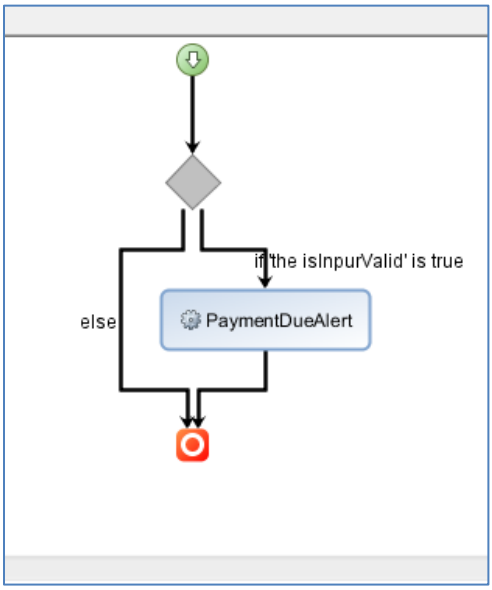

Figure 3.3-9. Rule Flow

Business users can change the rule using the business console by clicking the edit button.

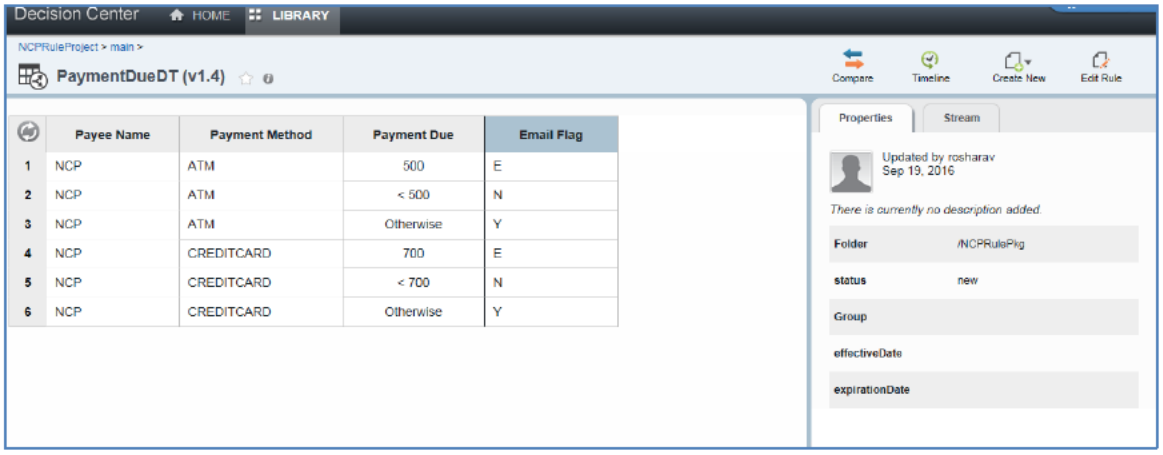

Figure 3.3-10. Business Console

The specific capabilities of the appropriate IBM BPM components are outlined below:

Services	Description of Services	Cross Reference to Proposal Section
Business Process Management	Process Design	Ability to design a process using a graphical design tool
	Process Execution	Ability to instantiate a process template and execute the process instance in a runtime environment
	Process Monitoring	Ability to monitor process instances, see where those instances in their execution path are, including visual representation
	Process Governance	Ability to store process templates and promote those into the different environments
	Collaborative Design	Ability to collaboratively design a process flow
	Communication Dashboard	Ability to get in contact with a specific Subject Matter Expert on a particular process activity
	Task Assignment	Ability to assign a task (e.g., dynamically) to a particular role
	Business Rules	Ability to execute business rule(s)
	User Management	Ability to define the relationship between persons, roles, and organizations
	Simulation	Ability to simulate a process behavior, e.g., for measuring process improvements, incl. cost calculations
	Import / Export	Ability to import / export information into the environment
Business Rule Management	Rules	Ability to author business rules in business Language
		Ability to maintain, test and deploy business rules independent of an application change
		Integrated governance for providing flexible rule changes in a controlled and auditable way
		Ability to execute business rule(s)
Business Monitoring	Events / Track & Trace	Ability to receive events (e.g., track & trace) from various components and track the progress of a particular activity
	Dashboard	Ability to visualize event messages (e.g., condensed as KPI's, reports, in tabular form)

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Services	Description of Services	Cross Reference to Proposal Section
	Reconciliation	Ability to report the status of a particular activity
Enterprise Service Bus	Integration Design	Ability to design integration processes
	Integration Execution	Ability to execute integration processes in high performing and scalable manner
	Administration	Ability to administer the component
	Data Validation	Ability to syntactically and semantically validate the data
	Transformation	Ability to transform data from one format to the another
	Routing	Ability to dynamically route data based on its content
	Business Rules	Ability to execute business rule(s)
	Security Policy Enforcement Point (PEP)	Ability to extract security credentials and pass those to a Security Decision Point (Policy Decision Point) for verification
	Data Access / Lookup	Ability to access data and replace data in the payload based on lookup tables
	Encryption	Ability to support data encryption
	Cache	Ability to store data up front instead of getting the information from backend systems
	Custom Adapter	Ability to write a custom adapter, e.g., for specialized protocols
	Synchronous Communication	Ability to support synchronous communication Protocols
	External/Internal System Integration	Ability to integrate with External/Internal systems

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The Enterprise Console provides sophisticated rule maintenance and administrative capabilities for advanced business rule users and administrators. The Business Console also offers integrated test and simulation functions which allow the execution of either predefined test scenarios/test suites and the verification of the expected results or a large amount of rule execution data is used to simulate the impact of an upcoming rule change based on metrics and aggregated KPIs. Both approaches contribute heavily to deliver high-quality rule changes and release.

Another important capability of Decision Center is its branching and merging functions used to work on parallel rule change releases at the same time. It's very common to use this approach for creating a branch which represents the currently productive rule application release and work on the next release on the 'main branch.' Any updates in the branches can be merged into other branches supported by an integrated merge tool.

IBM ODM value propositions are outlined below:

- Simplify Process Design
- Decision steps externalized from the process
- Process diagrams simplified by eliminating complex decision trees

- Increase Straight Through Processing
- Automate repeatable operational decisions
- Reduce process delays due to human decision making

- Decouple Process and Decision Maintenance Cycles
- Reduce decision update cycles
- Enable business users to manage decision logic

- Increase Reuse
- Share decision services across applications
- Easily repurpose business decisions

Figure 3.3-13. Value Proposition of ODM

REQUIREMENT: (#3) All system components must be compatible with virtualization technologies such as VMWare and IBM PowerVM.

As per the RFP, Protech will use the PowerVM virtualization solutions for the AIX system in NCSEAS. Thus, it can consolidate large numbers of applications and servers, fully virtualize its system resources, and provide a more flexible, dynamic IT infrastructure. Protech utilizes the VMWare virtualization solution for Windows & Linux machines.

An overview of virtualization architecture is presented below:

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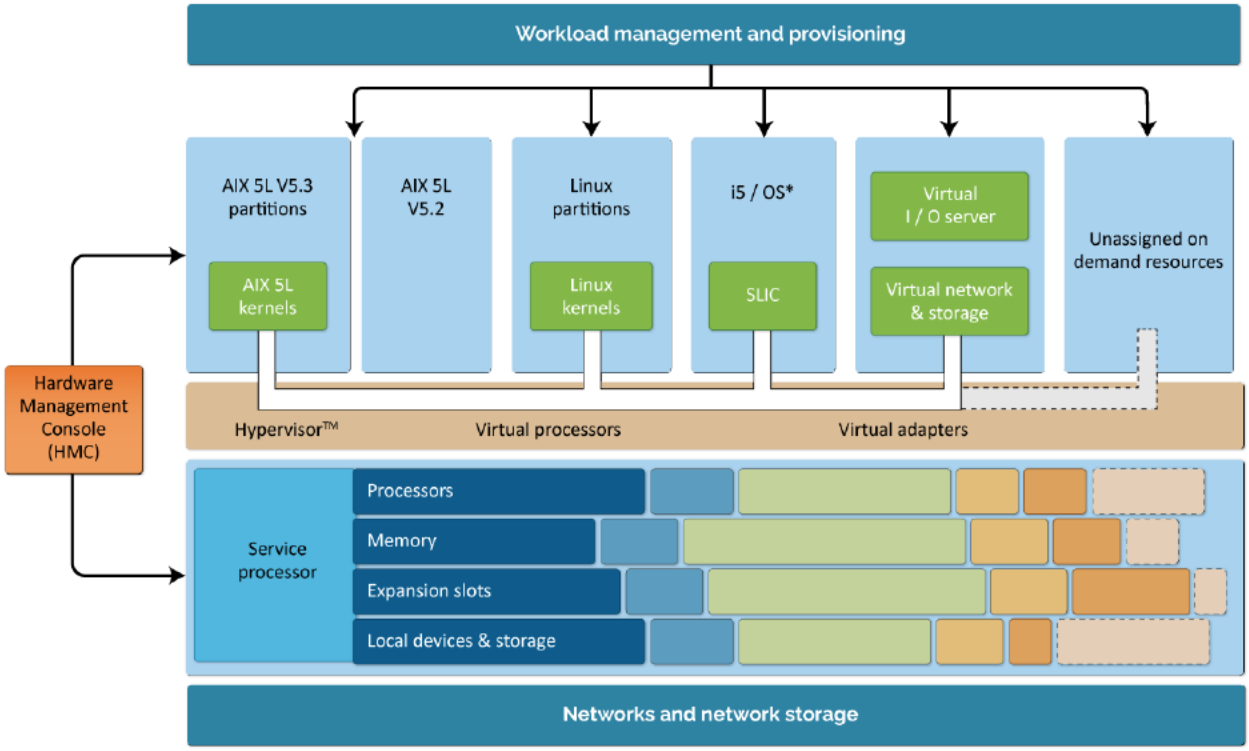

Figure 3.3-14. Virtualization Architecture for the proposed NCSEAS

The key features of PowerVM are presented in the table below:

Framework for Capacity Planning and Management		
Category	**PowerVM Feature**	**Key Benefits**
Workload Isolation	• LPAR • WPAR	Isolate workload in different logical environments
Processor Virtualization	• Micro partitioning • Shared Processor Pool • Multiple Shared Processor pool • Dedicated processor sharing	Improves effective processor utilization, workload consolidation
Memory Virtualization	• AMS • AME (Power7)	Improves effective memory utilization, workload consolidation
IO Virtualization	• VIO Server • NPIV	Effective I/O sharing, Workload consolidation
Mobility Feature	• Live Partition Mobility • Live Application Mobility	Enable "Live" mobility with minimum downtime

(3.2) Archive and Purge

REQUIREMENT: (#4) The system must accommodate automatic archival and purge functionality.

Protech will work with the CSEP to define an information architecture which embodies CSEP's data archival, retention, and purging policies. The Protech Team will work with DWSS IS to develop processes which determine where data should be available online, archived, and purged.

The following are the traditional mechanisms available for archiving:

- *Application Logic: Archive tables are created for the identified base tables, and a process is defined for moving the data to such archive tables before removing the data from the base table.*
- *Triggers: We use database triggers on the base table to move the data to the archive table during the deletion process.*
- *Partitioning: The usage of range keys is employed in partitioning to include avoiding read operation on older data. The range of data to be read, based on aging, is determined by careful analysis of the functionality during the application design phase, such that the application still works as designed with no business impact.*
- *Log based technology: We scan logs for deletes and move deleted data into archive tables.*

Protech uses the DB2 V11 feature for a basic row-based archiving solution. This approach uses two tables, referred to as archive transparency.

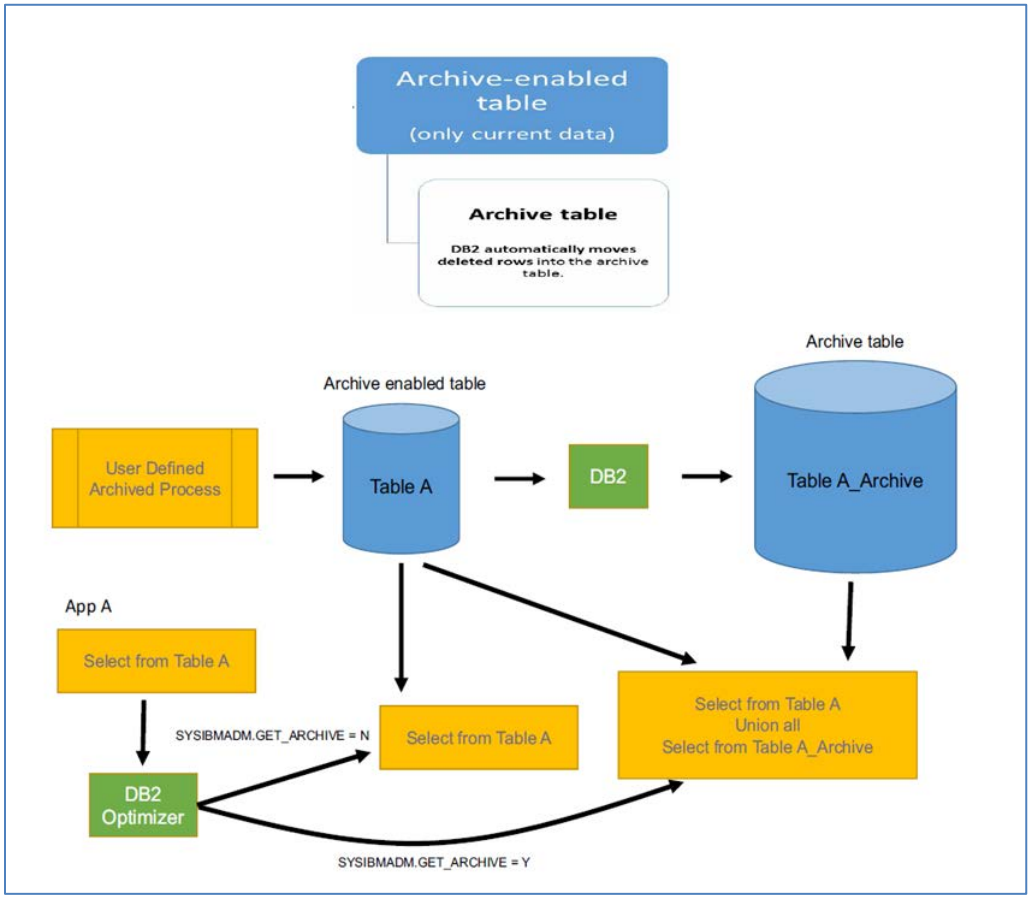

Figure 3.3-15. Archive Transparency Using a Two-Table Approach

The process followed for the two-table approach is detailed as:

- *Table A is the base table which contains active and inactive data (data to be archived)*

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- *Table A_Archive is the table that is created for archival*
- *Table A is set to Archive Enabled for transparent archiving*
- *At this point we have an archive enabled base table and an associated archive table that DB2 is aware of*
- *The user defined Archival process performs a DELETE operation on the data from the base table, Table A (archive enabled), for rows that need archival. The movement of the rows from the archive-enabled table to the archive table is handled automatically and transparently by DB2*
- *When an application App A selects data from table A, and when the global system variable is set to Y the data is retrieved from both table A and table A_Archive making the retrieval transparent to the user*

REQUIREMENT: (#5) The system must control data retention through the use of parameters.

Protech will make use of IBM DB2 management feature using parameters, which enables control over data retention.

- *We use centralized policy based management interface for automating administration. Tables are grouped, and a retention policy commonly applied. The database will automatically purge archived data which has passed the retention date.*
- *We will configure the data retention control using a table driven approach where each table that needs data archival has a retention date parameter defined in the configuration table. The previous will be employed by the user defined archival process to control retention.*

REQUIREMENT: (#6) The system must accommodate overrides at the participant, case and worker level to prevent data and images from being archived and/or purged.

Protech will define rules to administer the data archiving and purging process so that it overrides at the participant, case, and worker level to prevent data and images from being archived and/or purged. Our archive solution uses a rule based methodology that is configured using IBM's ODM to manage and archive data by grouping data and establishing rules on how they should manage the user level overrides. These rules are implemented by a combination of the application code and the DB2 functionality.

REQUIREMENT: (#7) The system must be able to restore case data from the archive.

Protech stores the data that is archived as files. When it is essential to restore case data from an archive, the file is used as the source. Protech provides criteria for selecting the set of related data from the archive file. The archive automatically logically restores the data and objects and allows changing the destination specifications, as needed.

For example:

- *If restoring archived data to tables that do not exist, the archive provides the option of creating tables to match those from which the archive file was created.*
- *If named tables exist but do not match the original tables, the user can use Column Maps to direct the data to each destination column. Mapped data includes the source data, literal values, special registers, expressions, exit routines, and DB2 defaults.*

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The archive table created to store the case data is the same structure as the base table. The below illustration shows the mechanism Protech follows for the creation of the archival table and subsequent archival and retrieval process:

1. *Creation of a corresponding case archive table, which is the same structure as the case table with identical column structure and attributes*

   Existing Base Table: CASE (a few columns listed below):

CASE_ID	*INTEGER*
MRG_INTO_CASE_ID	*INTEGER*
CRNT_ASGN_OFF_ID	*INTEGER*
CRNT_ASGN_TEAM_ID	*INTEGER*
CRNT_ASGN_CASE_MGR_ID	*INTEGER*
USER_INIT_CLS_JUST_TXT	*VARCHAR(1028)*
FED_AID_STAT_CD	*VARCHAR(25)*
STAT_AID_STAT_CD	*VARCHAR(25)*
CASE_EXTID	*VARCHAR(20)*
PREV_CASE_EXTID	*VARCHAR(20)*
NON_IVD_ACCT_NUM_EXTID	*VARCHAR(15)*
CASE_REGISTR_CD	*VARCHAR(3)*
MNG_CNTY_FIPS_CD	*VARCHAR(3)*
RSTRN_ORDR_CD	*VARCHAR(3)*

   CREATE ARCHIVE TABLE: CASE_ARCH
   CREATE TABLE CASE_ARCH LIKE CASE

2. *ALTER TABLE statement to Enable archive clause.*

   The property of the original table is now an archive-enabled table

   Only supported by ALTER TABLE statement (not CREATE TABLE)

   Identify the archive table after the USE keyword

   ALTER TABLE CASE
   ENABLE ARCHIVE USE CASE_ARCH

   At this point, we have defined an archive enabled case table and an associated archive table that DB2 recognizes.

3. *Archive the data:*

   Manually: Typically using REORG DISCARD and LOAD

   System managed: Issue a DELETE statement, and DB2 transparently moves the deleted rows to the archive table

   Protech will create a user defined archival process that performs the actual archiving of data based on the tables defined in the retention configuration table.

   SET SYSIBMADM.MOVE_TO_ARCHIVE = 'Y';
   DELETE FROM CASE WHERE PND_CLS_DT < '01/01/2010';

   The above example deletes the data from the case table where the closure date is before January 1st, 2010 and moves it automatically to case_arch table.

4. *Transparent retrieval of Archived Data:*

   The retrieval process in DB2 is transparent to the user. We do not require application changes to the SQL statements that reference the original table, which is defined as an archive-enabled table.

   SET SYSIBMADM.GET_ARCHIVE = 'Y';
   *SELECT * FROM CASE PND_CLS_DT < '01/01/2010';*

   The DB2 optimizer automatically rewrites the query to use UNION ALL to retrieve the archived record from the case_arch table.

REQUIREMENT: (#8) The system must provide an audit trail for archive and purge activity in a log.

Protech will utilize the DB2 database system's audit feature to assist in the detection of access to data, including archive and purge activity. The DB2 audit facility generates and permits the maintenance of an audit trail for a series of predefined database events.

We keep the records generated from this facility in audit log files. Protech analyzes these records to understand and audit the usage patterns which would identify the data activity performed. The audit facility acts at both the instance and database levels, independently recording all activities in separate logs.

We will use the DB2 database system's ability to audit at both the instance and individual database level independently. The db2audit tool is used to configure audits at the instance level as well as control when such audit information is collected. The AUDIT SQL statement is used to configure and control the audit requirements for an individual database. The db2audit tool is used to archive both instance and database audit logs as well as to extract from archived logs of either type.

(3.3) Tiered and Modular Architecture

REQUIREMENT: (#9) The system must comprise a tiered architecture for flexibility and maintainability. At a minimum, the architecture must separate the system into three tiers including, but not limited to, presentation, application, and data.

The effective use of layering is fundamental to the success of n-tier architectures, on which our solution is based. Separation of components that support user interfaces, web interactions, application components, and database management allows for the effective management of these layers and facilitates systematic communication between them. In this section on software viewpoint, we provide details on the use of layering across the architecture, and core aspects of the communication between these layers.

Our solution for using an n-tier, JEE-based approach and framework will also support the ability of the system's staff to respond to changing program requirements and changing federal mandates. The JEE layered approach to the system architecture allows for isolating the functional implementation to specific modules and provides flexibility and maintainability. Our experience in completely isolating workflow logic for child support systems is a huge technological advantage and differentiator that Protech brings to the CSEP. Our approach makes sure changes to workflow, business automation rule sets, and federally mandated alert processing can be easily reconfigured, providing the CSEP with the ability to enhance the system to meet changing requirements.

The architectural layers used for organizing NCSEAS architecture are described in the following paragraphs for:

- *Presentation*
- *Business services & applications*

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- *Service integration*
- *Database*
- *Security*

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REQUIREMENT: (#11) The system must be scalable, offering the ability to add capacity by adding infrastructure (e.g., servers) to the data center.

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The deployment architecture of hardware environment is presented below:

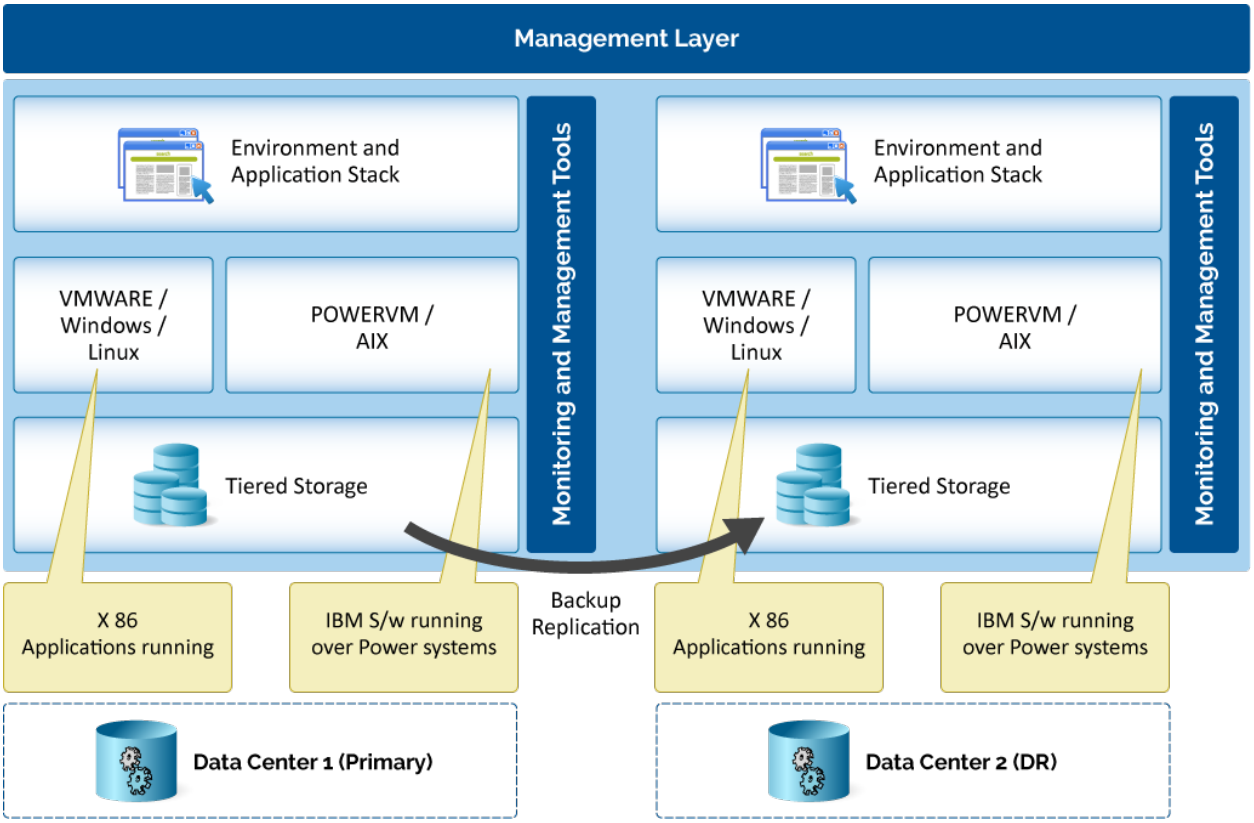

Figure 3.3-18. Hardware Environment Architecture for the proposed NCEAS

REQUIREMENT: (#12) The system must embody a service or modular orientation to promote code reuse, standards, and easier maintenance.

Protech's modularization strategy will ensure that components or modules undergoing any change will not adversely affect the solution's end-end integrity. Key activities are:

- *Functional segmentation leading high cohesion and loose coupling*
- *Code segmentation for increased configurability of the business logic*
- *Service rationalization and consolidation*
- *Implementation of service and component based architecture for leveraging re-use at different levels*

This strategy will ensure the overall platform is easily maintainable and scalable along with easy code reuse.

One of the challenges in reuse is the cascading effect it has when the reused artifacts are changed. We have a strong change management process which involves detailed impact analysis to identify the affected objects due to change especially the consumers of reuse artifacts. We will also maintain the repository of the reusable objects and the consumers of the same as part of design time governance.

(3.4) Languages

REQUIREMENT: (#13) The primary programming language for the system must be a modern mainstream language.

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Protech proposes that NCSEAS be designed and developed as a layered architecture using Java/JEE technologies, conforming to State of Nevada standards for architecture and system development. This programming language and the system design with JEE support the reuse of California's transfer system.

Also, our choice of Java/JEE is influenced by the support of a vibrant community, as well as the availability of support and skilled resources. The Spring MVC framework provides many reusable components for commonly used functions and is one of the most popular and robust frameworks for developing on JEE based applications.

The TIOBE Programming Community index ranks Java as the number one modern language. The TIOBE index (http://www.tiobe.com/tiobe-index/) is an indicator of the popularity of programming languages, which is updated monthly. The ratings are based on the number of skilled engineers worldwide, courses, and third party vendors. The index can be used to check whether your programming skills are still up to date, or to make a strategic decision about which programming language should be adopted when starting to build a new software system.

We use supporting programming languages such as JSON, CSS sprites, XHTML and JavaScript to optimize data transfers between the server and the client. We have built extensively optimized user interface architectures for child support systems in Arkansas and New Jersey using these technologies, and bring a validated JavaScript object framework infrastructure to the project.

(3.5) Performance

REQUIREMENT: (#14) The response time of the system should hold to industry standards and enable worker efficiency on a consistent basis during business hours.

The California transfer system design is a multi-layered JEE architecture that runs on an IBM platform. Protech will carefully analyze and assess the performance of each layer, along with its interaction between other layers, and document the metrics as a baseline during the planning phase to compare with the system's final performance results.

During the design phase, Protech will refine the layered architecture design by integrating components such as IBM's BPM Business Process Modeler engine, IBM ODM Rules engine, and carefully plan the load balancing of components at all levels of the architecture to achieve reliable and sustained performance. Our code is built as loosely coupled and orchestrated components that facilitate distribution of software on different hardware as required to achieve scalability and high performance. Protech has implemented award winning second generation child support systems with high-performance standards maintaining an average response time of fewer than 1.5 seconds, with a maximum for 4 seconds for intensive transactions. We achieve this high performance by utilizing:

- *Protech's high-performance design principles*
- *Layered architecture principles*
- *Emphasis on non-functional requirements*
- *Focus on systems integration*
- *Emphasis on configurability*

In addition to the above principles, our solution will also provision Application Performance Management (APM) tools, such as IBM Tivoli Composite Application Manager (ITCAM). These tools will get in-depth

details on each transaction end-to-end along with the execution times which will enable us to improve response times.

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Typical high available architecture can be depicted as shown in the diagram below:

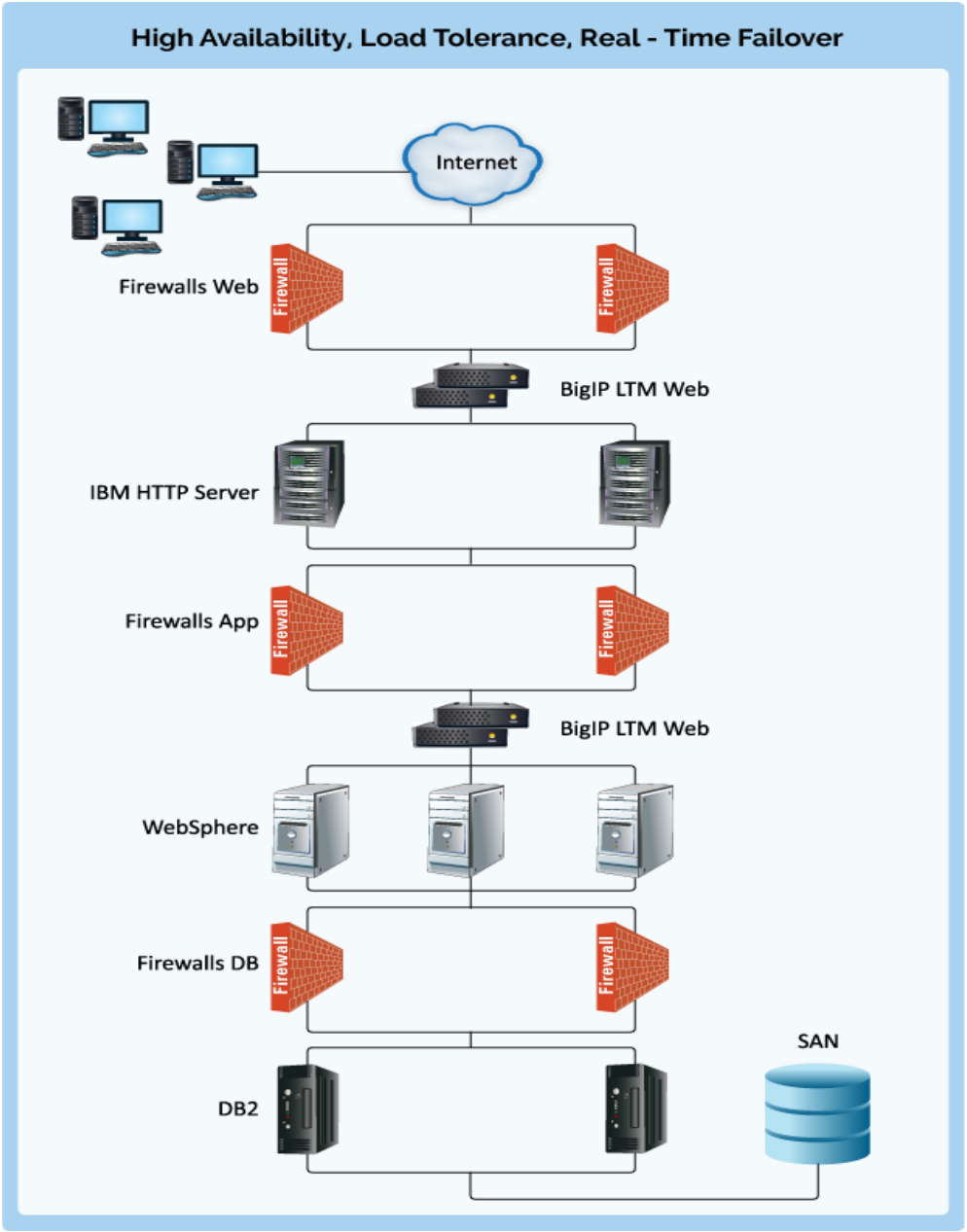

Figure 3.3-19. High Availability Architecture

The following are the principles to ensure 99.9+% of availability:

- *Need to design for failures and locate every single point of failures*
- *High availability and clustering can happen at the firewall, network, server, switches, and storage*
- *Options can be:*

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  - *Multi server or design a single large with 100% uptime – Always have load balancer in front of the server*
  - *Multi availability zones – Load balancer between the zones*
  - *Multi region – Global load balancer*
  - *Multi cloud*

- *Balancing should be done based on cost, complexity, and risk*
- *Sufficient capacity for future growth and horizontal scaling*
- *Replicate data across zones on cloud as per the DR requirements*
- *Setup monitoring, alerts, and operations to identify and automate problem resolution or failover process. Leverage Application Performance Management (APM) IT CAM. These tools will support to get in-depth details on each transaction end-end along with the execution times which will enable us to give right perspectives for improvements in the transaction.*
- *Design stateless applications for resilience to reboot/relaunch*
- *Frequent testing for failures*
- *DR planning to be managed as per the RPO and RTO*

Typically, with all the capabilities built in the deployment architecture regarding HA, we do not anticipate the overall failure of the environment except for few scenarios such as a database crash or a regional data center failure, etc. During a scenario where the overall environment becomes non-operational, DR is invoked, and the services are enabled based on the committed SLAs on recovery point object (RPO) and recovery time object (RTO).

REQUIREMENT: (#16) The system must accommodate performance monitoring tools that automatically analyze resource usage to identify inefficient application components.

The Protech Team has experience in developing and implementing systems for various programs such as eligibility systems and child support enforcement systems. Managing, monitoring SLAs and integration with performance monitoring tools is a common need regardless of the system being implemented.

We understand the tight coupling between business activity monitoring and its key performance indicators. Having the right "tool set" for monitoring the SLAs and the "right processes" for managing the SLAs is critical for effective SLA Management.

Our open architecture supports the integration of performance monitoring tools such as ITCAM (IBM Tivoli Composite Application Manager). The integration of the NCSEAS application with performance monitoring tools will provide:

- *The capability to monitor mission critical JEE applications running on WebSphere*
- *A way to conduct deep dive diagnostics of issues found during monitoring*

The ITCAM tool has three major components:

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- *The managing server (MS) which serves as the centralized command center and receives information from, and also provides services to, the data collectors*
- *The data collector (DC) which runs on the application servers that need to be monitored*
- *Tivoli Enterprise Monitoring Agent (TEMA) which gets information from data collectors and sends it to the Tivoli Monitoring environment*

The figure below illustrates the ITCAM architecture and integration with NASEAS application.

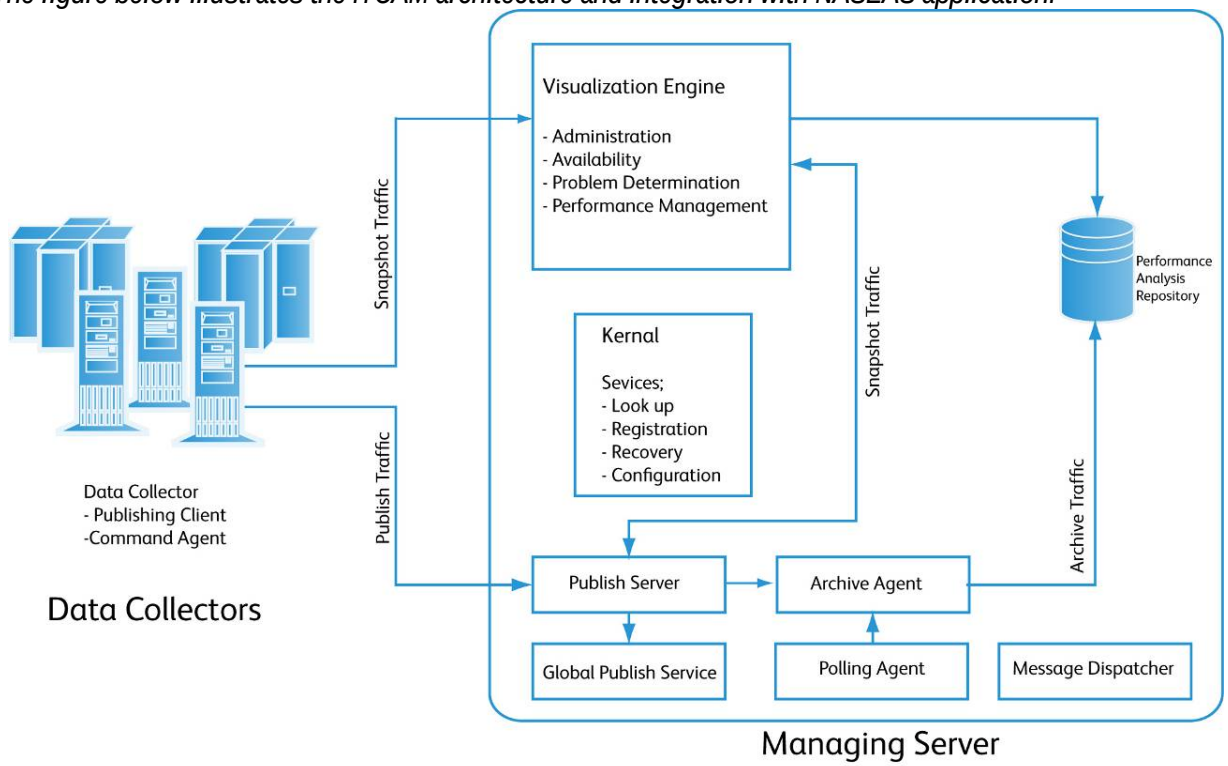

Figure 3.3-20. ITCAM Architecture

REQUIREMENT: (#17) Required data copy, backup operations or other batch jobs conducted during business hours must not degrade application performance beyond allowed response time standards.

We manage backup and copy activities through IBM Tivoli Storage Manager. The jobs are scheduled by judging server load and non-peak hour parameters.

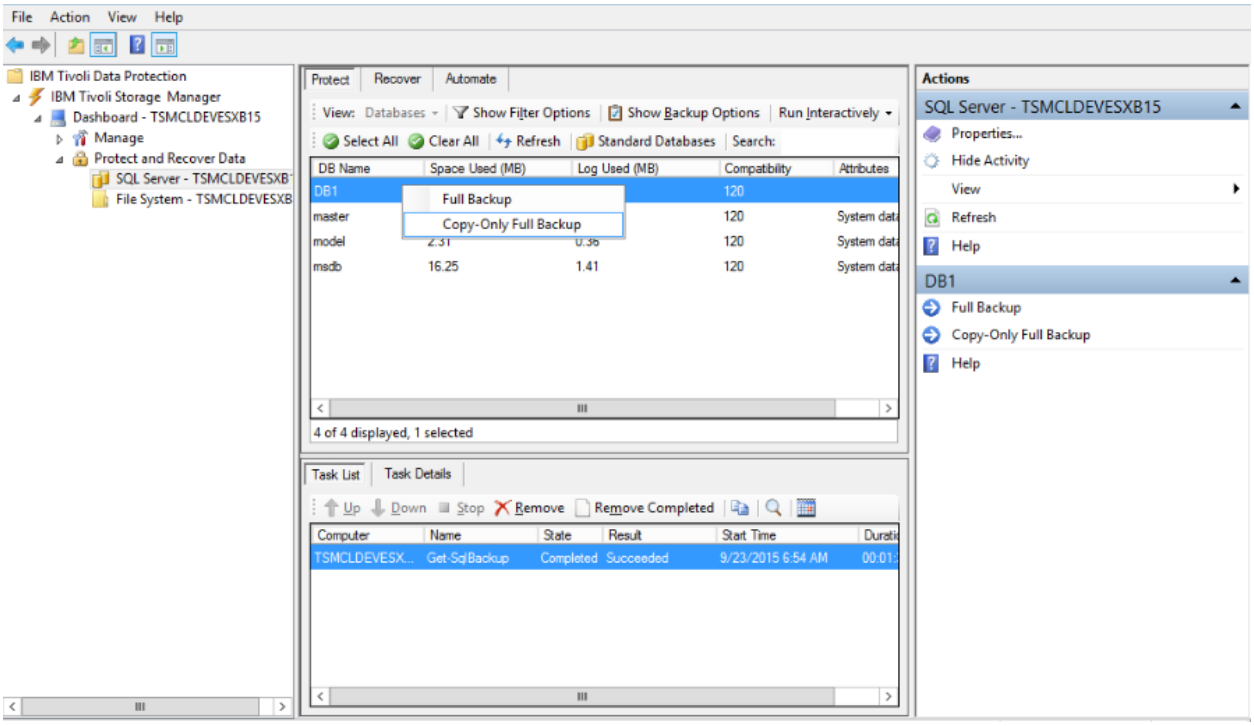

Figure 3.3-21. Tivoli Storage Manager Backup Operation

Batch activities are managed through CA work load automation tools which provide complete forecasting, auditing, calendaring, and failover, as well as job and file dependency support to avoid any performance degradation. Please refer to requirement 18 for additional details on CA work load automation.

We also mimic the production load which will not only involve the user load pattern but also the other activities which contribute to the load like full/incremental backups, batch jobs, ETL jobs for data warehousing, etc. With rigorous performance testing, we will be able to unearth all existing issues and ensure that we do not encounter any issues during production go-live.

REQUIREMENT: (#18) If batch processing is needed, the system must have a facility for running batch jobs (daily, weekly, monthly, quarterly, and/or yearly) that can be scheduled, stopped, restarted, and that log their activity.

We propose CA work load automation as a process scheduler. Alternatively, we can work with the CSEP team to use a scheduler of their choice as part of the NCSEAS solution. The CA work load automation tool proactively manages batch and online workload processes through event-based IT automation capabilities and enables workload prioritization, leveraging real-time alerting and dynamic critical path management.

CA work load automation has a comprehensive feature set, including complete forecasting, auditing, calendaring, and failover, as well as job and file dependency support. CA work load automation system components are an event server (with CA work load automation database), event processor, and remote agent.

The event server contains the CA work load automation database which stores all system information and events as well as all jobs, monitors and reports definitions. The event processor is the main component of the CA work load automation system which processes all the events it reads from the CA work load automation database. The event processor is the program, running either as a Unix/Linux process or as a Windows service that schedules and starts jobs. The event processor continually scans the CA work load

automation database for events to be processed. Remote agent is a temporary process started by the event processor to perform a specific task on a remote server.

Some of the CA work load automation features include: advanced visualization and administration, automated error recovery, business-centric job flows, critical path management, design-model-analyze process, dynamic job control, fault tolerance and recovery, flexible job automation, high availability, multi-platform scheduling, role-based real-time monitoring, and seamless application integration.

CA Work Load Automation components and communication flow between its components are depicted in the figure below:

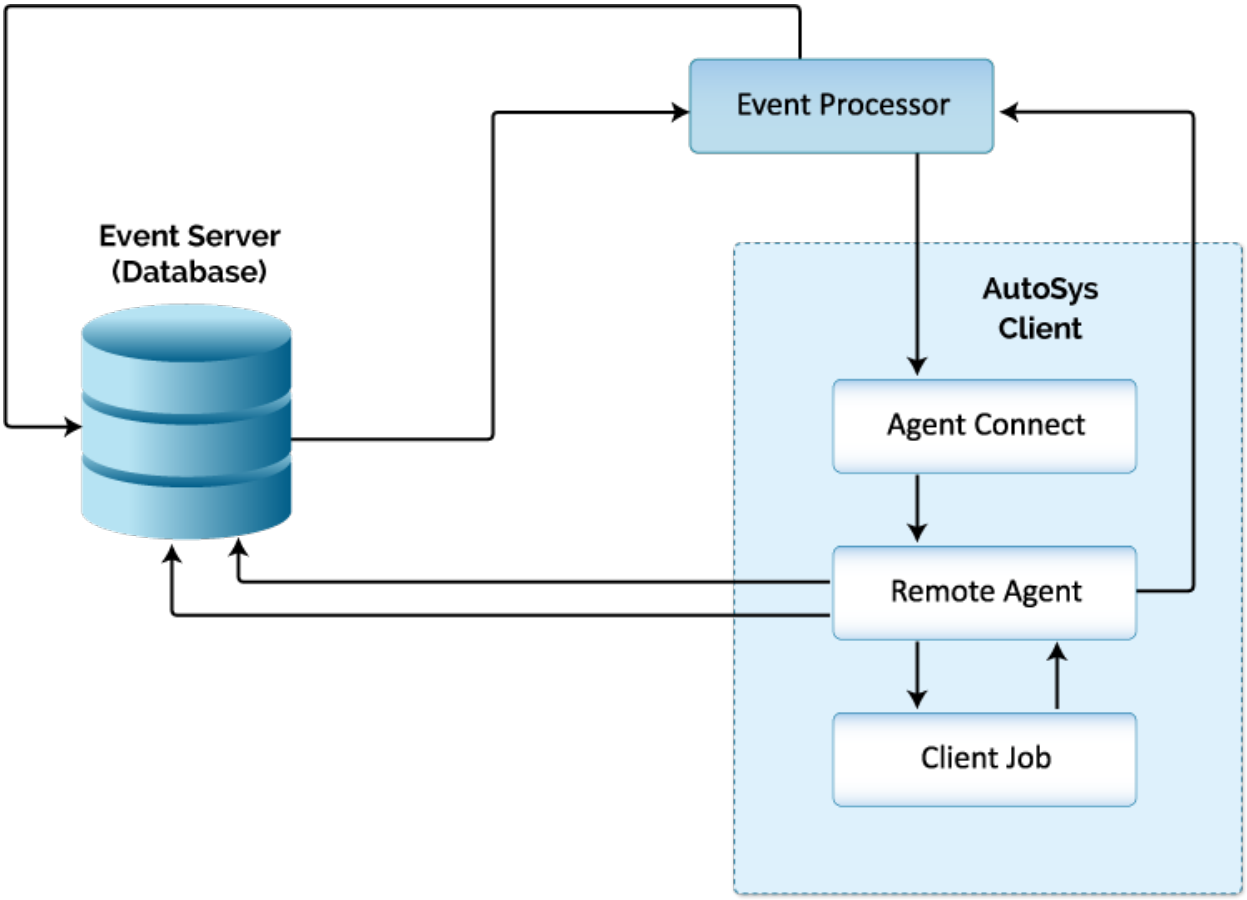

Figure 3.3-22. CA Work Load Automation Batch Architecture

REQUIREMENT: (#19) The system must offer at least 18 hours per day for end-user availability.

The system availability will be primarily managed by the virtualization technology used/proposed. The applications and layers which will be developed will follow the virtualization patterns and the needs defined for availability and scalability.

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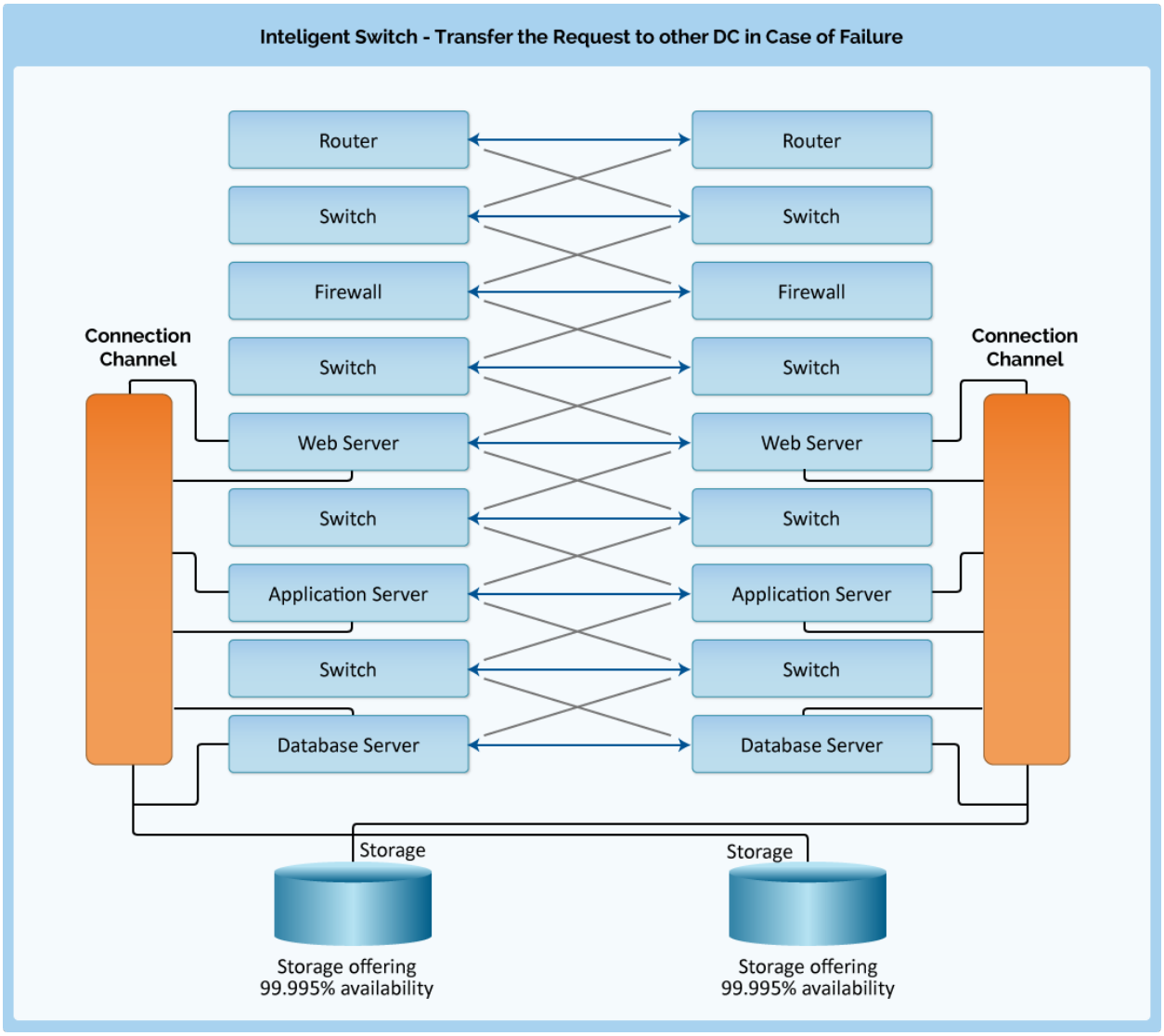

Figure 3.3-23. Local Resiliency Overviews

The Protech Team will provide a highly redundant solution while minimizing the impact of single component failure.

The components of the above infrastructure (dig) provide a high-level description of Protech's proposed option for high availability at the secondary (DR) site, thus minimizing the impact of any single component failure and allowing for continuous operations for the systems.

For better DR management, and to minimize RPO and RTO, we propose the following strategy for incremental log replication. This will ensure efficient DR management.

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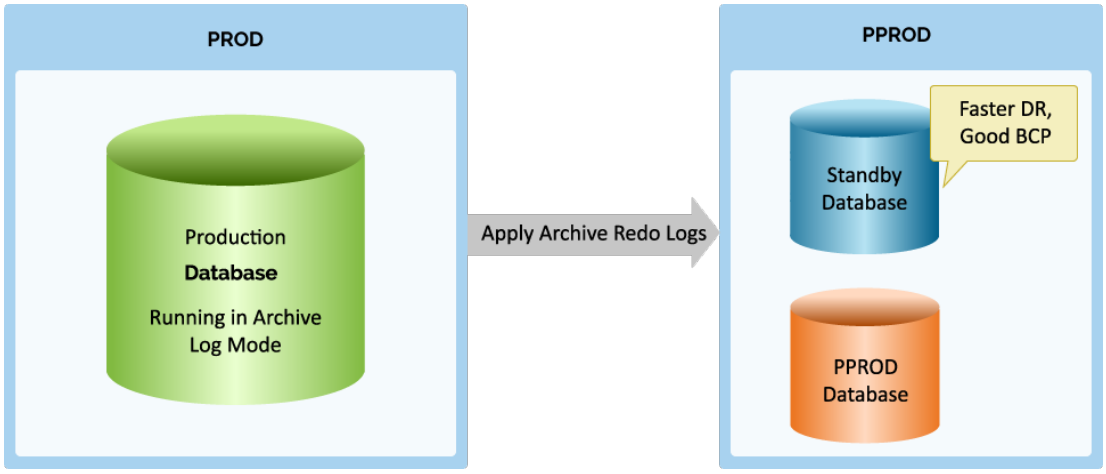


Figure 3.3-24. Proposed Incremental Log Replication Strategy

REQUIREMENT: (#20) If batch processing is needed, the system must incorporate a status reporting component into each batch job to report the processing statistics associated with the batch job, run times and processing duration, and any error conditions or unexpected terminations.

The proposed work load automation tool provides detailed status reporting and statistics including run times, processing duration and error conditions, etc.

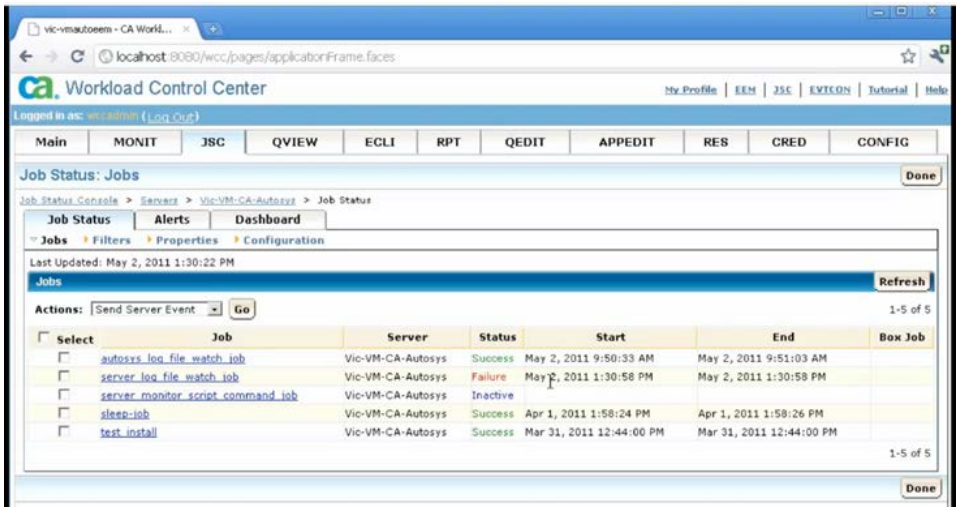
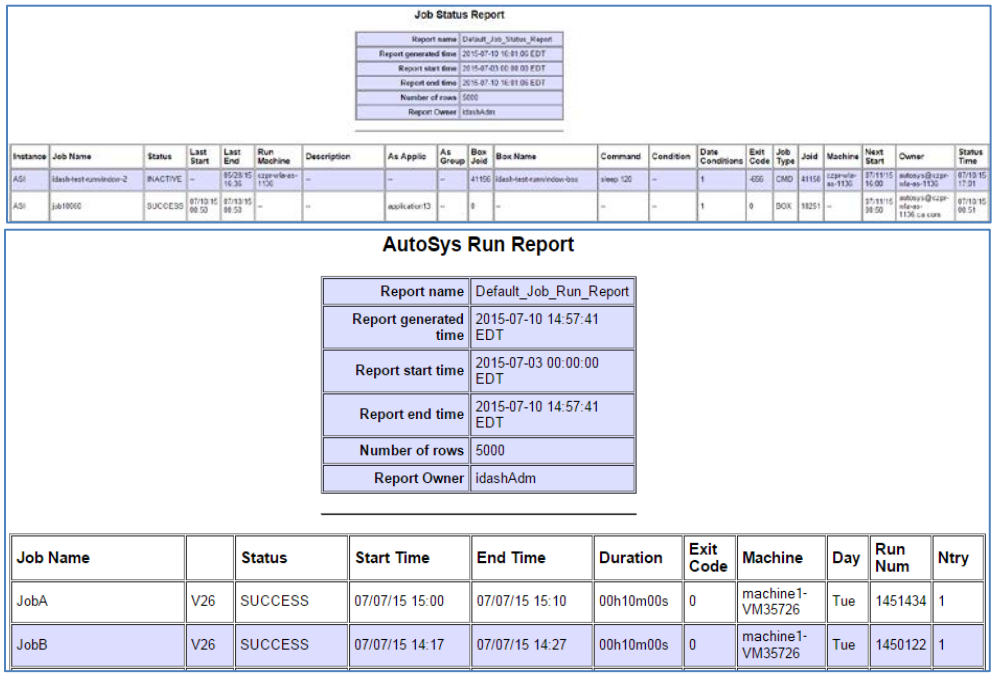


Figure 3.3-25. CA Work Load Automation Dashboards

REQUIREMENT: (#21) If batch processing is needed, these batch status reports must be available online for system support staff.

Protech's proposed CA work load automation tool provides an extensive set of customizable reports, graphs, and charts for historical workload and SLA data. Please refer to the figures below which show sample job status reports and job run reports which are available for system support staff.



Job Status Report

Report name	Default_Job_Status_Report
Report generated time	2015-07-10 16:01:06 EDT
Report start time	2015-07-03 00:00:00 EDT
Report end time	2015-07-10 16:01:06 EDT
Number of rows	5000
Report Owner	idashAdm

Instance	Job Name	Status	Last Start	Last End	Run Machine	Description	As Applic	As Group	Box Jobid	Box Name	Command	Condition	Date Conditions	Exit Code	Job Type	Jobid	Machine	Next Start	Owner	Status Time
ASI	idash-test-runwindow-2	INACTIVE	–	05/28/15 16:35	czpr-nfa-as-1136	–	–	–	41156	idash-test-runwindow-box	sleep 120	–	1	-656	CMD	41156	czpr-nfa-as-1136	07/13/15 16:00	autosys@czpr-nfa-as-1136	07/13/15 17:01
ASI	job18000	SUCCESS	07/13/15 08:50	07/13/15 08:53	–	–	application13	–	8	–	–	–	1	0	BOX	18251	–	07/14/15 08:50	autosys@czpr-nfa-as-1136.ca.com	07/13/15 08:51

AutoSys Run Report

Report name	Default_Job_Run_Report
Report generated time	2015-07-10 14:57:41 EDT
Report start time	2015-07-03 00:00:00 EDT
Report end time	2015-07-10 14:57:41 EDT
Number of rows	5000
Report Owner	idashAdm

Job Name		Status	Start Time	End Time	Duration	Exit Code	Machine	Day	Run Num	Ntry
JobA	V26	SUCCESS	07/07/15 15:00	07/07/15 15:10	00h10m00s	0	machine1-VM35726	Tue	1451434	1
JobB	V26	SUCCESS	07/07/15 14:17	07/07/15 14:27	00h10m00s	0	machine1-VM35726	Tue	1450122	1

Figure 3.3-26. Job Status Report

(3.6) Communications

REQUIREMENT: (#22) The system must offer modern communication channels (e.g., Hypertext Transfer Protocol (HTTP / HTTPS), Short Message Service (SMS) and email).

The primary platform technologies we are proposing are the web Java technologies stack which lends inherent support to the protocols mentioned above. HTTP v1.1 which is the standard protocol for internet communications and is fully supported by the WebSphere application server and applications integrated into the WebSphere suite. HTTP over SSL is also fully supported by the WebSphere application server with 128-bit encryption. Also, Protech uses this existing investment to provide the necessary integration of voice, email, fax, SMS, and chat.

Typically, all the transformation will be done through the integration layer and through the SMS gateways/Email Server (dedicated or shared) in the DMZ to relay the messages to the outside world. We envision integrating with the SMS gateway through APIs.

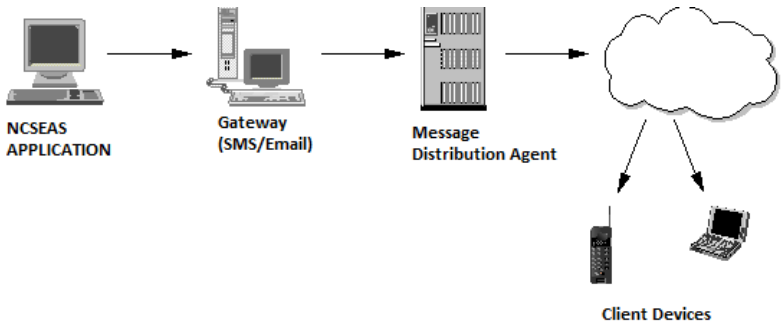


Figure 3.3-27. Integration of NCEAS with Messaging Gateway

[redacted]

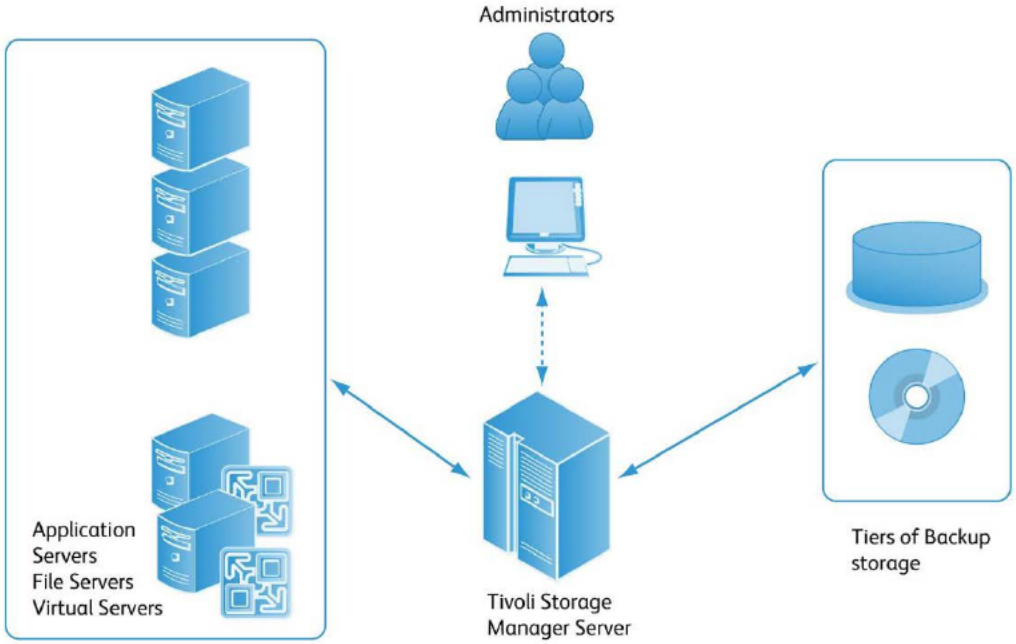


Figure 3.3-28. Tivoli Storage Manager

TSM provides a policy-managed backup, archive, and space-management facility for file and application servers. By providing backup functions, it ensures that the system is guarded against loss of information. The backup and archive client can copy files, subdirectories, and directories to media controlled by TSM server. Backups can be controlled by administrator-defined policies and schedules, or users can be allowed to request on-demand backup. Restore function is performed when an administrator (or user, if allowed) restores a backup version of a file and the backup server sends a copy of the file (preserved on tape) to the client node. The backup version remains in the tape storage. The backup administrator will define the retention policy, which describes how many days to keep copies or how many copies should be retained. Once the retention policy is defined, the status of each of the backup files will change based on this policy. Versions of the files will change from "Active" to "Inactive" and then to "Obsolete." In metadata store (which is not limited by size in version 6.x of TSM) the expiration process removes pointers of obsolete files. Once the files have been marked as obsolete and have expired from the tape subsystem, the space on the tapes will have invalid data, and TSM will run a process called reclamation, which is very similar to defragmentation on a physical hard drive.

The table below describes the backup schedule recommended by Protech:

Recommended Backup Schedule		
Back up Job	**Description**	**Schedule**
Daily Differential	Backup of changed files since the previous backup	8:00 PM Monday-Thursday
Weekly Full	Full back up of all files (reset archive bit)	8:00 PM Friday
Monthly Full	Full back up of all files on last Friday of each month (reset archive bit)	8:00 PM Friday
Yearly	Full back up of all files on last day of the year	8:00 PM Dec 31st

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Protech recommends using offsite storage for a historical data archival. A typical off-site storage model would incorporate the migration of weekly, monthly, and yearly backup tapes to a secured off-site facility for safe storage, protecting critical data in the case of a disaster at the primary production site. We will work with the CSEP to define an appropriate off-site storage solution and storage retention period.

Also, use of the EMC RecoverPoint component would allow for continuous data protection (CDP), or the service to back up production data continuously to a secondary site, as shown in the figure below. This would include copies of the file system and application files and not just the database files.

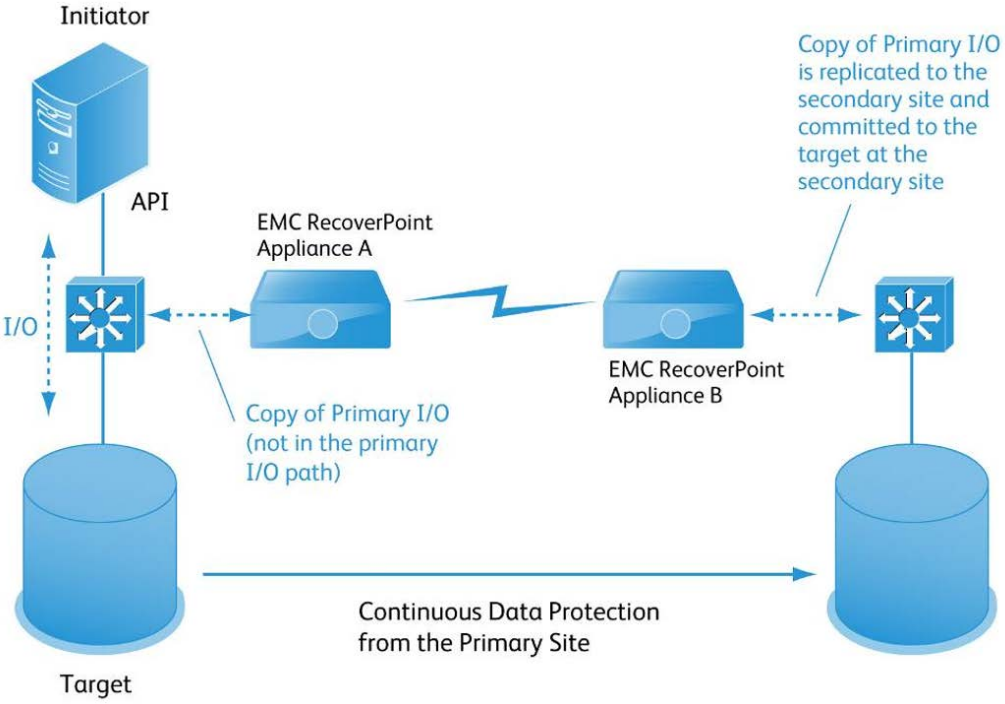

Figure 3.3-29. RecoverPoint Continuous Data Protection

EMC RecoverPoint is network-based, out-of-band, block-level replication technology that uses intelligent write splitting (at the host level, storage frame level or at the fabric level). Management is done through policy-driven consistency groups.

It enables several approaches for the data protection:
CDP, which enables local replication across heterogeneous environments and instantaneous any-point-in-time recovery

Continuous remote replication (CRR), which allows for asynchronous replications with remote site and policy based bandwidth usage reduction

Concurrent local remote replication (CLR), which integrates CDP and CRR features and functions and also maintains two consistent copies of data

REQUIREMENT: (#25) Online processes must reflect transactional concepts and must automatically roll back to a synchronization point to prevent partial completion in the event of system failure.

There are two definitions of an online backup. In the first definition, online backup (or remote backup) is a method of an offsite data storage in which files are regularly backed up to a remote site using a network connection. The second definition of an online backup applies mostly to the database workloads, wherein the backup software is used to create and manage backups while the system is online, or in other words, an online backup allows the administrator to back up the system while users are active and working in the system. Protech's proposed solution will support both types of online backups.

Using RecoverPoint, the primary DWSS site will be able to copy mission critical information to a secondary site.

Protech's proposed EMC RecoverPoint provides the ability to:

- *Enable continuous data protection for any point in time (PiT) recovery*
- *Ensure recovery consistency for interdependent applications*
- *Provide synchronous (sync) or asynchronous (async) replication policies*
- *Reduce WAN bandwidth consumption and utilize available bandwidth optimally*
- *Offer multi-site support with 1:n fan-out replication for higher protection and test operations. Also, n:1 fan-in for centralized DR site protecting multiple branch offices*

RECOVER TO ANY POINT IN TIME

RecoverPoint uses a journal-based implementation to hold the PiT information of all changes made to the protected data. Its replication policy supports a short recovery point objective(RPO) via journal technology that delivers DVR like roll back in time capability to a selected PiT for recovery just seconds before data corruption occurred, reversing the error.

RECOVER WITH CONSISTENCY

With RecoverPoint, data is protected by a Consistency Group (CG), preserving order consistency across the volumes contained within it. A journal, consisting of dedicated journal volumes, is assigned to each CG copy to maintain the PiT roll back capability, otherwise known as a protection window. RecoverPoint is designed to ensure recovery consistency for one application or inter-dependent applications using a single CG or using separate CGs as part of a group set.

REPLICATE WITH WAN EFFICIENCY AND RESILIENCY

RecoverPoint delivers remote data replication over WAN, at lower costs, when replicating asynchronously. Its built-in WAN optimization consists of advanced bandwidth reduction algorithms such as write-folding, de-duplication, and compression that reduce WAN bandwidth consumption up to 90%. WAN optimization also ensures replication robustness with an improved resiliency that sustains 50% longer Round Trip Time (RTT) and higher packet loss to fully utilize the available lag optimization which prioritizes among asyn CGs on the same RPA that competes for WAN resources.

REQUIREMENT: (#26) If batch processing is needed, batch processes must include roll back and restart capabilities to maintain data integrity and minimize recovery time in the event of system failure.

Protect proposes the automated error recovery solution from CA-Work Load Automation for handling the error recognition, logging, and notification. Complete control over error handling, including full checkpoint/rollback capabilities, recording and notification is provided in this. Also, the fault tolerance and

recovery provides absolute reliability and fault tolerance at both the job level and the system level. Our solution verifies that batch processing occurred as expected and reacts to problems before they impact business operations. Reliable, lights-out operations can be achieved with intelligent, automated recovery. By employing this solution, Protech will ensure the availability of the business systems by ensuring that batch jobs are completed accurately and on time. Protech proposes this automation of process to reduce operating costs, contribute to greater reliability, and for a shorter mean time to recovery.

CA Work Load Automation represents the next generation of job scheduling and workload management systems for distributed computing environments. It has been enhanced for greater scalability, improved management and control, web services integration, and business process automation. CA Work Load Automation readily scales to enterprise demands. Workloads are intelligently and efficiently allocated based on real-time information about available computing resources and service priorities. It is fully integrated with the CA Workload Control Center for end-to-end visualization of business processes across client-server, mainframe and cross-platforms via a consolidated, web-based console.

Work load automation provides absolute reliability and fault tolerance at both the job level and the system level. This allows the administrator to verify that job processing occurred as expected and react to problems before they impact business operations. Reliable, lights-out operations can be achieved with intelligent, automated recovery. The previous ensures availability of the business systems by ensuring that jobs are completed accurately and on time.

Automated error recovery, error recognition, logging, notification, and handling are vital components of the CA Work Load Automation environment. Complete control over error handling, including full checkpoint/rollback capabilities, recording and notification are provided.

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(3.8) Database

(3.8.1) Master Data Management

REQUIREMENT: (#27) The system must provide protections for updates to key data structures such as employer, person, case, and address designed to preserve data integrity and protect against data duplication. "Protections" may range from preventing the user from creating new records unless they have searched first to implementing a system of (human) "gatekeepers" or "data stewards" who are the only workers allowed to create new records.

Master Data Management (MDM) as a key NCSEAS service provides the ability to consistently standardize and manage case, participant, and other entity data such as address data. An MDM solution creates universal IDs for master data across the various systems and builds a cross reference to each connected system. Interface architecture ensures that all new entities interfacing with the system are validated through MDM services, whether online or in batch. The system performs search, match, duplicate identification, and relationship linking on all types of name, address, and identification data.

The proposed NCSEAS system delivers sophisticated matching functionality which includes matching on participant information such as name, address, and identification data including person names, address elements, dates, telephone numbers. This solution configures different match rules for data matching depending on the source of data (various locate sources) or the mode of operations (in real time, through web services or RMI calls, or in bulk mode).

When an NCSEAS user attempts to enter a new customer record with the name "John Smith" and attempts to perform a match against data within the database, each possible matching record for "John Smith" is returned to NCSEAS with the match scores listed in the first column. The end user may select any existing person or continue creating a new entry. New entries may be subjected to an approval process if required by the DOR.

End users will work with data on user interfaces that conform to the standards approved. The matching functionality will be fully integrated within NCSEAS. We will work with the stakeholders to institute a data stewardship process, wherein a data steward (such as a caseworker) performs the application administration activity for those records identified as possible matches.

Automated data matching is supported for case, participant, and address components. For each business component, a set of fields is used for comparisons in the data matching process. The set of matching fields is configurable, including other matching preferences such as the degree of matching required for records to be identified as potential duplicates.

The proposed MDM solution provides automated participant matches based on configurable business rules using IBM's ODM rules engine. Transparent to the user, NCSEAS calls the matching engine and uses DB2's configurable match algorithms to conduct searches based on the level of risk, age of data and other variables thus allowing to balance performance and comprehensiveness of search and match criteria

The level of manual interaction is determined by the rules based on the confidence of the search/match criteria. For example, a match on a social security number yields a high degree of confidence triggering an automated match, while a partial address may require user interaction to validate the match.

REQUIREMENT: (#28) If required, the system must be capable of obtaining key identifiers such as person IDs from an external source, or generating its own key identifiers.

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The California transfer system uses the surrogate key extensively in the database as the common key structure. Surrogate keys are columns that are designated to uniquely identify the record in a table. The data in such key columns do not have a business meaning as opposed to natural keys which are values that exist in real world and has business meaning such as case id, participant id, employer, etc.

There are several advantages to surrogate keys:

- *They aren't coupled to your business and therefore are easier to maintain.*
- *They utilize tables with more than one field as a key.*
- *They feature tables with sensitive data as a key element such as SSN, FEIN, etc.*

The common key structure allows for a unique key identifier for each new record created in the NCSEAS application. The key is unique across multiple applications interfacing with NCSEAS. These unique identifiers will be associated with:

- *Case*
- *Dockets*
- *Participant*
- *Participant contacts*
- *Workers*
- *Other parties such as employers, court location, etc.*
- *Obligations*

This is applicable for data created from within the NCSEAS application as well as data received from an external source through the interfaces.

REQUIREMENT: (#29) The system must offer the capabilities for "sounds like" (SOUNDEX) searches.

Protech brings a wealth of implementation and maintenance experience for an automated child support enforcement system. We understand the system contains data that requires extensive search capability. This capability is required in the system for simple look-ups as well as to prevent duplicate data from entering the system.

We use the Soundex feature of the database to achieve an efficient search capability. Soundex is a phonetic algorithm for indexing names by sound, as they are pronounced in English. The goal is for homophones to be encoded to the same representation so that they can be matched despite minor differences in spelling. The algorithm mainly encodes consonants; a vowel will not be encoded unless it is the first letter.

- *This search capability is required for:*
- *Person*
- *Employer*
- *Other associated parties of the case*

The Soundex capability is integrated in the application's search interface, providing the following benefits:

- *Allows users to search on the system for information including person's name, employers, and other associated parties of the case such as attorneys, judges, etc.*
- *It uses a phonetic algorithm to reduce each name to a four character alphanumeric code. The first letter of the code corresponds to the first letter of the name. The remainder of the code consists of three digits derived from the syllables of the word according to the following code:*
- *1 = B, F, P, V*
- *2 = C, G, J, K, Q, S, X, Z*
- *3 = D, T*
- *4 = L*
- *5 = M, N*
- *6 = R*
- *The double letters with the same Soundex code, A, E, I, O, U, H, W, Y are disregarded.*
- *"SMITH" becomes "S530" by the following method:*
- *The S is stored.*
- *The M is stored as Soundex code 5.*
- *The I is disregarded.*
- *The T is stored as Soundex code 3.*
- *The H is disregarded.*
- *To get the 4-character alphanumeric code, the rest is 0*
- *"SMYTHE" becomes "S530" by the following method:*
- *The S is stored.*
- *The M is stored as Soundex code 5.*
- *The Y is disregarded.*
- *The T is stored as Soundex code 3.*
- *The H and E are disregarded.*
- *To get the 4-character alphanumeric code, the rest is 0*

As explained in the above description, Soundex will evaluate SMITH and SMYTHE to be phonetically similar sounding and return the search result.

(3.8.2) Database Management System

REQUIREMENT: (#30) The system must use a robust, proven, current, and commercially available Relational Database Management System (RDBMS).

We have studied the requirements to determine which database would best fit the requirement. NCSEAS needs a database that combines industry leading scalability and performance, deeply integrated analytics, and embedded data integration and data quality. All of these features must also be available on a single platform that runs on a reliable, cost-effective grid infrastructure.

The database must be comprised of best of breed functionality for data warehouses and data marts with robust partitioning functionality, proven scalability to hundreds of terabytes, and innovative query processing optimizations. It must also provide an integrated platform for analytics by embedding online analytical processing (OLAP), data mining, and statistical capabilities directly into the database. It must be a true enterprise platform, providing advanced security, high availability, and self-managing capabilities for the most demanding data warehouses.

The transfer system database from California is the baseline, designed using RDBMS. The solution we propose to adopt for augmenting the NCSEAS system is from our award winning systems in New Jersey, Michigan, and Maine; all of which utilize RDBMS in combination with hardware and third-party tools to provide an effective, well-rounded solution.

A relational data model is a physical and technical realization of the abstract business data model. The data model is used to manage and understand a business process and defines data required for a business process. Data models support business activities and information systems by providing the definition and format of data.

We measured IBM's DB2 against the list of criteria and found that it meets all of NCSEAS requirements. As we move forward, we will evaluate new versions and proceed accordingly. DB2 provides a solid and substantial framework to implement the requirements of the NCSEAS system

Our extensive experience in implementing similar databases using the relational database technology in the child support system domain will be a tremendous asset during the database design process for the NCSEAS Program. Lessons learned, not just from our high-performance systems, but also from the issues faced by other states, are always a consideration with the design and implementation of a system of this scale.

REQUIREMENT: (#31) The system must use capabilities of the RDBMS for transaction control.

The Master Database Management (MDM) process is key for the development of the system, providing basic and advanced data management functionality. One of the most critical components of MDM is the transaction control.

A transaction is a unit of work that is performed against a database. We plan to adopt California's transfer system solution and the use of hibernate for initiating the transaction controls. Hibernate is used for mapping the business domain model to the database. Transactions are units or sequences of work accomplished in a logical order, whether in a manual fashion by a user or automatically by some database program. A transaction is the propagation of one or more changes to the database, such as the creation or modification of a record. It is important to control transactions to ensure data integrity and to handle database errors.

The following properties, usually referred to by the acronym ACID, define a transaction:

Atomicity: ensures that all operations within the work unit are completed successfully; otherwise, the transaction is aborted at the point of failure, and previous operations are rolled back to their former state.
Consistency: ensures that the database properly changes states upon a successfully committed transaction.
Isolation: enables transactions to operate independently of, and transparent to, each other.
Durability: ensures that the result or effect of a committed transaction persists in case of a system failure.

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NCSEAS will utilize the following transaction controls provided by DB2 for the data manipulation commands (such as Insert, Update, and Delete) in the system:

- *COMMIT: This is used to save changes invoked by a transaction to the database, since the last COMMIT or ROLLBACK command.*
- *ROLLBACK: This is used to undo transactions that have not already been saved to the database, since the last COMMIT or ROLLBACK command was issued.*
- *SAVEPOINT: This is used to create markers within groups of transactions to undo the changes to that point. This is a point in a transaction when you can roll the transaction back to a certain point without undoing the changes from the entire transaction*
- *SET TRANSACTION: This is used to specify characteristics of the transaction such as read only, or read write.*

REQUIREMENT: (#32) The RDBMS must provide the ability to encrypt highly sensitive data within the database.

Encryption is the mutation of information into a form readable only with a decryption key. Encryption is a powerful security mechanism because it can make decryption mathematically infeasible without the decryption key. The secrecy of encrypted data depends on the existence of a secret key shared between the communicating parties. Providing and maintaining such secret key is known as key management.

Encryption must address all communications with the database, including transmissions from clients and transmissions from middle tiers. It must also secure all protocols into the database. In addition to encryption, there are integrity algorithms that can ensure that data has not undergone tampering. A database can use these algorithms to detect corruption in data blocks. NCSEAS will use this encryption and integrity checking algorithms to ensure that the data transmitted is secure.

DB2 provides a wealth of server-enforced protections for private and confidential information. DB2 features Transparent Native Data Encryption that quickly and easily encrypts sensitive information. Existing applications continue working without any modification because the data is transparently decrypted when accessed through SQL. DB2 has built-in features that offer row and column level encryption.

The encryption features provided by the database will be utilized in the implementation of the NCSEAS system. The utilities and the database tables that are candidates for encryption will be identified during the planning and design phase.

REQUIREMENT: (#33) The database must be capable of defining fields to support a broad range of characters (e.g., Unicode basic Latin subset, mixed case).

DB2's data types define the application fields. The data fields designated as CHAR or VARCHAR support storage of the Unicode basic Latin subset. This subset includes:

- *Upper case such as "SMITH"*
- *Lower case such as "smith"*
- *Mixed cases "Smith"*
- *Numerical value such as "1111"*
- *Alphanumeric such as "123 Main Street"*
- *Special Characters such as "=", "$", "@"etc.*

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DB2 databases also can support a wide range of character sets that are stored either as single-byte or multi-byte. This capability is very important for the internationalization of applications in a system with the scope of NCSEAS.

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(3.8.3) Database Design

REQUIREMENT: (#34) The system must employ a normalized database design that takes advantage of the capabilities of the RDBMS, including:

- one-to-many relationships
- many-to-many relationships
- database-controlled transactions and commit points
- proper use of data types and database-enforced constraints to prevent invalid data from being introduced

The transfer system database from California, used as the baseline for NCSEAS, was designed using RDBMS. This system has extensively used the normalization capabilities of the RDBMS database. The system complies with generally accepted practices for efficient database usage. The Protech Team brings its experience to the NCSEAS program by augmenting the system based on defining database standards from similar projects. The system maps physical data model to a fully normalized logical model. This includes:

- *All tables must be normalized to third normal form. De-normalization may be considered in special circumstances to aid performance.*
- *If tables are joined for a majority of accesses, de-normalizing is considered. Most of the tables are normalized to 3NF.*
- *Redundancy of data may be necessary to avoid unnecessary joins and improve maintainability.*

The figure below illustrates an un-normalized table normalized to 3rd Normal Form (3NF):

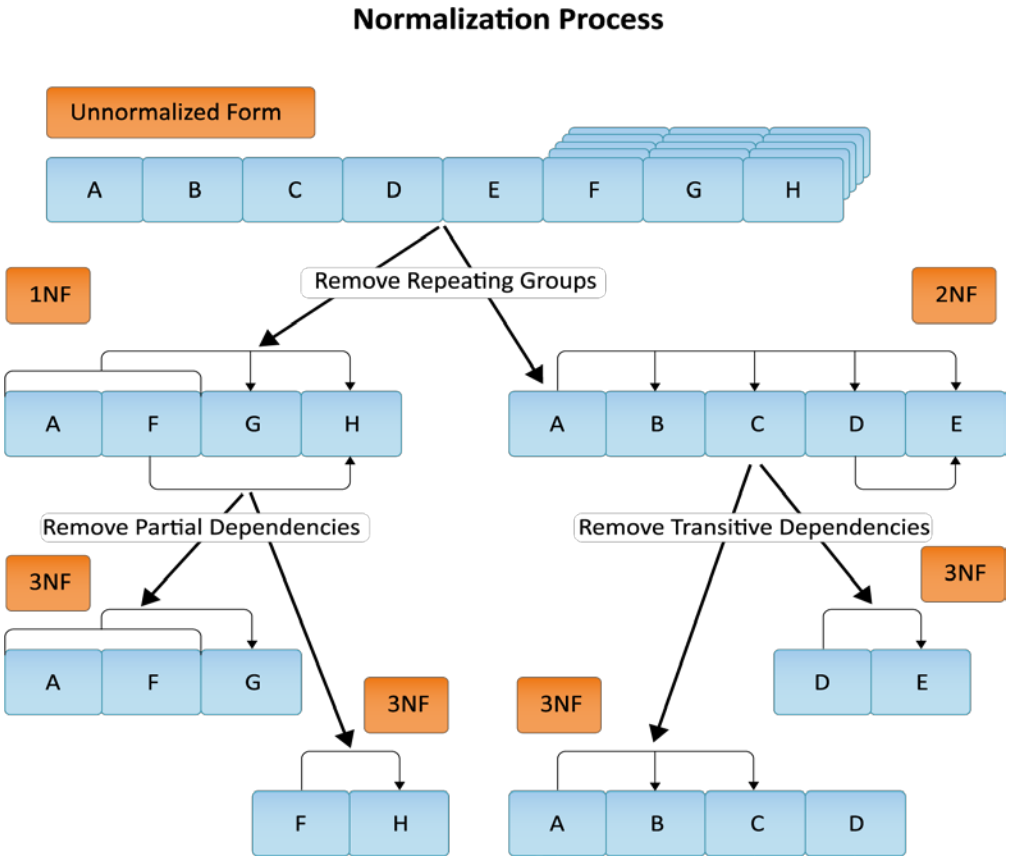

Figure 3.3-30. Un-normalized table normalized to 3rd Normal Form (3NF)

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The Database Change Request (DBCR) process mentioned in section 5.11 Database Development Plan ensures that the database rules are enforced as defined for NCSEAS. These definitions will be finalized during the planning and design phase.

One-to-many relationship

One-to-many relationships are used in situations such as when one IVD case has multiple participants. In such instances, the case details will be stored in one table where a unique identifier for the IVD case is designated as the primary key. Another table stores the association of the participants to the IVD case through the referential key.

Many-to-many relationship:

Many–to-many relationships are used in situations when one participant belonging to multiple cases and one case has multiple participants. A "many to many" relationship between two entities defines a kind of bi-directional "one to many" relationship for each of the entities. Implementing this in a physical model, we define a master table for the IVD case entity and another table for the participant entity. An intermediate table is created to associate the two primary entities by linking the IVD case and the participant.

Database enforced constraints:

The solution implemented for NCSEAS will use referential integrity and constraints provided by the RDBMS for the application of 'rules' to entities, attributes, and relationships from a data perspective. Referential integrity is used to apply business rules to the relationships of entities through their attributes. We design an efficient table, complete with its entity, domain, and referential integrity, through our knowledge of database constraints. Constraints are programming elements used to enforce such integrity.

The constraint types include:

- *NOT NULL: This is used to prohibit null values in the columns within the table*
- *Unique: Using this constraint, we set values of columns uniquely to prohibit duplicate data from being introduced into that column.*
- *Primary key: We use a "primary key" and a "foreign key" constraint to declare relationships between multiple tables*
- *Foreign Key: We use foreign keys as a set of columns in a table to match at least one primary key value of a row in another table. Foreign keys can be a referential constraint or referential integrity constraint. We establish a required relationship between the tables using this constraint.*
- *Check: We use this constraint to add conditional restrictions for a specific column in a table. This is used to enforce simple business rules associated with the data of that column.*

Data type usage:

Data type is the physical representation of an attribute of a column. Choosing the correct data type protects the integrity of the system's data and takes advantage of the built-in capabilities the RDBMS. The data types for a column are determined based on the nature of the data that is stored in that field.

NCSEAS will employ the data types provided by the DB2 database as appropriate for the columns:

- *If the data is numeric, we use SMALLINT, INTEGER, or DECIMAL data types. FLOAT is an option for very large numbers.*

- *If the data is a character and its length is less than 255, we use CHAR; character data longer than 255 bytes is stored in a VARCHAR column. The maximum VARCHAR column length is 32K. Character data longer than this length is stored in a large object (LOB) column.*
- *If the data is date and time, we use DATE, TIME, and TIMESTAMP data types.*
- *If the data contains images or large graphical content, we use BLOB, CLOB, or DBCLOB data types.*

Database controlled transactions and commit points:

Refer to response for #31 for database controlled transactions and commit points.

REQUIREMENT: (#35) The database design must treat the following as first-class data structures, identifiable by a primary key, and contained in a primary database table and related tables:

- case
- person
- employer

The transfer system database design from California as the baseline for NCSEAS contains the first-class data structures. The key entities in the system are stored in primary database tables identified by a unique key. The following is an illustration of the tables present in the database to store the key entities

- *CASE: Stores all cases in the system identified by the case id and the related details*
- *PARTICIPANT: Stores all participants in the system identified by the Participant ID and the related details*
- *EMPLOYER: Stores all employers in the system identified by an Employer ID*
- *CASE_PARTICIPANT: Stores the details of the participants associated with each case in the system. This table contains the Case ID and the associated Participant IDs*
- *PARTICIPANT_ADDRESS: Stores the address details of the participants*
- *PARTICIPANT_EMPLOYER: Stores the employment details of the participants*

Working with the State, we will define unique identifiers for key elements in the system as described in Response #28, including case, person, and employers. These elements are considered first-class data structures because of the following reasons:

- *Stored in variables and data structures*
- *Passed as a parameter to a subroutine*
- *Returned as the result of a subroutine*
- *Has distinct identity through of a Unique Identifier*

Since they are stored in the database in tables as simple scalar data types (CHAR, VARCHAR, and Integers), they are always treated as first-class data structures. Each of the entities is stored in its master table where they belong as primary identifier, i.e., only one record exists per entity in that table. Any related tables that need to refer these entities store these elements in a designated column as a referential key of that associated table.

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REQUIREMENT: (#36) The database must not use Personally Identifiable Information (PII) or other potentially sensitive data (e.g., Social Security Numbers (SSNs), Federal Employer Identification Numbers (FEINs)) as primary key values.

The security and confidentiality of personal information are a priority for Nevada's NCSEAS implementation. The final solution will be designed to protect all of the various types of confidential and/or sensitive data the system will use, including personally identifiable information (PII), social security numbers (SSNs), Federal Employer Identification Numbers (FEINs), paternity and child support data, Federal Tax Information (FTI), state tax data, public assistance data, and health insurance data.

Due to the sensitive nature of information associated with child support enforcement business processes, and in alignment with the Nevada's security standards, we will design the system to comply with all applicable federal and state child support laws, regulations, and policies relevant to system security, confidentiality and the safeguarding of information, as well as the federal certification requirements.

Our database design will ensure that the requirements for protecting sensitive information are satisfied. Any such data that is stored in the database in table fields will not be designated as a primary key. This will ensure the data is encrypted to safeguard access to anyone who does not have a valid justification. The implementation strategy for assigning key values, as provided in the solution for the Requirement #28, details the usage of surrogate keys. Surrogate keys are columns designated to uniquely identify the record in a table with no business meaning. This will be extensively used for tables with sensitive data as a key element such as social security number, federal employer identification numbers (FEIN), etc.

REQUIREMENT: (#37) The database/system must automatically embed User ID and date/time stamp information on every transaction that creates or updates a database record.

Audit trails will include UTC based date-time stamping to track user activity. Audit records include information about the operation that was audited, the user who performed the operation, and the date and time of the operation.

The database tables from the transfer system provide the following fields for audit purposes:

- *ROW_VERS_ID: Identifies the number of times the record has been updated since its creation, beginning at 0. This is primarily used to quickly find the current information.*
- *ROW_CREAT_USER: The name of the user or mechanism which created this record such as user login name, batch job name, or others. A required field often filled in automatically by the hibernate layer of the software.*
- *ROW_CREAT_TS: The timestamp when the record was created. If the data is a copy of older data from some outside system, this is the time the copy took place.*
- *ROW_UPDATE_USER: The name of the user or mechanism which supplied the most recent version of this record. This may include user login names, batch job names, or others.*
- *ROW_UPDATE_TS: The timestamp when the record was most recently rewritten.*

NCSEAS will implement audit trail functionality to ensure these attributes are recorded for each change. As mentioned earlier, the constraint concerning balancing audit trails with performance considerations will be discussed and decided by the State and Protech. Audit Trails also track the state before and after a change. Protech will connect these changes to online screens/services/batch jobs which triggered the change.

Finally, auditing can monitor and keep record of attempts to access or modify data objects. The back-end code tracks users who make changes by using the authentication token passed in from the front-end.

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REQUIREMENT: (#38) The database design must provide audit capabilities for any financial balances stored in the database with the capability to reconstruct those balances if necessary.

All financial transactions are completely audited in our solution. We will review the requirements during the database planning and design phase. In addition to the audit model adopted from the California transfer system, any further requirements identified will be implemented using a sophisticated award winning model event model, which was pioneered by the Protech Team in Arkansas and migrated to other states throughout the nation. Our financial processes provide detailed audit reports at various reporting levels. These audit reports are integrated into our financial reporting solutions and provide users with flexible views of financial processes across various levels of reporting.

This solution features audit trails that provide information across multiple financial processes that occur in a case, participant, or other entity. This allows users to view financial transaction audit trails across different processes in a unified manner. Thus, our solution facilitates the display of the payment process—starting from collections held before distribution, subsequently distributed, and applied to arrears, reimbursed assistance, and disbursements in a single unified view.

REQUIREMENT: (#39) System capabilities must make direct modification of balances using database utilities or other means unnecessary under all circumstances.

The NCSEAS system stores the balances in the database which can only be accessed by authorized resources as determined by the State and the Protech technical team. Modifications to these balances are usually not warranted unless determined as necessary under exceptional scenarios.

Changes to the balances could be a result of:

- *Data corruption*
- *User errors*
- *Adjustments to balances due to court orders*
- *Unforeseen errors in the interface files*

Such scenario for balance modification can be achieved by two means:

- *Application Screen: The NCSEAS application will be designed with screens to modify or adjust balances based on the transfer system, to be workflows, and the JAD session during the initial phase of the SDLC. These screens allow the authorized users to make modifications to the balances in exceptional scenarios. Due to the critical nature of the data being changed, only selected users or group of users are given the privileges to do such modifications. This application privilege is carefully controlled by the security rules set forth for the system. The security roles dictate the level of access given to the user such as view only, modify, approve modifications, etc., which are set at the application screen level. The audit capabilities, as mentioned in the solution for Requirement #38, enable the traceability of these transactions.*
- *Database Utilities: In scenarios where the modification to the balances cannot be achieved as desired through the application screens, Protech uses database utilities to accomplish the changes. The database utilities go through a defect management process as outlined in the configuration management plan. The utility is stored in the repository, and a work item is created in the defect management tool with adequate details to substantiate the modification. The balance modification tracked using the work item, goes through the defect management life cycle that includes*

development, unit test, integration, and system test, user acceptance, and peer review processes before it is applied to the database.

(3.9) Security

(3.9.1) Security Standards

REQUIREMENT: (#40) The system must comply with the Division of Welfare and Supportive Services (DWSS) and CSEP security standards, IRS Publication 1075, as well as other applicable State and Federal security regulations.

The Protech Team has been involved in implementing multiple child support systems across the country for many years. In all these implementations, we have used the best practices for security and complied with CSEP security standards along with divisional, state and federal security regulations. Every implementation of the Protech Team has been met with the highest accolades, both at the state and federal levels. We bring to the table this unmatched experience in designing, developing, and implementing a child support enforcement system. This experience will be leveraged for the Nevada Child Support Enforcement Automated System (NCSEAS) implementation.

Having extensive experience with Internal Revenue Service (IRS) audits based on Pub 1075, the Protech Team will work with Nevada to incorporate compliance with the IRS safeguard requirements related to the security, handling, disclosure, and destruction of IRS return data in the system. We have actively participated in IRS audit compliance reviews and implemented system changes required for IRS security compliance.

The Protech Team understands and will address the issues associated with IRS compliance including:

- *Administrative procedures (e.g., training, orientation (and reorientation), auditing),*
- *Physical safeguards (e.g., secure workstations, secure locations, physical access controls, safes),*
- *System safeguards (e.g., security, access control, access logging, etc.).*
- *Data confidentiality including the identification of data source and not sharing information received from the IRS.*

(3.9.2) Security Architecture

In systems such as NCSEAS, the security layer provides a secure, automated, and policy-based user management solution to address key business issues such as controlled user access and the security of sensitive information. The NCSEAS security layer will provide identity and access management that allows for quick, efficient setup of new accounts and passwords for employees and customers, including the ability for users to reset and synchronize their passwords.

It allows DWSS to improve visibility into security management operations, quickly producing reports for auditors with predefined reports and audit events. Access Manager supports authentication, authorization, data security, and resource management capabilities. The Protech Team solution will use Novell's Identity and Access Management tools to provide authentication and authorization for NCSEAS applications. The key architectural components of our solution are shown in the figure below.

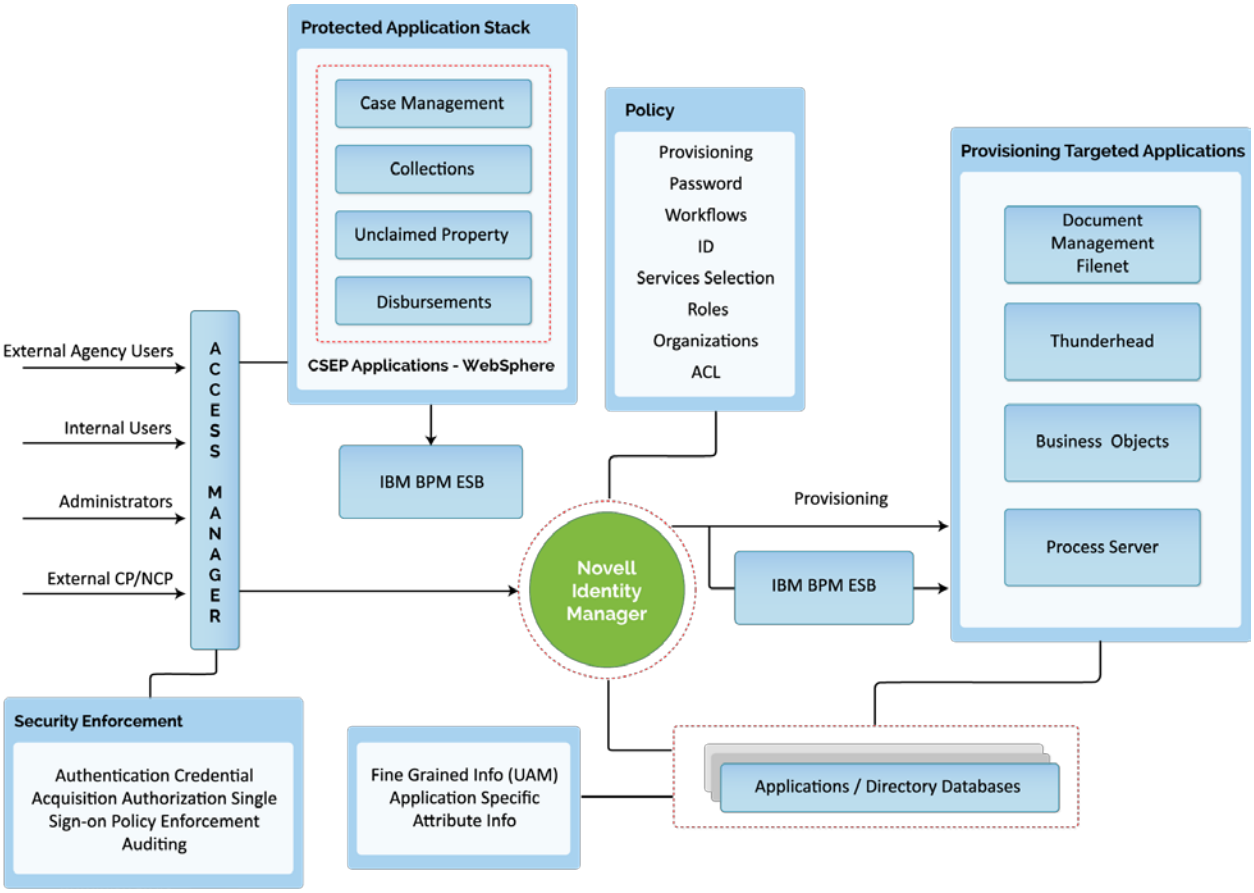

Figure 3.3-31. Overview of Security Components of the System

The following components are used in the solution to provide the various functionalities and features required for the NCSEAS Program.

Novell's Identity Manager

The identity management system (NIM) provisions users to various application servers. The system will be designed with an automated workflow system to provision and de-provision users with approvals. The self-service system will reduce the administrative workload for password initialization.

Novell's Identity Manager is designed to aid compliance with industry and government regulations, providing centralized reports on security policy, access rights, and audit events. Identity management automates the deployment of access rights for employees, contractors, and business partners to enterprise resources based on set business policies. The identity management system provides a single point of administration for addition, deletion, and reconciliation of accounts while maintaining policies, ensuring privacy, and reinforcing security in a changing business environment.

Identity Manager manages users and their accounts, single sign-on, cross-domain single sign-on, and web services security. Passwords, group memberships, and other attributes are associated with the users and accounts. These all relate to managed systems and applications. To enable management of users, accounts, and associated information, Identity Manager uses an organizational tree and roles, Access Control Lists (ACLs), and policies.

Novell's Access Manager

Novell's Access Manager (NAM) provides robust, policy-based security. It provides user authentication, enforces control of access privileges, and provides fine-grained authorization for access to protected resources, auditing, and logging. Novell's NAM also provides single sign-on and supports high availability deployments.

Enterprise Directory Server

The Enterprise Directory Server stores and maintains user data. Novell's Identity/Access Manager integrates with the Enterprise Directory Server, which can be configured to maximize availability.

Integration with Splunk

Protech's proposed solution integrates seamlessly with Splunk. Both Splunk and Novell SIEM provide REST API for ease of integration. Data from Novell SIEM will be sent to Splunk for additional operational intelligence. Similarly, data from Splunk will be sent to Novell for anomaly detection and user activity monitoring.

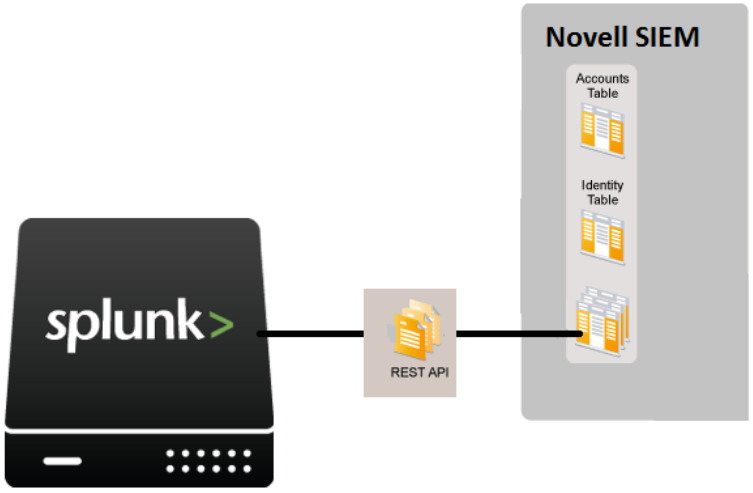

Figure 3.3-32. Splunk and Novell SIEM Integration via rest APIs

Account Provisioning

The enterprise identity and access management system does more than consolidate user account ownership within NIM. It keeps common user data stored in multiple systems synchronized, and updates access to systems through synchronized membership in groups.

This synchronization is conducted for the user's identity within NIM, known as the person object for the user, which contains the superset of the attributes to be updated. All updates of these attributes are conducted on the person object. NIM provisions them to the appropriate systems based on a set of provisioning policies. The policies are configured to set the user account attribute values required by the system, represented by the account to the values contained in the person object. The policies will force an update of an account when any of the associated attributes in the person object are changed.

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Authentication/Single Sign-On

Within NCSEAS, the user interacts with enterprise portals such as FileNet, Process Server, or custom web applications. To facilitate a user with multiple business services, single sign-on authentication is required to avoid multiple sign-ins to each back-end application. Single sign-on is achieved by using Novell's Access Manager and Novell's e-Directory Server, as well as Trusted Association Interceptors (TAI) to pass credentials.

Authorization

NAM authorization service enforces security policies by comparing a user's authentication credentials with the policy permissions assigned to the requested resource. In NCSEAS, the authorization service consults Novell's application programming interfaces to provide the authorization decision. The authorization service provides access control to fields or data elements within the web pages.

The authorization service performs authorization decisions based on the policies defined for the objects. Every request to access an object within the protected object space will be evaluated against the ACLs, Protected Object Policy (POPs), and the authorization rules attached to the object. The authorization service is responsible for the authorization decision-making process that helps enforce security policy in NCSEAS. The authorization service is made up of three basic components: authorization policy database, policy server, and authorization server.

The policy database also referred to as the master authorization policy database and the master authorization database, contains the enterprise security policy information. The policy server maintains the policy database. The authorization server is the decision-making component that determines whether a client's request has access to a protected resource based on the security policy.

Monitoring

Novell's SIEM tool will be used to provide a security overview with automated, enterprise-wide monitoring. This security appliance offers automated monitoring of activity logs with a dashboard and reporting to help the administrator manage security compliance. This tool provides DWSS with real-time visibility into the full spectrum of IT activities to mitigate security threats, improve security operations, and automatically enforce policy controls across physical as well as virtual environments. It also provides organizations with a more efficient SIEM solution by combining real-time intelligence, anomaly detection, and user activity monitoring to provide an early-warning mechanism and a more accurate assessment of IT activities.

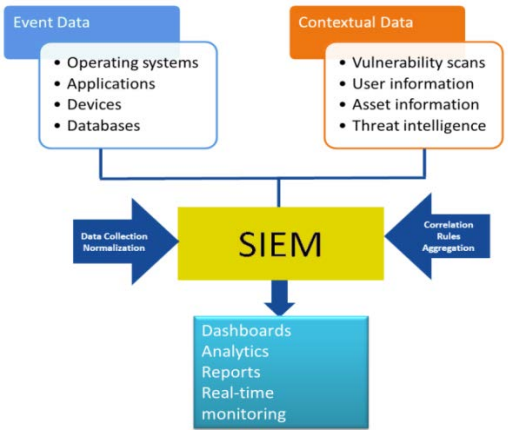

Figure 3.3-33. Novell's SIEM Output Generation Process

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Using Novell SIEM's Anomaly detection capability, DWSS can:

- *Automate threat discovery*
- *Remediate threats before they generate damage*
- *Reduce risk to information assets*

Novell's SIEM solution automatically identifies inconsistencies in the NCSEAS environment without building correlation rules. This can also compare trends with a baseline to view historical activity patterns.

Auditing & Compliance

Novell's Secure Configuration Manager will be used to meet DWSS's audit and compliance goals.

- *Security and compliance dashboard— quickly visualize and communicate configuration compliance and risk status with robust drill-down options and dynamic reporting*

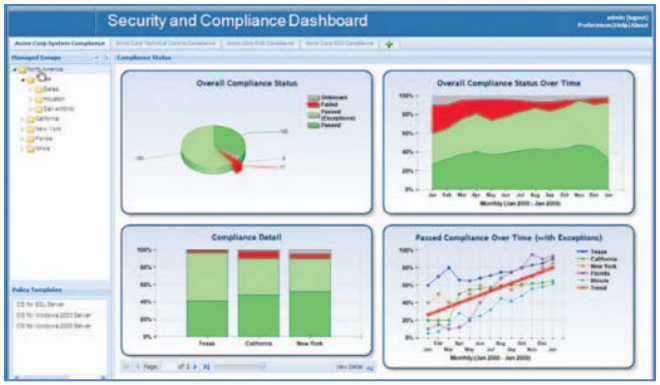

Figure 3.3-34. Sample Compliance Dashboard

- *User entitlement reporting— assesses user permissions for access to critical information, providing answers to your questions about who has access to what level of critical information*

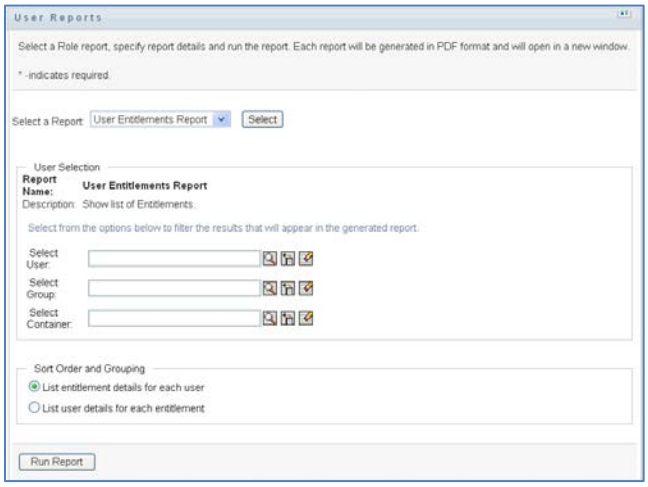

Figure 3.3-35. User Entitlement Report Generation

- *Vulnerability assessment— identifies host flaws by assessing them against security intelligence delivered by an automated service and reports on the frequency and location of vulnerabilities.*

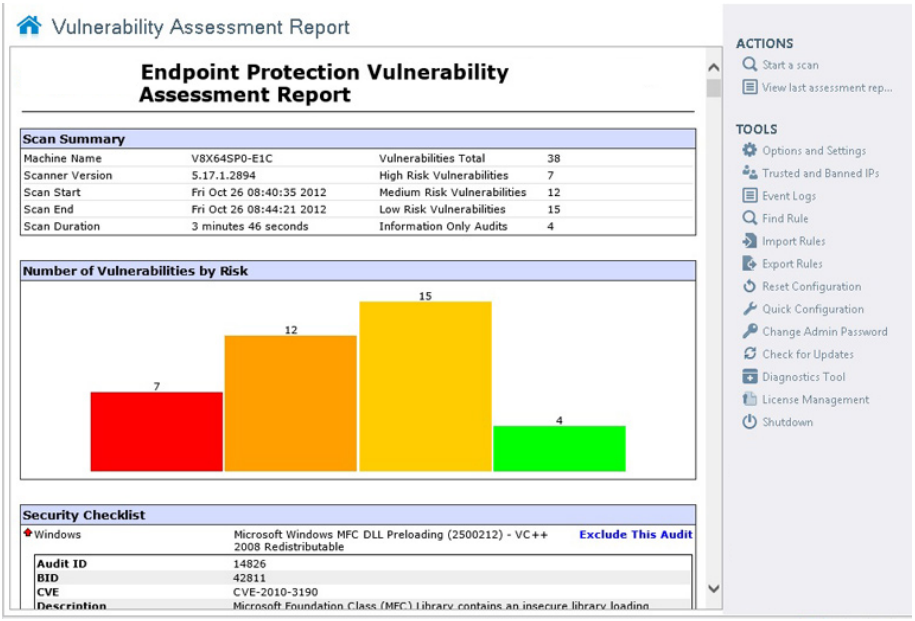

Figure 3.3-36. Vulnerability Assessment Report

- *Provides customizable policy templates that align with regulations and standards, audit system configurations and compares them against best practices, and reports on total and managed risk.*

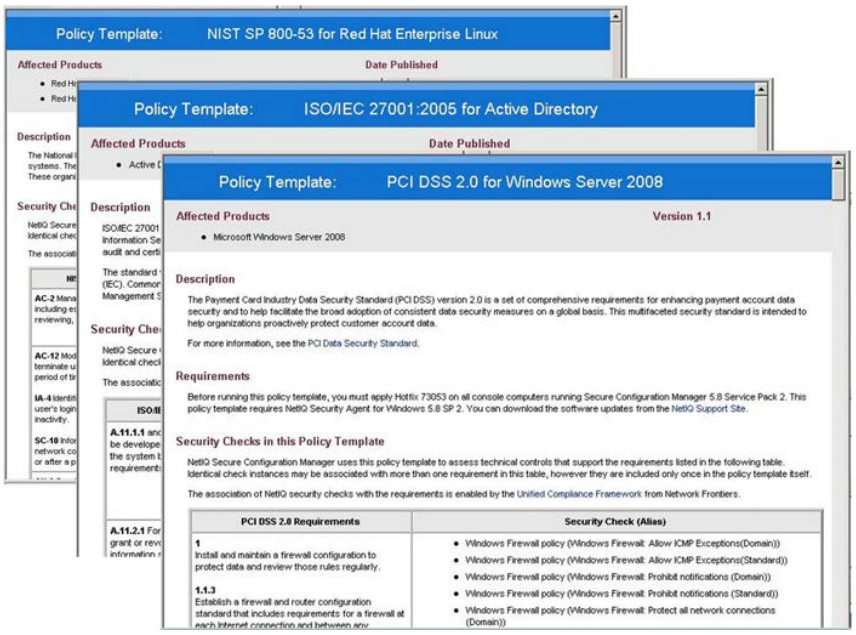

Figure 3.3-37. Sample Policy Templates

- *Baselining and delta reporting— reports changes to system and user configurations, highlights instances in which configurations drift from policy, and provides the security information your team needs to quickly remediate poor configurations.*

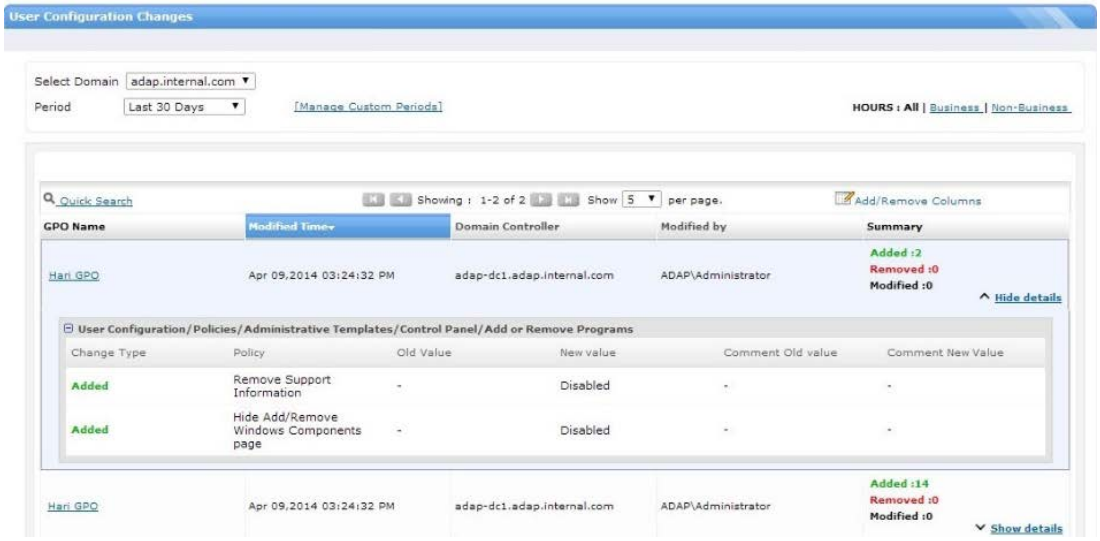

Figure 3.3-38. Report on user configuration changes

REQUIREMENT: (#41) The system must implement security controls in the data access tier in such a way that all access to the data must go through a uniform security layer.

Business systems typically use a uniform security layer that employs Role-Based Access Control (RBAC). However, Protech proposes a combination of Attribute Based Access Control (ABAC) along with RBAC mechanism in the security layer.

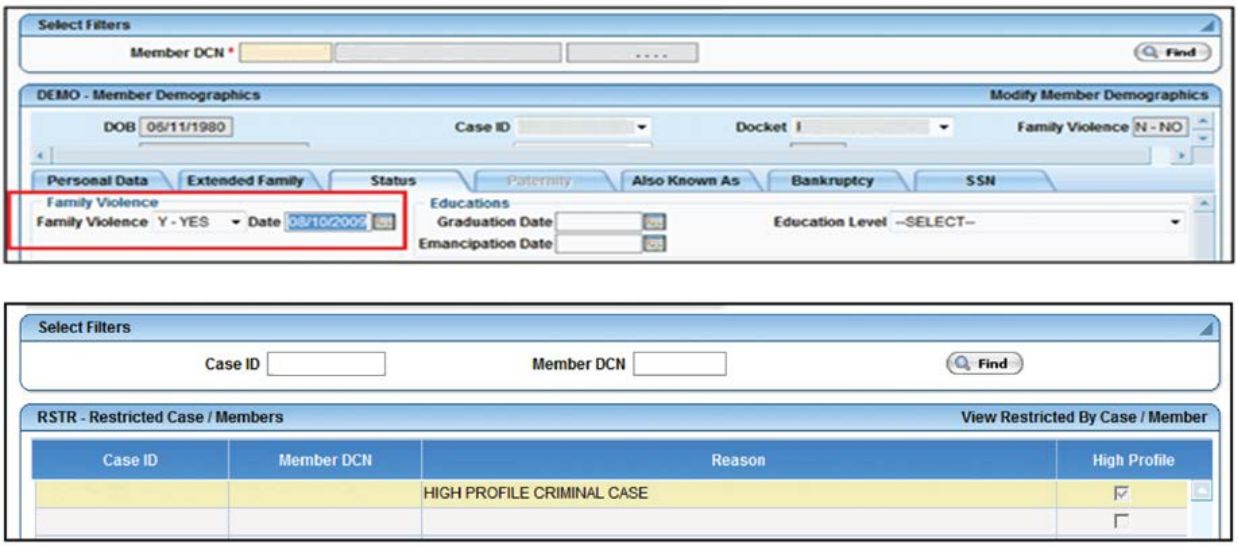

Figure 3.3-40. Family Violence Indicator and High Profile Restrictions

With the RBAC, the application use cases or functionalities or data (resources) are divided into granular tasks to which access needs to be controlled. A business role is defined on the system that can then be given specific types of access to a resource. Since users are not assigned permissions directly, but only acquire them through their role (or roles), management of individual user rights becomes a matter of simply

assigning the appropriate roles to the user, which simplifies common operations such as adding a user or changing a user's department. The users are typically bundled into groups, and the groups are allowed to play certain roles based on the business security needs.

REQUIREMENT: (#42) The system must provide a single sign-on and authentication scheme with an external user repository for all core system users and partners.

Single sign-on solutions enable authorized users and partners to perform one initial sign-on to access a variety of systems, resources, and applications. Protech proposes to implement Novell's identity and access management solution with secure login product for users and partners.

Novell's solutions suite is designed to provide single sign-on, and password reset functionality for most Windows, web, Java, and mainframe/terminal-based applications running on any operating system and accessed from Windows-based end-user machines. The NAM Cross-Domain Single Sign-on (CDSSO) provides a default mechanism for transferring user credentials between unique servers and domains. CDSSO allows web users to perform a single sign-on and move seamlessly between two separate secure domains when requesting a resource. Novell's solution supports external user repositories such as Novell's e-directory or Microsoft Active Directory or any LDAP-based directory. This will be integrated with external systems, where possible, to ensure that users and partners only need to login once to access all functionality in external systems.

Typical single sign-on processes employ application header control methods, such as lightweight Java HTTP Servlets. Usually, all applications that subscribe to a single sign-on process include this universal application in their respective login processes. OCSE systems additionally require the single sign-on process to be compliant with DHSS, HIPAA, and IRS regulations and our solution is compliant with such regulations.

The proposed solution provides more granular user authorization control by function and role through the use of an enhanced RBAC mechanism. This model provides declarative security features and programmatic security controls.

A typical implementation is described in the following paragraphs:

Single Sign-on (SSO) Authentication

When the user accesses an application, an HTTP Handler will check for an authentication cookie in the request. Since the initial logins will not have a cookie on the desktop, the request will be redirected to the SSO application's login page. The user will be authenticated with an SSO user id and password supplied by the user.

On successful authentication the user will be redirected again to the application by the SSO application and the browser based authorization cookie will be set. Once the cookie is set, the application allows the user to access the screens and data after the PIN is validated, as explained below.

PIN Authentication

Once the SSO Server has authenticated the user, as per federal OCSE requirements, the application authenticates the user separately using PINs. For each user, a PIN value is assigned by the application. The same value is stored in the database in 128-bit encrypted format. The PIN value is usually a strong password with at least one alphabet, one character, and one special character. The minimum length of the PIN will be 8. The user enters the id, password, and PIN value in the login page and the user ID and password are validated

against the SSO server. On successful authentication from the SSO server, the user ID and PIN are validated against the application.

The PIN value typed in the login screen is encrypted in 128-bit encryption format and checked with the already encrypted value available in the application. On successful authentication, the user is allowed to navigate to the screens in the application.

The single sign on password and the PIN will be ascertained for strength and other protective features:

- *Strength: The password should be of a minimum length of six characters, containing at least two numbers and/or symbols*
- *Validity: The password will expire after a predetermined, configurable, period*
- *Uniqueness: New passwords cannot be the same as recently used passwords and should also not contain the User ID or User name*
- *Masking: The password entry will be masked on password entry screens*
- *Account Lock Out: Repeated failed attempts to log in using an incorrect password will result in the account being blocked until it is released by a systems administrator*

The following figure describes the steps involved in SSO filter authentication mechanism and County and case authorization checks:

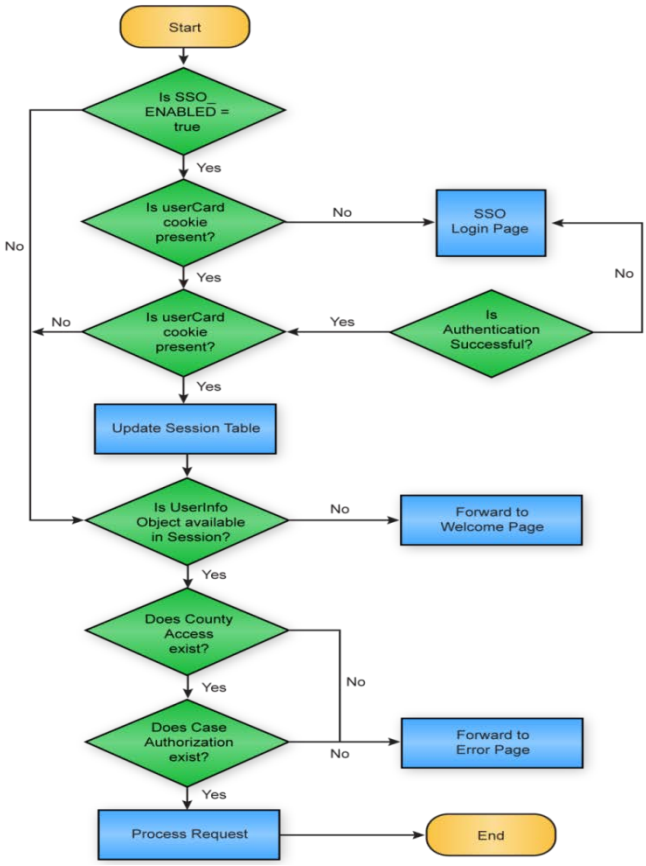

Figure 3.3-41. SSO Filter Authentication

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REQUIREMENT: (#43) The system must control and limit security administration to a small number of security personnel.

Protech recommends Novell's system administrators to control and limit access to security administration activities. It allows IT administrators to work on systems without exposing administrator or supervisor passwords, or root-account credentials. It manages controls and records privileged account activities for all credential-based systems.

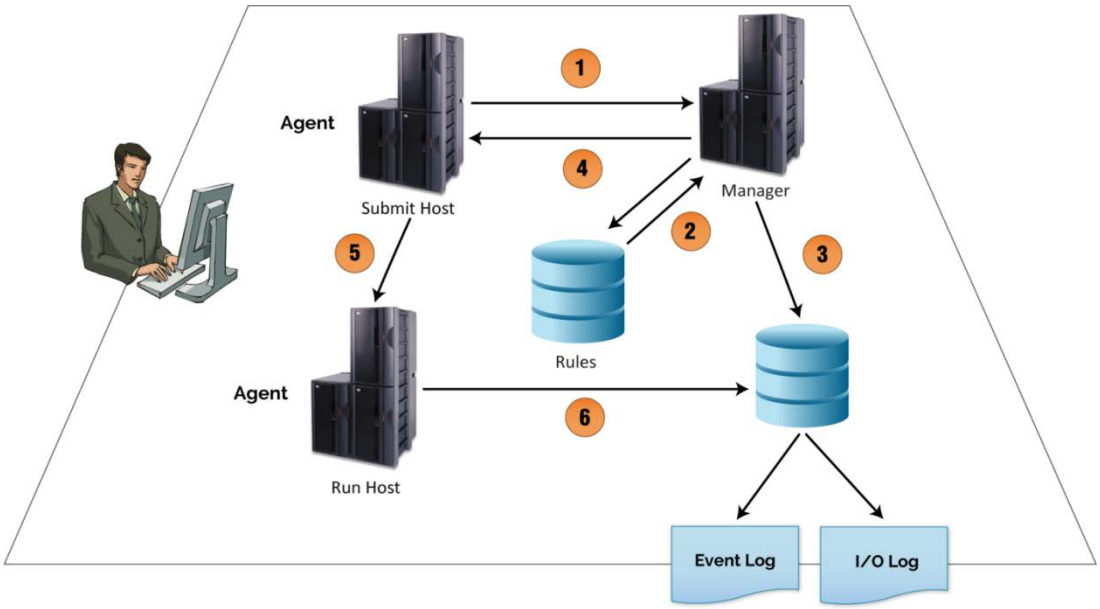

Figure 3.3-42. Access control Model for System Administrators

The following outlines the control and monitoring process when system administrators access operating systems:

- *UNIX, Linux and Windows commands submitted by the system administrators are captured by the Command Control Agent and passed to the Command Control Manager.*
- *The commands are validated against the rule database to determine authorization. During this process, the commands, the submit user, the host, the run host requested, and the date/time are correlated with existing rules in the database. If authorized to run, the command is executed on the target host.*
- *The result of the authorization is sent to the event log.*
- *The signed data, with its authorization, is sent back to the Command Control Agent.*
- *If authorized, the Command Control Agent forwards the data to the target host, which executes the command with the relevant permissions.*
- *All data transferred between the application and user terminal is logged to the audit system.*

The following outlines the control and monitoring process when system administrators access applications:

- *The user requests application access with sufficient reasoning and for a specific duration of time.*
- *Command Control validates the user's application access against the rule database to determine authorization.*

- *The user can now check-out the credential and will be able to view a temporary credential.*
- *The user can now access the system and perform activities using the credential.*
- *Once activities are complete, the credential must be checked-in by the user.*
- *Once check-in is complete, the credential vault will reset the password in the target system so that the user may not access it again.*
- *All of these activities are audited*

Using RBAC, the application administrator role will be provided to a limited number of users. An alert will be set up to notify relevant parties if there is a change in personnel responsible for password management.

REQUIREMENT: (#44) The system must provide the capability to securely manage access to parameter tables.

The parameter tables are an important aspect of an effective data model. They assist in minimizing the code dependency in instances where configurable data is required to drive the application. The developers are instructed to use and/or establish parameter tables for managing codes and descriptions, event driven rules, and warning and error messages

Once the requirement for a parameter table is identified by the developer, a data table is created by a script and results in a Database Change Request (DBCR). This will follow the CM migration process as for migrating to multiple environments.

The ability to view, add, update and delete data from parameter tables is determined in a role screen access entry screen, which allows the security permissions to be set for administrative use.

This functionality will be integrated with Novell's Access and Identity Management tools to ensure that users only have access to specific parameter tables, fields, and actions.

REQUIREMENT: (#45) The system must apply specialized security mechanisms (e.g., applying a "lockout" to sensitive cases or ensuring workers do not access cases they are personally involved in).

As detailed in response to Requirement #41, Protech's solution features implementation of a superior Attribute Based Access Control (ABAC) features to apply specialized security measures such as selective access restriction. Access control features ensure that, if a confidentiality or conflict of interest is set, the information on the case is only selectively available to specified individuals.

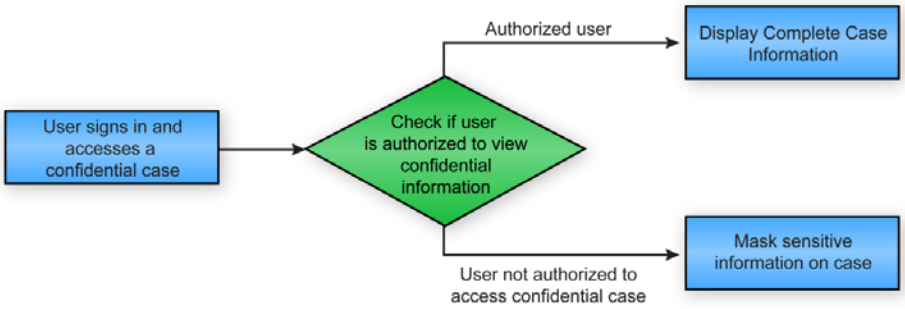

Figure 3.3-43. Selective Access Restriction

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[redacted]

Figure 3.3-46. High Profile Restrictions

Our solution enables configuring of family violence indicator for each participant which also triggers validation rules to mask address/ identifying information.

[redacted]

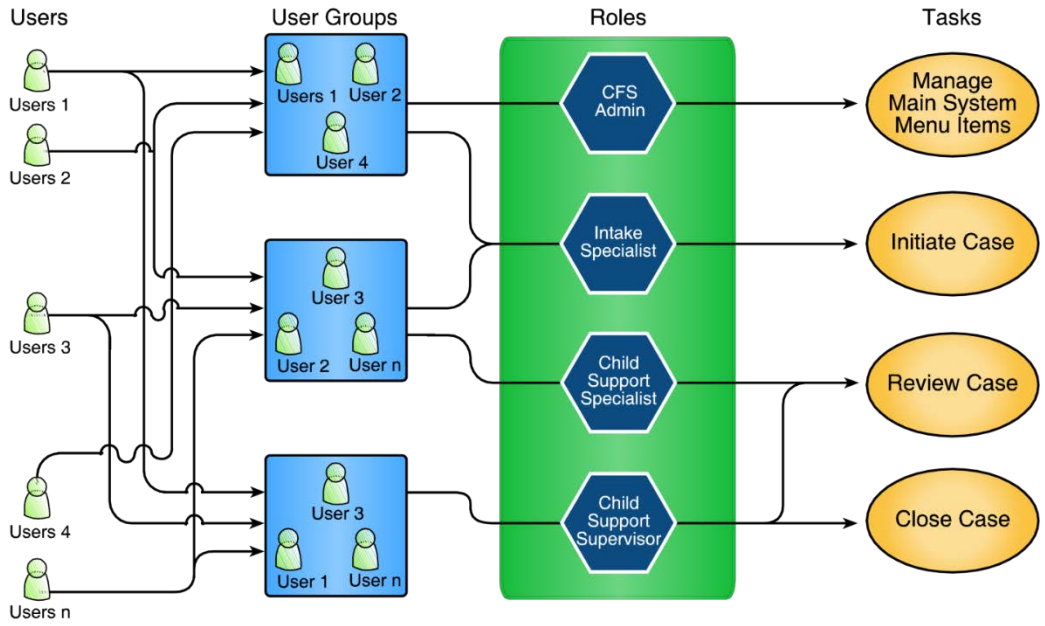

Figure 3.3-48. Security Roles by User/Groups
Example of User/Groups Security Roles

This model proves very flexible for supporting the definition of roles and responsibilities (parameter driven) for various business and technical transaction types (e.g., account adjustment, case closure, table maintenance) and for groups and levels of users such as office location, business application, and sub-applications, and actions.

The user profile data will be stored in a directory server. The user's membership within a user group, and the role the user plays will also be stored in the directory server. This implementation technique allows the Protech Team to realize the standard RBAC technique. User security is controlled at the lightweight directory access protocol (LDAP) server level and role based access at a database level. This precludes the necessity to provide database level user IDs and passwords.

The security mechanisms described above for the online system are also used for batch processing, reporting, and ad hoc querying capabilities. Batch users are defined in a security group for batch access and the batch user(s) will have the appropriate rights to execute the batch programs in parallel. The reporting module also shares the security module used by the online system and users with appropriate rights and privileges will be able to view the reports and have drill down capabilities based on their data access rights. The ad hoc querying capabilities of the system will use a separate reporting database rather than the online database for ad hoc queries. Users with specific privileges will be able to create ad hoc queries/reports, and users with specific access rights will be able to execute and view the online or batch ad hoc queries or reports. The ad-hoc query and reporting module will also share the same security module as the online system.

Secure solutions require adequate segregation of duties to ensure that a single user does not have both supervisory and line authorization, especially for financial management transactions.

The Protech Team's solution ensures that specific case actions, receive case action lists, and record case action dispositions can be performed by users other than designated caseworker if necessary. This solution

allows the specification of a primary worker and an alternate secondary worker to handle a case and also

[redacted]

REQUIREMENT: (#48) The system must include the ability to indicate when a worker has a conflict of interest with a case.

The system provides the ability for authorized personnel to prohibit a user from accessing any case or cases in which the user may have a personal conflict.

[redacted]

REQUIREMENT: (#50) The system must detect, record, and lock out unauthorized attempts to gain access to system software and data.

Novell's Identity Manager provides audit trail information about how and why a user has access. On a request basis, Novell's Identity Manager provides a process to grant, modify, lock, detect, record, and remove access to resources, and establishes an effective audit trail using automated reports. The steps involved in the process, including approval and provisioning of accounts, are logged in the request audit trail, and corresponding audit events are generated in the database for audit reports. User and account lifecycle management events, including account and access changes, recertification, and compliance violation alerts, are also logged in the audit trail.

The user's access to system and data will be driven by the system roles provided to the users. The system/data can be marked with the sensitive level and the roles can be created using sensitive level as one of the criteria. Any unauthorized attempt to access the systems or data by directly manipulating the URL will be tracked and the user account locked on single/multiple violations.

REQUIREMENT: (#51) The system must be capable of monitoring access and use including both successful and unsuccessful system access.

Protech's solution proposes to utilize Novell's identify and access management solution to monitor user activity including successful and unsuccessful access. It will also take immediate action when suspicious activity occurs. The solution allows DWSS to:

- *Automatically monitor activity in NCSEAS systems in real time*
- *Correlate potential threats and violations with actual users*
- *Track user access to key systems as provisioned by Novell's Identity Manager*
- *Easily see how users were granted access to key systems*
- *Take necessary action when suspicious or non-compliant activity occurs*

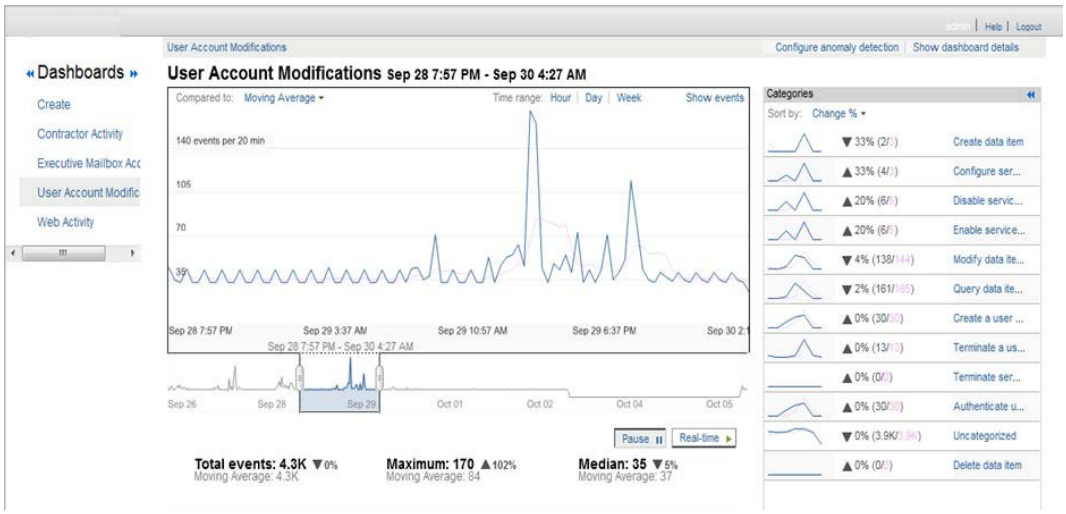

Figure3.3-53. User Access Monitoring

REQUIREMENT: (#52) Security must be role based and extend to the functional screen level and limit the user's capability to view and / or update those screens.

Protech's solution supports role based access allowing select users to access data based on their role, including functional screen level view and update capabilities.

[redacted]

(3.9.3) Passwords

REQUIREMENT: (#53) The system must adhere to all applicable DWSS, State and Federal security password requirements as specified in Internal Revenue Service (IRS) Publication 1075.

Having extensive experience with Internal Revenue Service (IRS) audits based on Pub 1075, the Protech Team will work with Nevada to incorporate compliance with the IRS, DWSS, state and federal requirements related to passwords such as:

- *Enforcing minimum password complexity of:*
- *Eight characters;*
- *One numeric and one special character;*
- *One uppercase and one lowercase letter;*
- *Storing and transmitting only encrypted representations of passwords; and*
- *Enforcing password minimum lifetime restriction of one day;*
- *Enforcing non-privileged account passwords to be changed at least every 90 days;*
- *Enforcing privileged account passwords to be changed at least every 60 days;*
- *Prohibiting password reuse for 24 generations;*
- *Allowing the use of a temporary password for system logons requiring an immediate change to a permanent password; and*
- *Password-protecting system initialization (boot) settings*

We have successfully delivered seven OCSE certified systems strictly adhering to local, state, and federal security password requirements. Protech's solution design will ensure DWSS, state, and federal password requirements are satisfied.

(3.9.4) IRS Data

REQUIREMENT: (#54) The system must protect data designated as IRS data from unauthorized inquiries.

Data acquired from the IRS will be protected from unauthorized inquires as required by IRS Publication 1075, Tax Information Security Guidelines for Federal, State and Local Agencies.

Protech understands that the IRS recommends that FTI be kept separate from other information to the maximum extent possible to avoid inadvertent disclosures.

However, Section 5.3 of IRS Publication 1075 recognizes that there are situations where physical separation of FTI data is impractical. In these instances, the IRS requires that the file be clearly labeled to indicate that FTI is included and the file should be safeguarded.

The Protech system design will ensure that the IRS requirements for storing data in separate files and protecting commingled FTI are satisfied.

REQUIREMENT: (#55) The system must comply with IRS Publication 1075.

With the successful delivery of six OCSE certified systems—including ARCSIS, Delaware, and New Jersey—the Protech Team brings the program knowledge, technical qualifications, and certification review expertise to ensure that the NCSEAS program meets all federal requirements.

Having extensive experience with IRS audits based on Pub 1075, the Protech Team will work with Nevada to incorporate compliance with the Internal Revenue Service (IRS) safeguard requirements related to the security, handling, disclosure, and destruction of IRS return data in the system. We have actively participated in IRS audit compliance reviews and implemented system changes required for IRS security compliance.

IRS Publication 1075, Tax Information Security Guidelines for Federal, State and Local Agencies, provides guidance to ensure that the policies, practices, controls, and safeguards employed by recipient agencies or agents and contractors adequately protect the confidentiality of the FTI they receive from the IRS. The IRS recommends that FTI be kept separate from other information to the maximum extent possible to avoid inadvertent disclosures. However, Section 5.3 of IRS Publication 1075 recognizes that there are situations where physical separation of FTI data is impractical. In these instances, the IRS requires that the file be clearly labeled to indicate that FTI is included and the file should be safeguarded.

Our system design will ensure that the IRS requirements for protecting included FTI are satisfied, and electronic media containing FTI, along with other data, will be protected as if it is entirely FTI. In particular, access to the electronic media and processing equipment will be controlled by:

- *Systemic means, including labeling*
- *Restricting computer access only to authorized personnel*
- *Overwriting data files, data sets, shares, etc., whenever possible*

The Protech Team understands and will address the issues associated with IRS compliance including:

- *Administrative procedures (e.g., training, orientation, reorientation, auditing),*
- *Physical safeguards (e.g., secure workstations, secure locations, physical access controls, safes),*
- *System safeguards (e.g., security, access control, access logging, etc.)*
- *Data confidentiality including the identification of data source and the safeguarding of information received from the IRS.*

The Protech Team will also use the applicable IRS guidelines in Section 9, Computer System Security, of IRS Publication 1075 as a guide in design and implementation of the system.

(3.9.5) Audit, Logging and Reporting

REQUIREMENT: (#56) For security purposes, the system must be capable of maintaining information on all changes to critical records and / or data fields (e.g., arrearage balance, monthly court-ordered support amounts, SSN, name, family violence indicator, etc.) including identification of the responsible system user / caseworker and date / time of the change.

Audit Trail keeps a history of changes to important data such as SSN and arrearage balance including what changed, who changed it, and when it was changed. With Audit Trail, system administrators can easily determine how any data row or element obtained its current value. Protech will connect these audit trail changes to online screens/services/batch jobs which triggered the change and provide ad hoc reports.

Protech's solution uses DB2's temporal tables to associate time-based state information with NCSEAS data, providing the following benefits:

- *Tracking of every change to data which is stored securely as well as made easily accessible using standard SQL commands*
- *Being a native implementation of the database, it is highly optimized and involves negligible performance overheads as the process is done asynchronously by a database background process*
- *Queries being executed, using Time Travel Query, on the history of table data by specifying a moment in time and recovering tables or rows*

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- *Ability to run queries to return past data and metadata showing all changes to the database*
- *Preserving archive integrity by allowing no DML operations on the data archive*
- *Fully automated storage management with the database managing the partitioning; a range partitioning scheme and highly efficient compression algorithms ensure the footprint is minimized*
- *Ability to roll back transactions along with dependent transactions without taking the database offline*
- *Centralized policy based management interface automates administration. Tables can be grouped, and a retention policy commonly applied. The database will automatically purge archived data which has passed the retention date*

The State and the Protech Team will discuss and decide auditable attributes and events.

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(3.10) Interfaces

(3.10.1) General

REQUIREMENT: (#57) The system must support all data exchanges with external data partners currently being handled in Nevada Operations of Multi-Automated Data Systems (NOMADS) application.

The proposed NCSEAS architecture allows integration with external data partners by exposing data interfaces as services that can be invoked through the IBM BPM. WebSphere MQ will be used for integration with legacy applications such as those based on Unisys 2200/COBOL, MAPPER, and VMS platform. IBM BPM supports MQ and can provide protocol bridging from the service consumer to the legacy applications using MQ. Java services using the Hibernate framework may be used for integration with the legacy data stores, such as those running on other databases. In the case of batch data, we will take data from a staging area and process it using extract, transform (as necessary), and load paradigm.

Batch Interfaces

The Protech Team has implemented batch programs to exchange data to and from organizations including employment agencies, banks, and other agencies which do not support online integration. These batch programs check for data completion and quality and report errors to a designated user. The file exchange process is handled securely with the use of Secure FTP for file transfers.

All batch programs required for the functional upkeep of the system are provided, which aids processing financial data such as payments/distribution and disbursement. Interfaces for Electronic File Transfer (EFT) and Automated Clearing House (ACH) transfers are also provided. Automated enforcement activity movement, reporting jobs, and data cleanup jobs are also included in the system.

Real-time Interfaces

As mentioned earlier, the system can provide real-time, near real-time, batch interaction, or an interface with systems supporting the IV-A, Food Stamps, Medicaid eligibility, Title XIX, child welfare (IV-E), and the Office of the Court at a minimum. We have built real time interfaces with these agencies for structured, secure access to child support data through the availability of standardized, authenticated, and authorized web services with well-defined WSDL interfaces. These web services provide common, security-cleared information about the CPs, NCPs and important information on their cases. Such services are accessed across organizational units which are cleared for such access. The system conducts this interaction using SOAP and XML. It also provides for real-time interaction with the legacy systems and securely exposes pertinent data to external clients through authenticated web services, using open standards including SOAP and XML.

Data Normalization

We provide normalized data formats for data exchange in every use case that requires it. Using composition and aggregation techniques, we facilitate logical entity representation and minimize the number of changes required for special instances. While we do have a canonical representation that spans the case lifecycle, such representations are required minimally by participating agencies. More commonly, a federated approach is preferred, and we use composition to provide federated data from difference tables and sources, for data exchange.

The Nevada CSE interfaces listed below will be addressed in the new solution.

List of Nevada CSE Interfaces—New and Existing				
Interface	Direction	Current/ New	Requirement Section (Attachment M)	Notes
Outgoing Numident (Social Security Administration SSN verification) Interface	O	Current	2.2.1	
SDNH (State Directory of New Hires)	I	Current	2.2.22	
ESD Intercept - UIB	I/O	Current	2.5.7	Employment Security Division of the Department of Employment, Training and Rehabilitation (state employment/unemployment)
ESD - Employment/Income Information	I/O	Current	2.2.12	
ESD - Employer information	I	Current	2.2.12	
Credit Bureau Interface - Enforcement	O	Current	2.5.8	
Credit Bureau Interface - Locate	I/O	New	2.2.15	
IV-A/IV-D (FAME to IV-D referrals) Interface - Referrals and Updates	I/O	Current	2.1.1 2.1.26 2.2.18 2.4.5 2.6.17	
Title XIX Referrals and Updates	I/O	Current	2.1.1 2.1.27 2.2.19 2.4.6 2.5.10	Medicaid eligibility is the responsibility of DWSS. Referrals are currently received as part of the IVA NOMADS component.
DCFS (Division of Child and Family Services) Interface Referrals	I/O	Current	2.1.1 2.1.28 2.2.20 2.4.7	IV-E Agency. This interface is a work item in progress, Its functionality is not yet complete in NOMADS.
CSLN (Child Support Lien Network) Interface	I/O	Current	2.5.16	
Nevada Energy aka Sierra Pacific Power Interface	I/O	Current	2.2.23	
Nevada State Case Registry (SCR)	O	Current	2.1.39	
FCR (OCSE Federal Case Registry) Interface	O	Current	2.1.41 2.2.9	
FCR (OCSE Federal Case Registry) Interface	I	Current	2.1.41 2.2.9	
FCR – FPLS (Federal Parent Locator Service)	I	Current	2.1.41 2.2.9	
FCR – NDNH (National Directory of New Hires) Interface	I	Current	2.1.18 2.1.23 2.1.41 2.2.8 2.2.9	
FCR – FIDM (Financial Institution Data Match) Interface	I	Current	2.1.41 2.2.9, 2.5.14	
FCR – SVES (Social Security Admin. State Verification and Exchange System)	I	Current	2.1.41 2.2.9	
FCR - DMDC (Defense Manpower Data Center) Interface	I	Current	2.1.41 2.2.9	DEERS

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List of Nevada CSE Interfaces—New and Existing				
Interface	Direction	Current/ New	Requirement Section (Attachment M)	Notes
			2.5.10	
FCR – Insurance Match Interface	I	Current	2.1.41 2.2.9	
FCR - Proactive Match	I	New	2.1.41 2.2.9 2.2.29	
EWS - EV (Employer Verification) and IWO (Income Withholding) forms	O	Current	2.5.3 2.8.4	
Employer Portal - Enhanced	I/O	New	2.8.4	
CSENet (Child Support Enforcement Network) Interface	I/O	Current	2.1.29 2.2.7 2.2.9 2.4.9 2.4.14 2.4.17 2.5.1	
EFT from Wells Fargo	I	Current	2.6.7 2.6.11	Interfaces with SCaDU's payment processing system as well.
EFT from Paymentus	I	Current	2.6.7 2.6.11	Interfaces with SCaDU's payment processing system as well.
EFT from Bank of America	I	Current	2.6.7 2.6.11	Interfaces with SCaDU's payment processing system as well.
EFT from CyberSource	I	Current	2.6.7 2.6.11	Interfaces with SCaDU's payment processing system as well.
EFT to CST/NCP/Employer	O	Current	2.6.7 2.6.11	Interfaces with SCaDU's payment processing system as well.
DMV Locate	I/O	Current	2.2.10	
DMV - License Suspension	I/O	New	2.5.11	
OCSE - Federal Tax Offset/Passport Denial Certifications	I/O	Current	2.5.4 2.5.13 2.5.15	
EIWO	I/O	Current	2.5.3	
Professional/Occupational/Business Licensing Agencies	I/O	New	2.2.25 2.5.11	
Department of Wildlife - Locate	I/O	New	2.2.11	
Department of Wildlife - License Suspension	I/O	New	2.5.11	
Vital Statistics	I/O	Current	2.2.13 2.3.5	Through the ANSRS application
SSA Intercept	I/O	New	2.5.16	
Court System(s)	I/O	New	2.1.1 2.1.31 2.3.8 2.5.6 2.5.12 2.6.1	
Department of Corrections	I/O	New	2.2.14	
Other corrections facilities (NIEM standard, etc.).	I/O	New	2.2.14	
Data Warehouse	O	Current	2.7.9 2.7.10 3.13.2	

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List of Nevada CSE Interfaces—New and Existing				
Interface	Direction	Current/ New	Requirement Section (Attachment M)	Notes
QUICK	I/O	Current	2.8.3	
US Postal Service - National Change of Address	I/O	New	2.2.16	
US Postal Service - Address Verification	I/O	New	2.1.14 2.2.16 2.4.2	
Customer Service Portal	I/O	New	2.8.2 3.19	
Interactive Voice Response (IVR)	I/O	Current	2.8.1 3.19	Currently outgoing only
Department of Taxation - Locate	I/O	New	2.2.17	
General Assistance - Locate	I/O	New	2.2.21	
Financial Institution(s) - Locate	I/O	Current	2.2.24	FIDM Alliance contract
Real and Personal Property Agency(ies)	I/O	New	2.2.26 2.5.5	
Tribal IV-D Agencies - Locate	I/O	New	2.2.27	
Food Assistance Program - Locate	I/O	Current	2.2.28	SNAP is part of NOMADS
Unclaimed Property Division	I/O	New	2.5.16	
SCaDU	I/O	Current	2.6.7 2.6.9 2.6.11 2.6.12	
Disbursement Bank - Positive Pay File	O	New	2.6.12	
Disbursement Bank - Returned Transactions	I	New	2.6.14	

REQUIREMENT: (#58) The system must provide an interface with IV-A in compensation for the separation of the IV-A and IV-D systems.

Increased level of application interoperability within the Nevada CSE, other states, EFT, DMV, and federal government services establish technical capabilities that will create an efficient interface and integration with all required interfaces between the NCSEAS and IV-A in compensation for the separation of the IV-A and IV-D systems.

Using the principles of Architectural Layering and Enterprise Application Integration (EAI), the Protech proposes the construction of a common framework for sharing data, procedures, and workflows across disparate systems. Using BPM's ESB as the Enterprise Service Bus and federating it with the other (3rd party) ESBs provide a sophisticated integration approach. This will provide the robust infrastructure to implement various interfaces using consistent techniques and reusable data structures and will enable the efficient interface and integration with all required interfaces between NCSEAS and IV-A in compensation for the separation of the IV-A and IV-D systems.

(3.10.2) Interface Architecture

REQUIREMENT: (#59) The system must provide the ability to implement web services, including an ability to interact securely, in real-time, with other systems via standard Internet protocols such as Hypertext Transfer Protocol (HTTP/HTTPS), Extensible Markup Language (XML), and Representational State Transfer (REST).

Protech proposes Spring framework/EJB 3.0 to build web services. We use our extensive experience in identifying and formulating child support services and bring an organized repository of reference services along with our solution for the CSEP consideration.

We will architect services for the CSEP based on processes from use cases, and integrate these processes with application level services. Metadata on each of the items in the repository will be developed and customized based on the requirements of the CSEP assisting in location and reuse. We bring our experience from similar child support services in other systems to NCSEAS. We also provide a governance process to ensure that metadata for these services is correctly populated and maintained. Such metadata assists in the systematic exposure and discovery of web services.

The repository also allows the creation of taxonomies to classify Web services into functional categories, and further by common and infrastructure categories. Using features such as keyword searches on well-defined taxonomies, we provide CSEP with the ability to locate Web services for access and management. The BPM's ESB integrates with registry components and performs dynamic look up into the registry components.

SOA governance is very crucial for the proper maintenance of the services, and we work with the DWSS team to create a design and runtime policies for services and modifications. We build an SOA governance model in conjunction with current efforts at the CSEP for enterprise SOA governance. The process of identifying, creating and managing services will be built into an SOA lifecycle management plan.

REQUIREMENT: (#60) The system must incorporate a mechanism such as an Enterprise Service Bus (ESB) to decouple the application layer from communication channels, and to provide data transformation services.

Our solution for NCSEAS uses the IBM BPM's Enterprise Service Bus as the platform for interaction between systems and services. This BPM's Enterprise Service Bus (ESB) adheres to Federal and can be federated to other CSEP ESBs.

BPM ESB promotes and facilitates SOA by delivering a standards-compliant solution for NCSEAS to readily interface with other applications and for legacy integration. Given that NCSEAS will interact with at least four other child support applications over heterogeneous platforms, the ESB approach is optimal as a backbone for such integration. SOA governance and policy enforcement is possible with this BPM's ESB solution, as is the ability of this ESB to enable consistency and quality of service.

IBM BPM's ESB integrates with the Novell security software and supports messaging using HTTPS, XML, and SOAP. A consistent administration model for intermediaries, names, routes, messages, and addresses provides state-of-the-art broker functionality to this ESB. XSLT mediation and, in some cases, Java beans/POJO, will be used for transformation and is supported by the BPM's ESB. Comprehensive support for transport protocols, messaging styles, multiple out-of-the-box adapters, synchronous/asynchronous data transfers, management of partner profiles for security, and governance are also provided by the WebSphere ESB. This provides a full-featured experience for NCSEAS. Support for standards such as WS-RM, JMS, BPEL, BPM, BPMN and WebSphere MQ ensure that this ESB provides enterprise-class transport and messaging facilities.

The information flow in an implemented integration is presented below.

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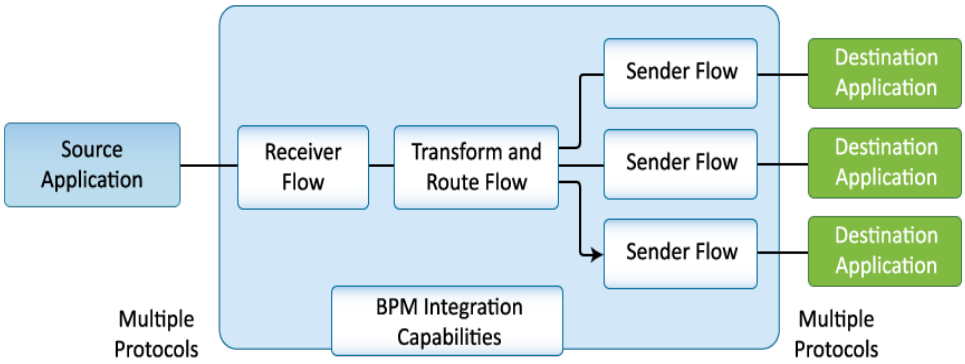

Figure 3.3-54. Integration Model

REQUIREMENT: (#61) The system must support standards based data exchange models (e.g., National Information Exchange Model (NIEM)) and protocols.

Child support enforcement requires the coordination and cooperation of multiple organizations at the federal, state and local levels. Interstate case processing depends on multiple agencies in two or more jurisdictions coordinating activities necessary to locate an NCP, establish paternity and support orders, as well as enforce and collect support obligations. Additionally, these agencies must communicate detailed information about the case while remaining cognizant of other states' various policies and procedures. Protech's solution supports the exchange of data using standard protocols such as NIEM, CSENet, and NACHA, etc. Supported protocols include but not limited to Connect:Direct, SFTP and HTTPS. Use of standard data exchange models and protocols are detailed below.

Secure File Transfer Protocol (SFTP)

Protech's solution uses Secure File Transfer Protocol (SFTP), a secure standard Internet protocol, to facilitate the secure transfer of incoming and outgoing files through a secure server in a DMZ. The process is illustrated in Figure 3.3-55.

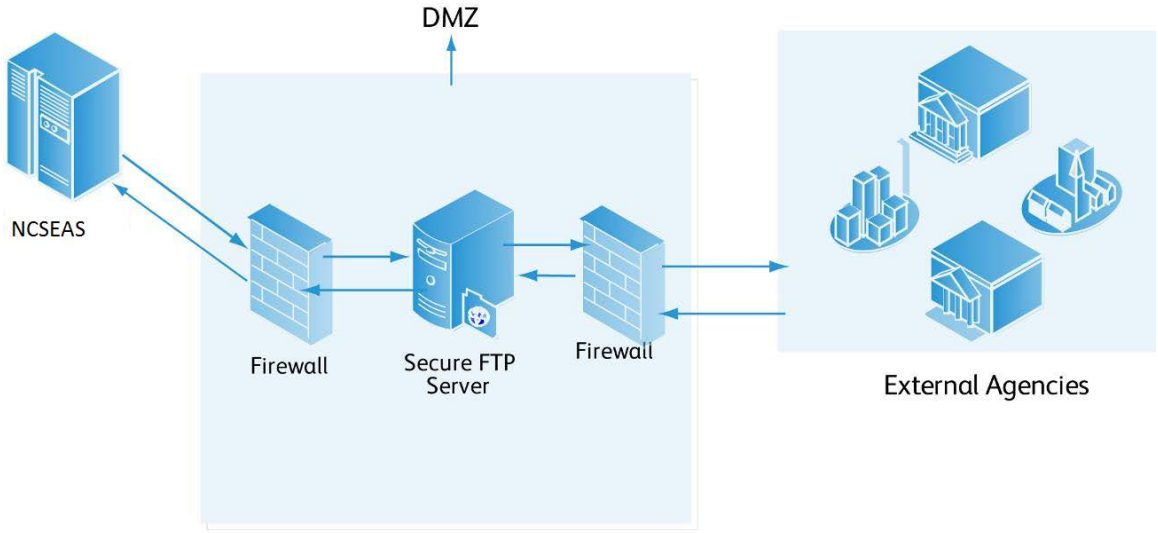

Figure 3.3-55. Secure File Transfer
Our Architecture allows secure transfer of incoming and outgoing files.

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Batch processing employs SFTP; and most batch interfaces use this mechanism as well. Files are received through SSL transfers; batch programs process these files. The NCSEAS system also sends output files to external agencies through SFTP and SSL.

Connect: Direct

CONNECT:Direct is a data transfer software product which allows data centers within and across networks to send and receive large amounts of data. The person, case, and locate records are transmitted to the FCR via CONNECT:Direct in the FCR input transaction record format. The CONNECT:Direct software connects each State to SSA's National Computer Center (NCC), which houses the FCR. Each State has a copy of the CONNECT:Direct product to submit data using the SSA network.

To initiate the transfer of data via CONNECT:Direct, a state must initiate predefined processes that consist of single 'COPY' statements or combinations of multiple statements separated by conditional logic. Processes can trigger transfers at a requested time under predetermined criteria. Six different activities may be specified in a process:

- *Move files among systems,*
- *Submit jobs,*
- *Execute programs,*
- *Submit other processes,*
- *Build and resolve symbolic values, and*
- *Alter the sequence of process execution through conditional logic.*

CONNECT:Direct has a checkpoint/restart feature. It eliminates the need to retransmit an entire file in the event of a transmission failure. If a transfer error occurs, the CONNECT:Direct software automatically restarts transmission at the most recent checkpoint. CONNECT:Direct also automatically generates online statistics for security, auditing and accounting purposes. This allows states to determine the usage of network resources and to determine how to improve network efficiency.

Technical participants of the State and the Protech Team define the detailed design of this interface with participation from DWSS and OCSE.

HTTPS

Using SOAP/XML web services as enabling technology, Protech wrote interfaces to various agencies based on the technological capabilities available from those agencies. These interfaces retrieve and organize data from these agencies.

For example, the locate portal removes duplicates, standardizes the information, and displays those to the user. These are integrated into the workflow of the system as illustrated in Figure 3.10-3.

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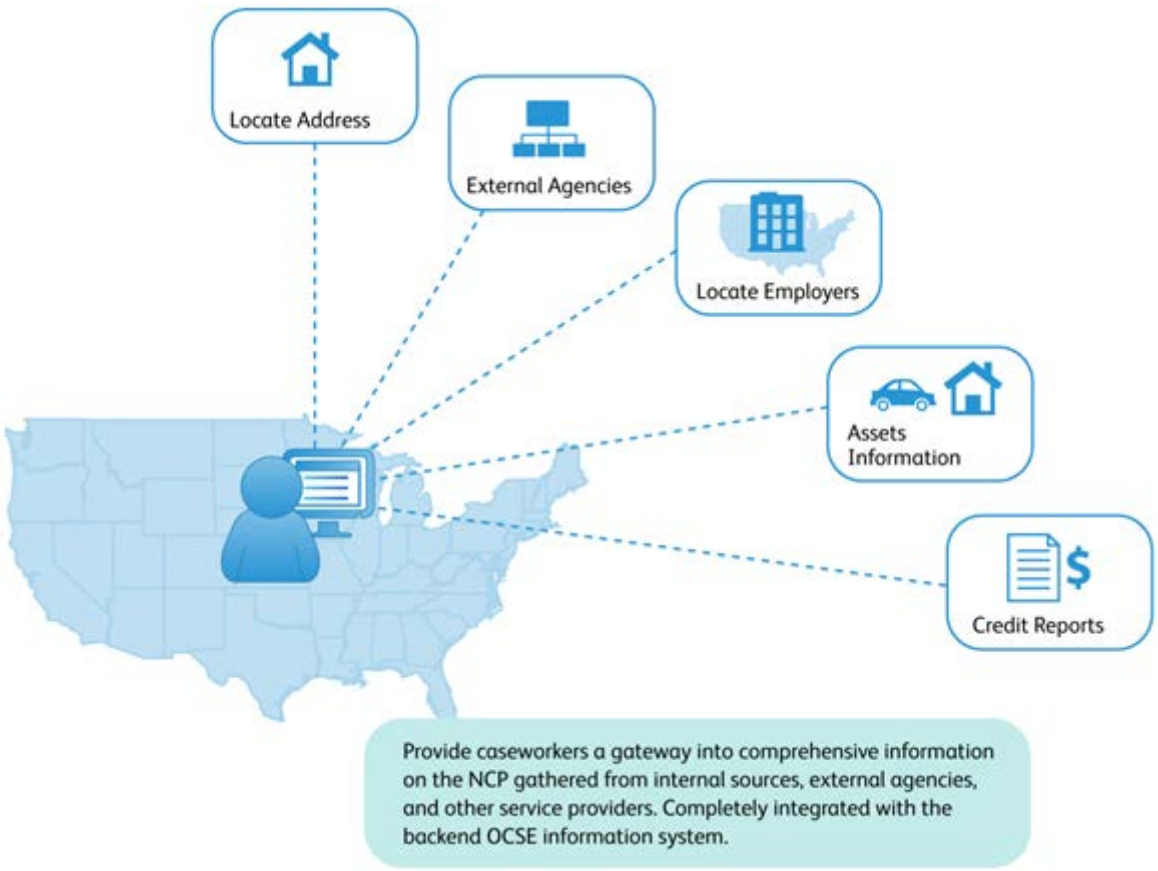

Figure 3.3-56. Locate Portal

The locate portal provides users with the ability to search for individuals across a wide variety of heterogeneous data sources.

CSENet

The CSENet system electronically connects state CSE automated systems to conduct interstate case business activities. The CSENet system is designed to receive and validate standardized child support case transactions from state CSE systems and to deliver validated transactions to the states to which they are directed.

The following figure describes the data blocks and indicates the maximum number of data blocks that may be attached to a single transaction.

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CSENET DATA BLOCKS			
Data Blocks	Maximum Number	Byte Size	Description
Case	1	351	General case information, contact and payment addresses
NCP Identification	1	181	Physical description of the noncustodial party
NCP Locate	1	1421	Location and employer information about the noncustodial party
Participant	9	341	Information about other participants in the case
Order	9	254	Support, [medical] or paternity order information
Collection	9	70	Information about order collections
Information	1	416	General text information

Figure 3.3-57. CSENet Data Blocks

NACHA

For multiple states, including Maine, New Jersey, Massachusetts, Michigan, and Arkansas, the Protech Team built EFT/EDI interfaces using the NACHA format to process incoming payments and to send disbursements electronically. Each implementation is unconditionally certified and meets individual state requirements. We apply this experience to the implementation of EFT functionality to the NCSEAS program.

Our system's process collections, including income withholding and interstate child support transmitted in the Cash Concentration and Disbursement Plus (CCD+) and Corporate Trade Exchange (CTX 820 remittance format) NACHA payment formats. We identify the pay source based on the values of an application indicator in the file. Application indicators include:

- *II - Interstate Income Withholding*
- *IT - Interstate State Tax Offset*
- *IO - Interstate All Others*
- *RI - Interstate Cost Recovery Income Withholding*
- *RT - Interstate Cost Recovery State Tax Offset*
- *RO - Interstate Cost Recovery*
- *IF - FIDM funds from a non-cost recovery State to another State*
- *RF - FIDM funds from a cost recovery State to another State*
- *CS - Income withholding from employers*
- *FD - FIDM funds from financial institution*

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(3.11) User Interface

[redacted]

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[redacted]

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[redacted]

The checklist items below are provided as examples of how we propose the handling of Section 508 compliance:

Handling of Section 508 Compliance		
1.	A text equivalent for every non-text element shall be provided	Every image, applet, embedded media, plug-in, etc. that conveys content has equivalent alternative text. The alternative text succinctly describes the content.
2.	Web pages shall be designed so that all information	Color is not used solely to convey important information

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Handling of Section 508 Compliance		
	conveyed with color is also available without color	
3.	Documents shall be organized, so they are readable without requiring an associated style sheet	Style sheets may be used for layout, but the document is still readable and understandable (even if less visually appealing) when the style sheet is turned off.
4.	Frames shall be titled with text that facilitates frame identification and navigation.	Each frame is given a title that describes the frame's purpose or content.

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[redacted]

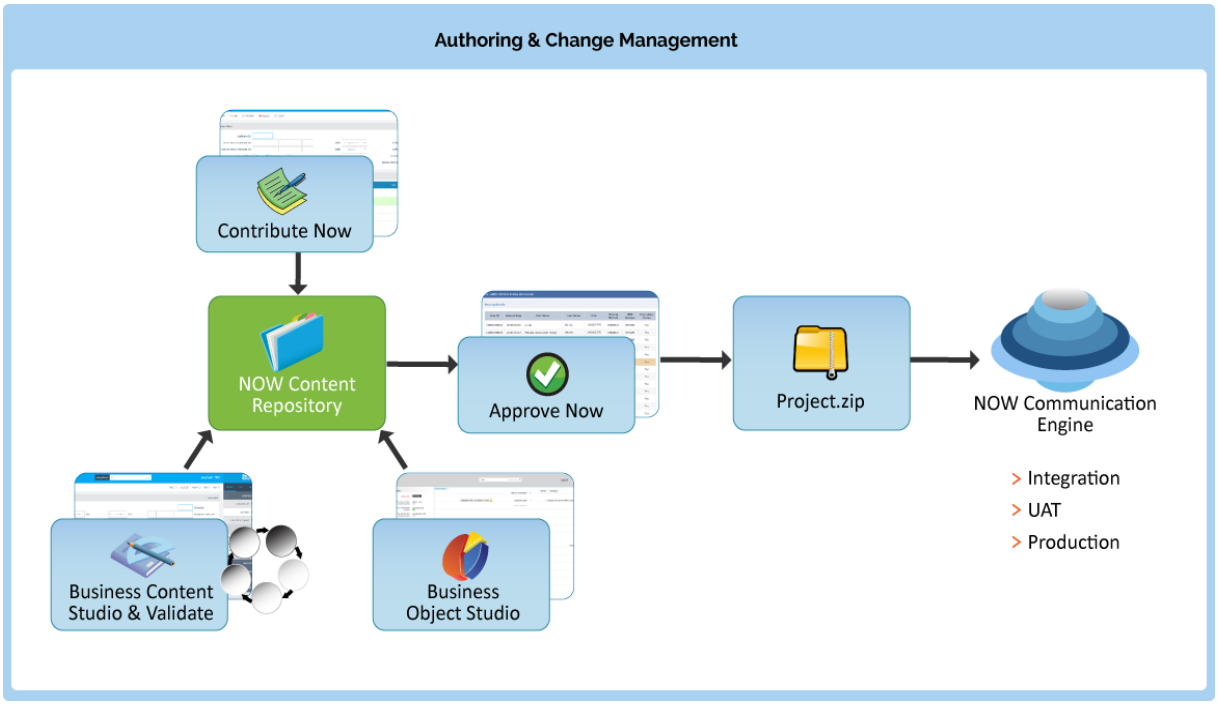

Figure 3.3-60. Authoring and Change Management Process

Business Content Studio

The document templates created within Thunderhead are stored separately from system code in a database/content repository of their own and are modified by business users without affecting the system code. Business users have access to these templates via the Thunderhead desktop client, where they are modified/created as needed. Templates in Thunderhead are easily created using the three major desktop/cloud connect applications provided, namely, Business Content Studio, Business Object Studio and Admin.

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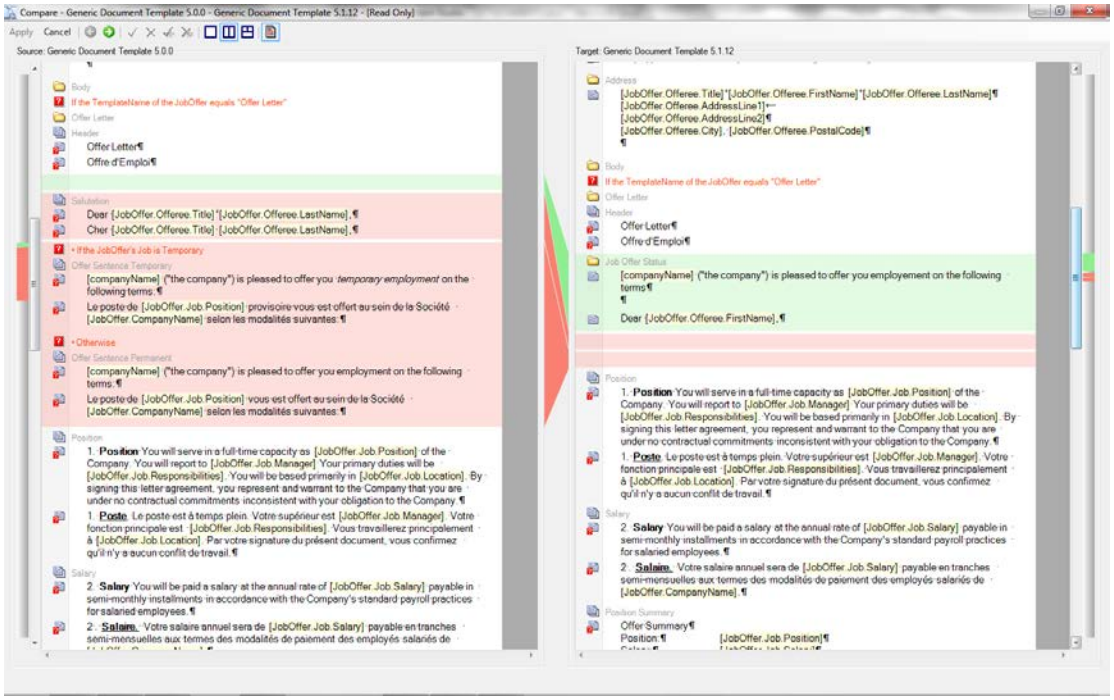

Figure 3.3-61. Business Content Studio for Template Creation

Creating Business Objects in the Thunderhead Business Object Studio

The first and foremost step in the process of creating a template is to create a data schema or a data design in the form of an XML Schema Design (XSD). A business object is a representation of that XSD within Thunderhead. The schema can be improved upon within Business Object Studio as it provides options to create/modify/delete data elements/classes/rules.

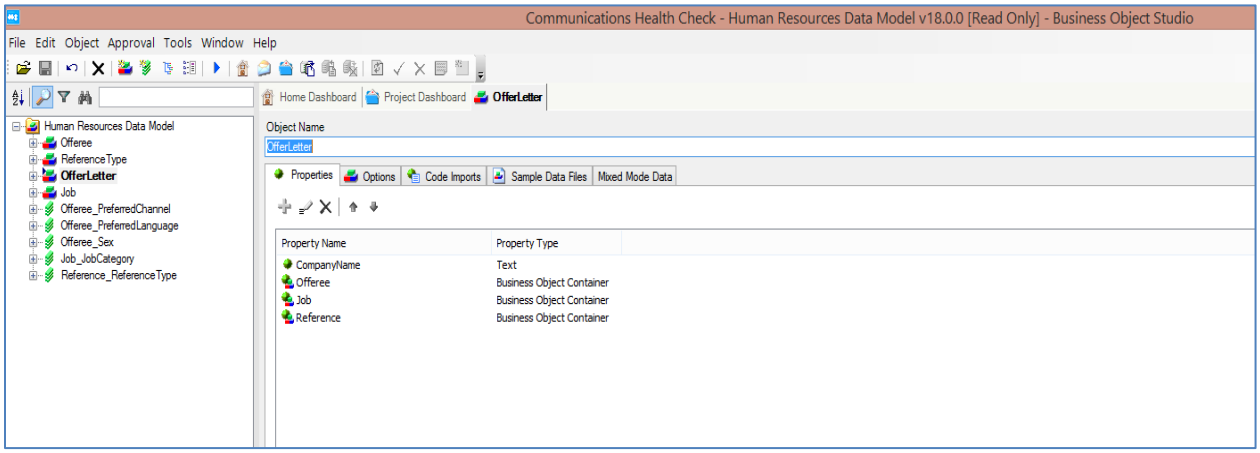

Figure 3.3-62. Business Object Studio in Thunderhead

Health Check with Sample XML

Once the business object is ready, the next step is to proceed with creating a sample XML transaction to test it as Thunderhead templates use incoming XML transactions to display data on them, so creating a sample XML would help in doing a test run. This is often referred to as a health check.

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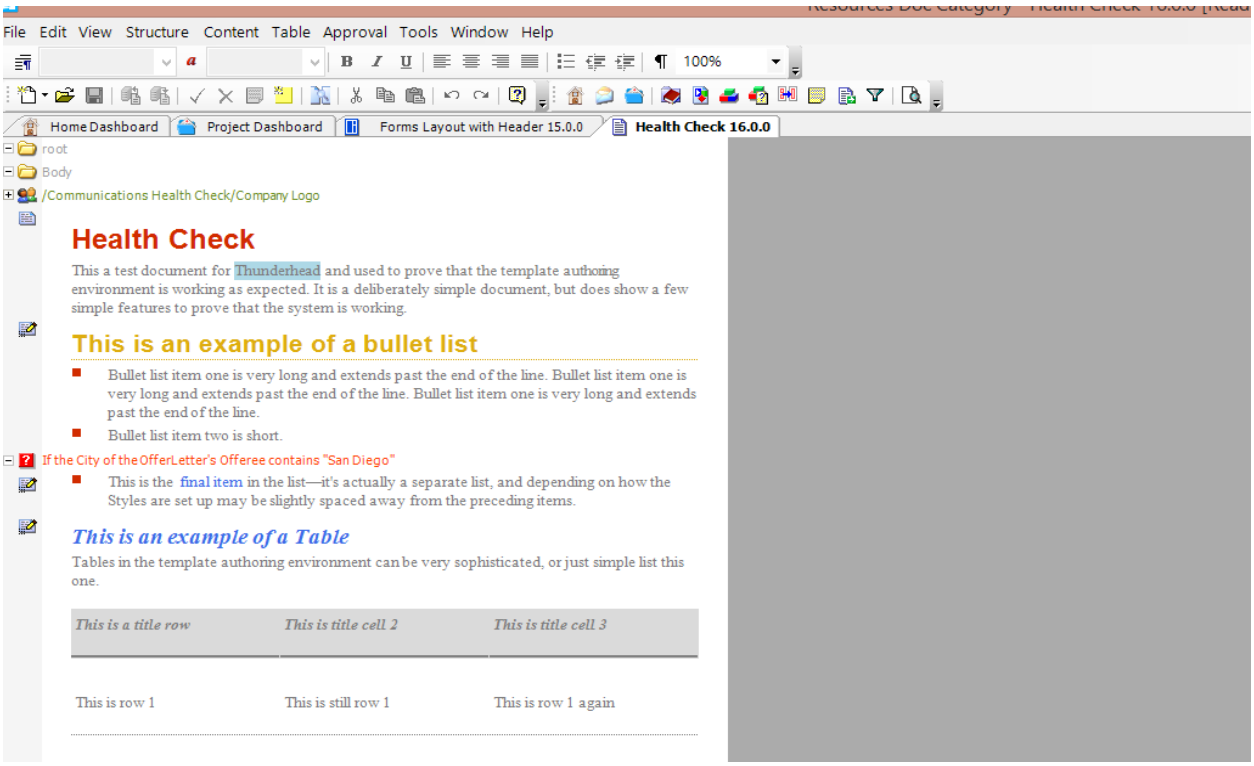


Figure 3.3-63. Health Check Dashboard

Creating a Template in Business Content Studio

After working in the Business Object Studio, a user creates a layout for the template in the Business Content Studio client which allows for the definition of different regions/sections on the document.

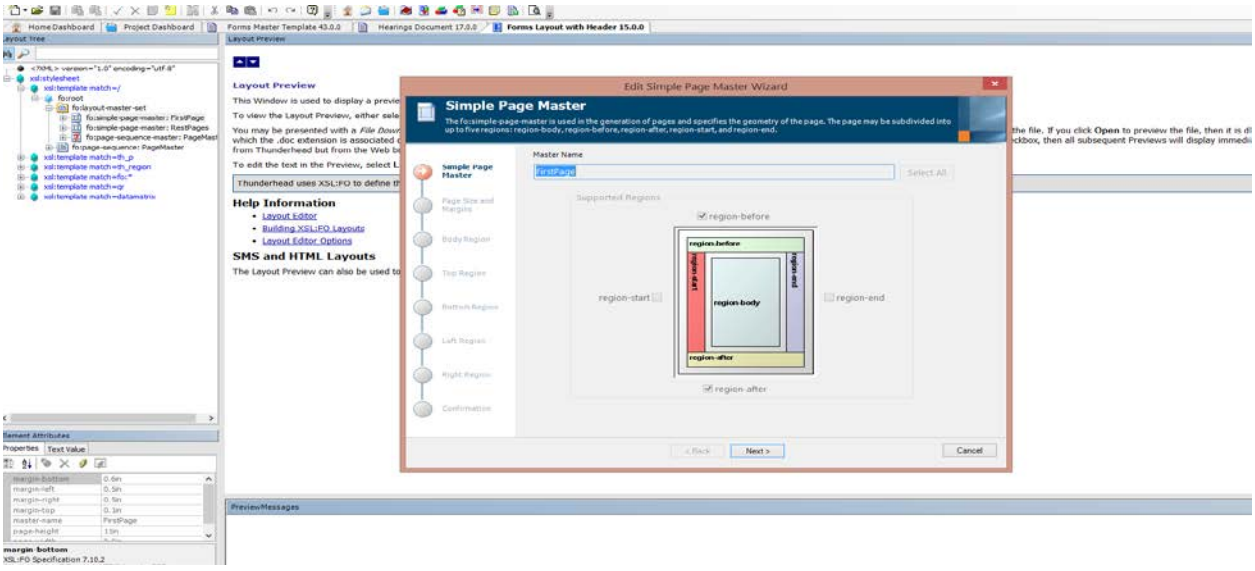


Figure 3.3-64. Wizards for Template Creation

Next, the user creates the template in Business Content Studio, referring to the previously created business object which acts as the skeleton for the data to be displayed on the template and the layout for

creating/defining various regions on the template. From here on, the template creation process is like creating a Word document, though we use the options/tools available in Thunderhead.

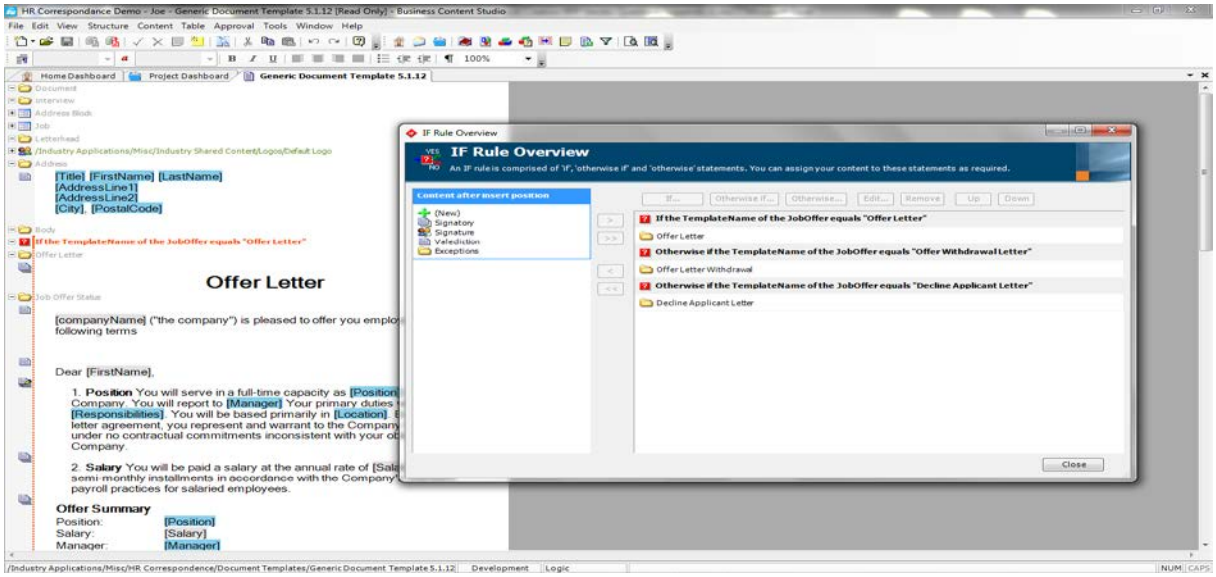


Figure 3.3-65. Template Definitions

Creating a Batch Configuration File

Finally, a batch configuration file needs to be created, which defines any specific processing that needs to be performed while the server processes the XML transaction. An output configuration file is also needed which facilitates any specific output related tasks (creating OMR marks, output channel, etc.).

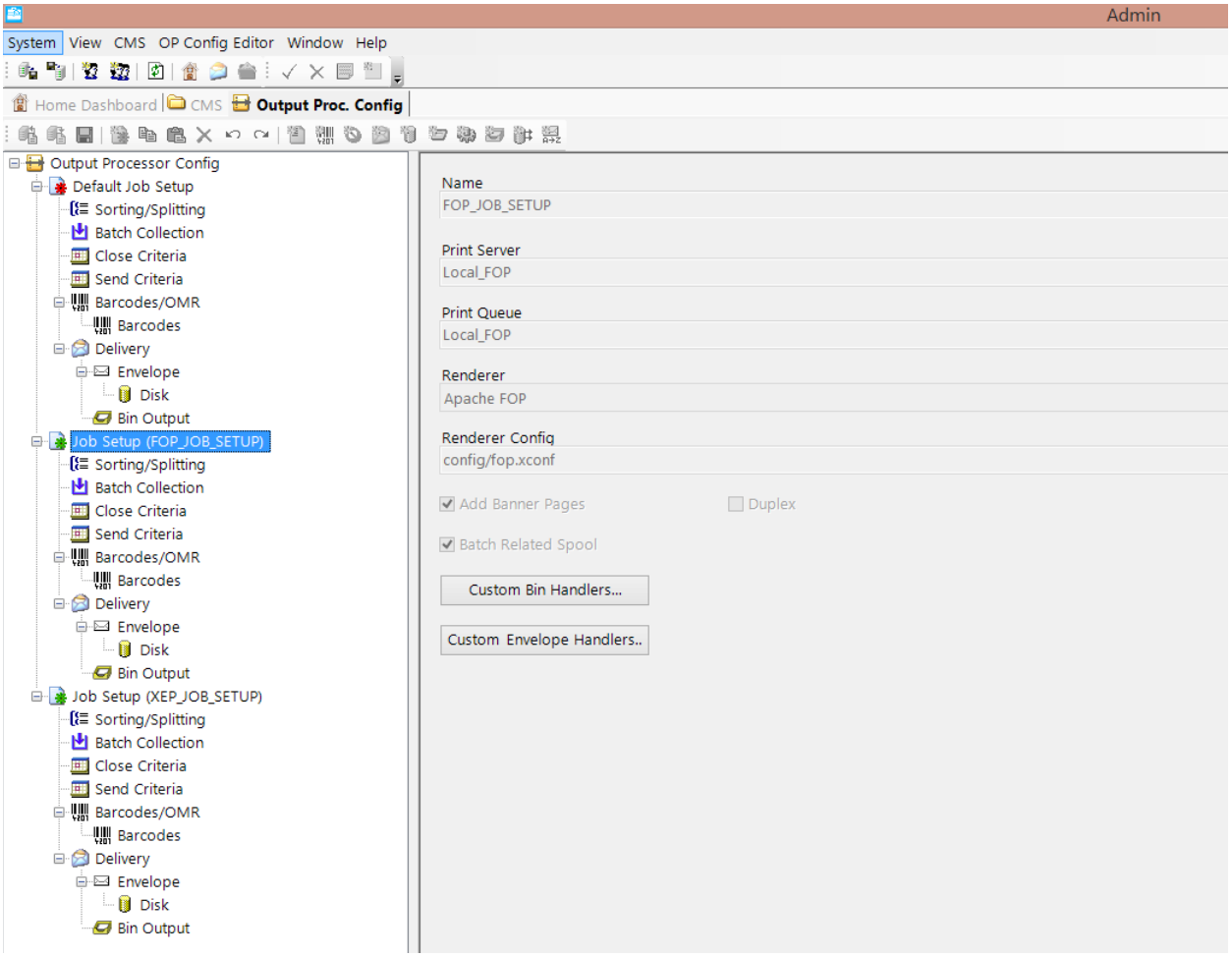


Figure 4.3-66. Configuration File

Access to edit any Thunderhead resources is role-based, and security is managed through an administration module. A browser-based interface is used to view and modify roles and permissions. Thunderhead software implements a fine-grained security model allowing the authorized user(s) to assign rights to modules, features, and functions at a role or user level.

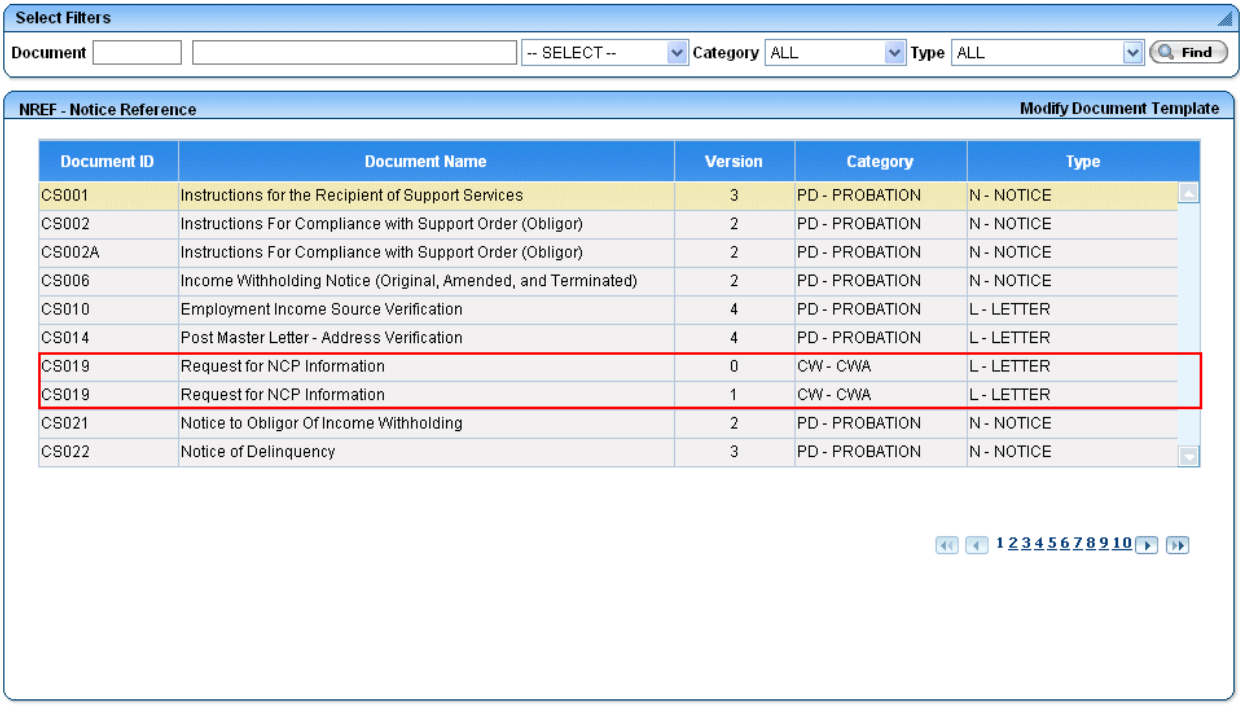
Rights are grouped into two categories:

- *General rights are granted on the object itself*
- *Specific rights are granted on the instance of the object*

A user's rights are derived from the groups to which they belong. If a user is a member of two or more groups then the rights are additive, i.e., a user's rights are based on the highest level of access granted to any of the groups to which they belong. Once a user ID has been authenticated it is checked to see if it is authorized to perform the requested action. The action might be access to a module such as Business Content Studio, access to a function within a module (such as scripting in Business Content Studio), or access to an object within the Thunderhead Content Management System (CMS), such as a folder.

REQUIREMENT: (#67) Document templates can be controlled with versions and effective dates, allowing new versions to exist alongside older versions.

Our solution uses an archival process that stores previous versions of document templates and uses them for reprinting documents that were generated historically. Based on activate and inactivate dates, our solution identifies the appropriate version of the template to be used for the merge of XML data streams with boilerplate text. The figure below shows an example of how our solution's ability to version document works:



Document ID	Document Name	Version	Category	Type
CS001	Instructions for the Recipient of Support Services	3	PD - PROBATION	N - NOTICE
CS002	Instructions For Compliance with Support Order (Obligor)	2	PD - PROBATION	N - NOTICE
CS002A	Instructions For Compliance with Support Order (Obligor)	2	PD - PROBATION	N - NOTICE
CS006	Income Withholding Notice (Original, Amended, and Terminated)	2	PD - PROBATION	N - NOTICE
CS010	Employment Income Source Verification	4	PD - PROBATION	L - LETTER
CS014	Post Master Letter - Address Verification	4	PD - PROBATION	L - LETTER
CS019	Request for NCP Information	0	CW - CWA	L - LETTER
CS019	Request for NCP Information	1	CW - CWA	L - LETTER
CS021	Notice to Obligor Of Income Withholding	2	PD - PROBATION	N - NOTICE
CS022	Notice of Delinquency	3	PD - PROBATION	N - NOTICE

Figure 3.3-67. Notice Reference (NREF) Screen
Our solution facilitates versioning of documents

Templates created in Thunderhead have their version maintenance which allows for older and newer versions to coexist within the same repository, so a user always refers to a specific version if needed. Within a template, the user-defined effective dates allow the template to take effect within a specified period. This versioning is provided not only at the document level but for all artifacts (headers, footers, images, etc.).

Thunderhead stores all content in a purpose-built repository. This repository supports check-in and check-out. When anything is checked out to be worked on, a version number is automatically incremented. We track fine-grained metrics around all work performed and can generate change views or reports to the character level across any version(s).

The below figure is representative of a thunderhead template repository:

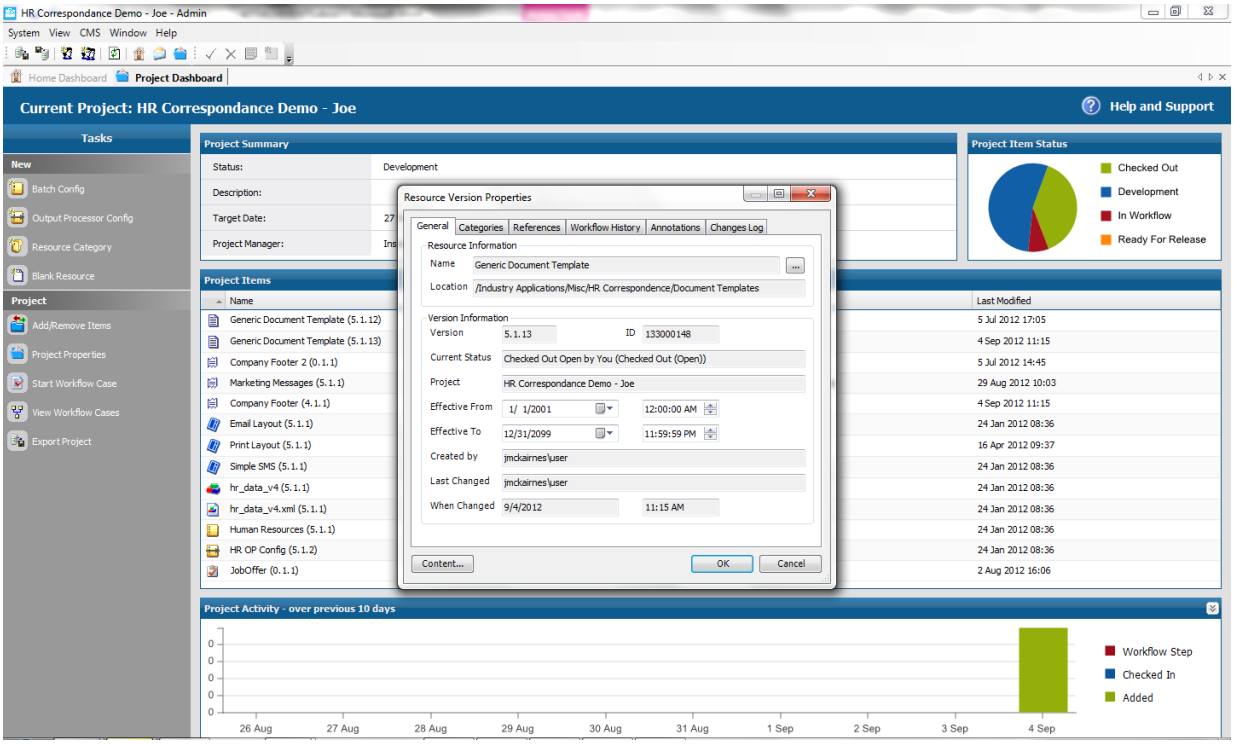


Figure 3.3-68. Thunderhead Template Repository

REQUIREMENT: (#68) A rich set of document formatting features, including
multiple fonts
laser-quality output
runtime page layout for dynamic word-wrapping & pagination
ability to place images
ability to place tables, headers, and footers

Protech leverages the features offered by the Thunderhead Correspondence Generation Engine and the Business Content Studio used by the current DWSS implementation as the authoring environment. An easy to use Word-like environment, it offers familiar functions (indent, copy/paste, justification, typefaces, line, paragraph breaks, etc.) while catering to all of the features necessary to create, author and manage templates and content. Business Content Studio provides a rich set of document formatting features including:

- *Multiple Fonts – Multiple fonts/styles can be defined within the same template through the use of a 'style set' defined within Thunderhead. The style set contains pre-defined fonts, font sizes, line spacing, alignment preferences, etc. Users create/modify these preferences as needed.*
- *The documents created out of the Thunderhead engine are of high quality and clarity.*
- *Dynamic word-wrapping & pagination – Templates created within Thunderhead incorporate page layouts which are built separately. These layouts define various sections/regions on a page within a template. For example, the header section can be defined only for the first page of a template. These layouts allow for dynamic word-wrapping and make sure that if the content within a section does not fit in the limits on the same page, then it gets pushed to the next page instead of overflowing to another section. The templates also have an in-built pagination property that gets updated*

dynamically based on the number of pages in the final output and can be used to display page numbers on the final document.

- *Images are embedded within the Thunderhead templates. The images are inserted directly on a template or created as a piece of content which is shared by other templates as well.*
- *Users easily create tables within a template. These tables are also made dynamic via the various table properties/functions provided. Dynamic headers and footers are standard functionality within the Thunderhead Correspondence Engine and are fully customized to fit specific needs.*

REQUIREMENT: (#69) Ability to place bar codes and Optical Mark Recognition (OMR) marks.

We utilize the industry standard barcode formats during the formatting process to ensure the NCSEAS solution generates barcoded documents that can be re-scanned into the system when returned with additional information from the recipients, such as postmaster verifications of addresses.

The Thunderhead engine supports all bar codes, based on the data available. Bar codes such as 5 of 9 and 3d are all supported via fonts. Optical Mark Recognition (OMR) marks are also created and customized to allow for document sorting/splitting.

The Thunderhead solution currently in production at DWSS uses QR codes. We propose that NCSEAS use QR codes rather than traditional one-dimensional barcodes. QR codes are two dimensional and can store up to 7100 characters of information both vertically and horizontally unlike traditional bar codes which can only store up to 20 characters of information. Within Thunderhead, these QR codes are configured to contain any data available to the template. This freedom to choose the configuration would allow us to make sure that no sensitive information goes into the QR code.

REQUIREMENT: (#70) Ability to support batch documents (overnight system-generated documents) and interactive documents.

Protech either spools documents for printing and enveloping using a wide range of equipment or writes to a file. This facilitates operational requirements such as outsourcing and scheduling large batch-oriented jobs. We perform electronic distribution and connectivity to other systems via SMTP and MAPI email, high-performance TCP/IP-based integration with Enterprise Resource Management systems, HTTP and HTTPS based communications with web servers, FTP, shell-based commands, Java, and COM. We also propose to support several fax standards, including generic faxing, Zetafax, Fastfax, Faxination, RightFax, and TOPCALL.

We use the Thunderhead engine's capability to support documents created in an overnight batch as well as those created interactively. The Thunderhead engine can process up to 6,000 documents per hour for batch processing. Because Thunderhead runs as a server, it can process on-demand (batch of one) or high volume batch transactions. This is accomplished by anticipating volume and peak time, then appropriately sizing the server.

Additionally, the child support system also sends a request to the Thunderhead engine and launches the Thunderhead document editor (also known as the draft editor) to allow users to access documents interactively.

The Thunderhead solution supports the manual entering of data as well as automatically populating data. Choice lists are created and made available to the user allowing for a section of both specific data elements (such as states, offices, ethnicity. etc.) and stored paragraphs. Allowing users to use these types of customized features accelerates processing and improves correspondence content.

Thunderhead templates are invoked by sending transactions to the Thunderhead server in the form of XML transactions. The application compiles all data entered by the user and forms an XML transaction which is based on the pre-defined XML schema design or Thunderhead Business Object. It then subsequently submits this transaction to the Thunderhead server for processing via the API calls provided. The APIs involved include execute, Preview, and submit Batch, which are the primary calls used to send requests to the server to generate the document(s). The transactions to the Thunderhead servers are submitted via a Messaging Queue (MQ) for high-volume transactions or a web-service call for interactive/low-volume transactions.

REQUIREMENT: (#71) Ability to store the document in the Document Management (DM) repository, including appropriate metadata such as creation time, creation user, and case ID.

We use the Thunderhead capability to support an open-standards based architecture which allows interfacing with any similar open-standards system such as FileNet. The integration with such document management systems allows to fully leveraging any taxonomy. Data supplied from the data source is used in a template to provide rich, personalized correspondence, triggering assembly rules for what the correspondence should look like. Also, our solution affords the user the ability to generate correspondence with attached documents such as forms, notices, or other historical correspondence electronically stored from within FileNet. The templates that are generated are designed to have metadata as required, which is easily tied into the document properties within the document management repository.

Protech uses Thunderhead to provide direct, automated access to the storage and retrieval of artifacts (documents, images, etc.) from the FileNet system. All users' actions are recorded in a log file and are audited and reviewed on demand. Actions such as who generated correspondence, when it was generated, and what was generated, are all easily recoverable. Also, actions not accomplished, but which should have been accomplished, are also recorded.

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The figure below illustrates the DM component integration using Thunderhead:

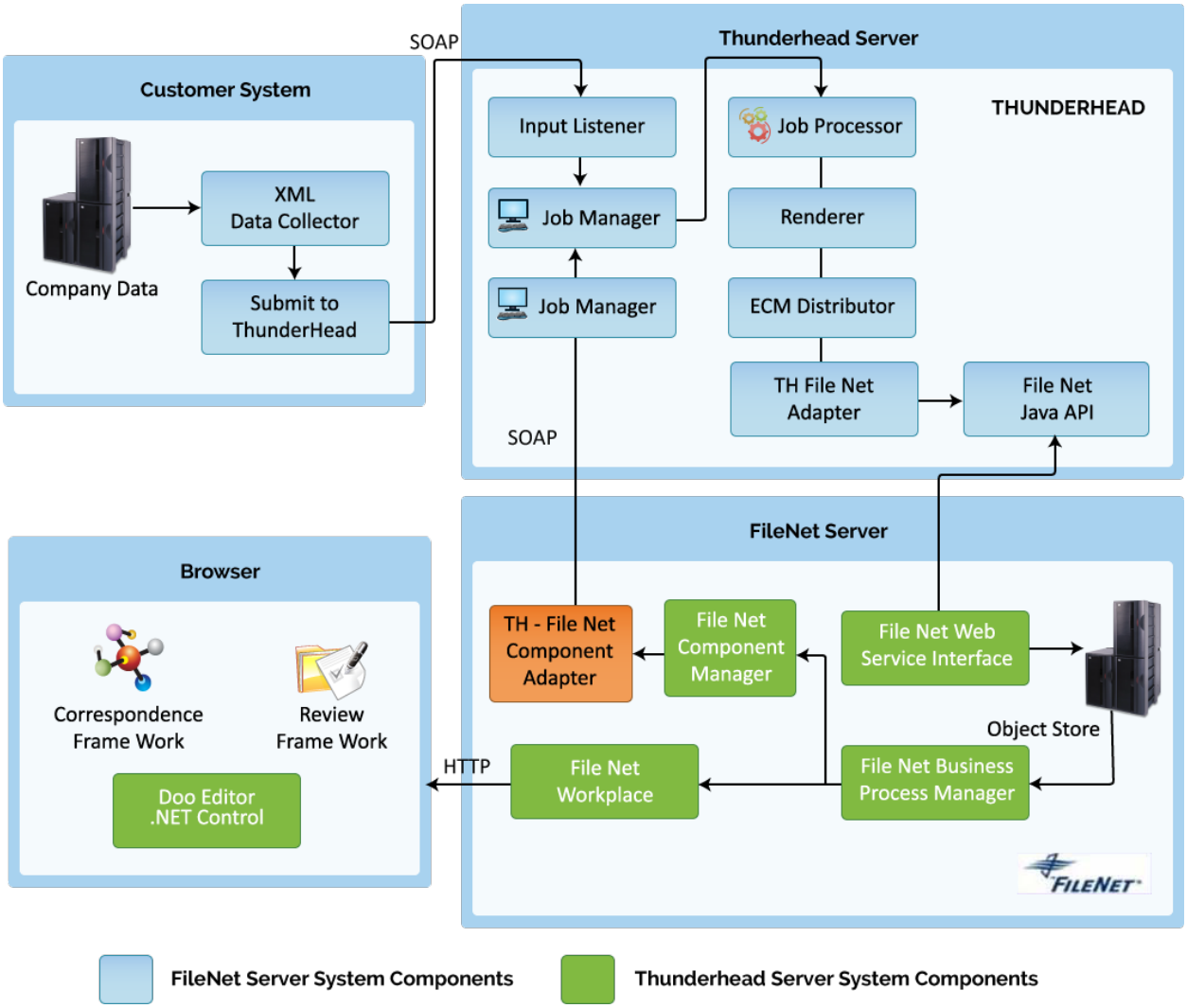

Figure 3.3-69. Thunderhead and FileNet component integration

(3.12.2) Document Management

REQUIREMENT: (#72) The system must provide a cohesive set of DM features, including:

Protech's solution will leverage the existing DWSS implementation of IBM FileNet Content Manager and IBM Datacap to scan, capture, process, store, and manage documents in support of the NCSEAS system. This solution helps NCSEAS to meet the growing challenge of managing enterprise content with greater speed, efficiency, and accuracy.

We use FileNet Content Manager for enterprise-level scalability and flexibility to handle the most demanding content challenges, the most complex business processes, and integration to all the existing systems. It is a reliable, scalable, and highly available enterprise platform that enables Protech to capture, store, manage, secure, and process information to increase operational efficiency and lower the total cost of ownership. FileNet P8 enables us to streamline and automate business processes, access and manage all forms of content, and automate records management to help meet compliance needs.

We use IBM Datacap as a highly scalable document imaging solution designed for enterprise-wide applications. Our solution leverages its modular architecture and a user-configurable browser-like interface to integrate seamlessly with IBM FileNet ECM Repositories. It provides the features and functions required to capture, manage, and distribute content based on the requirements of individual content repositories, records management policies, and business processes.

High-level features of FileNet Content Manager include:

- *A single repository for enterprise content to provide centralized access and better control.*
- *Document management services and application development support to streamline content management and delivery.*
- *Delivery of active content in motion for improved business value and reduced costs.*
- *Integration with business process management.*
- *Advance search capabilities.*
- *Document versioning.*
- *Security on documents.*
- *Social collaboration features.*
- *Supports multi format images.*
- *Annotations, stamps, etc.*

IBM Datacap provides a solution to scan, index, image-enhanced, perform barcode and character recognition, route, and commit content to all FileNet ECM repositories. It also provides connectors to integrate with external systems.

Below are high-level features of IBM Datacap:

- *Scanning/Importing (scanner, mobile, email servers, fax servers and file systems)*
- *Image enhancement*
- *Data capture (OCR/ICR/OMR/Barcode recognitions)*
- *Easily configurable business and validation rules*
- *Manageable and intuitive workflow*
- *Multiple language support*
- *Supports distributed 3 – tier architecture*
- *Centralized administration, monitoring, and reporting*
- *Seamless integration with other systems (FileNet Content Manager, Documentum, SAP, Box repository, FileNet Image Services, and other CMIS compatible systems*

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The below figure illustrates our solution integrating IBM Datacap and FileNet repository:

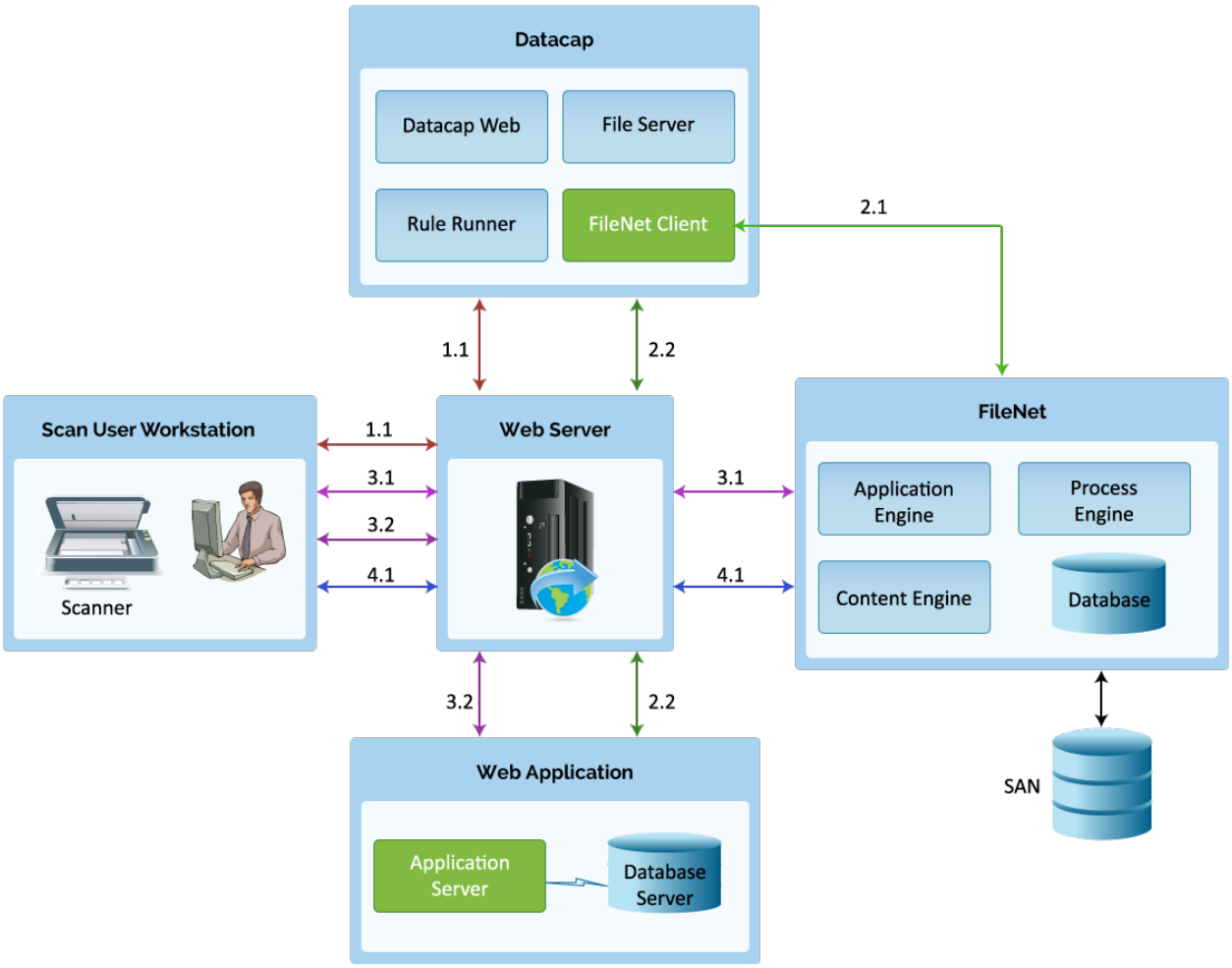

Figure 3.3-70. IBM Datacap and FileNet component integration

- *1.1 Access the Datacap web application through the link provided in NCSEAS online application for scanning documents*
- *2.1 Datacap exports the captured image with index data to the FileNet for storing the image*
- *2.2 Datacap exports the captured data to NCSEAS to process the business rule associated with the image*
- *3.1 Upload a single document from user workstation to FileNet through the NCSEAS online application*
- *3.2 Supporting data from user workstation to NCSEAS to associate the document with the case*
- *4.1 Retrieve images from FileNet to user workstation through the NCSEAS online application*

REQUIREMENT: (#73) The DM component must support high-volume operations such as a centralized mailroom scanning, and low-volume activity such as over-the-counter documents.

Protech uses IBM Datacap (imaging solution) as part of document management system which has inbuilt capabilities for both centralized and distributed scanning. It also provides remote web client for centralized low to high volume scanning, administration, and reporting. It also provides a dedicated thick client for high throughput.

With the help of the following source, IBM Datacap's capability to deliver low to high volume operations is performed by:

High-speed Production Scanners

High-speed production scanners are found in large mail rooms or scan factories to support centralized high-volume operations. They can scan hundreds of pages per minute and sustain high ingestion rates throughout the day, running in the thousands of pages. This way, they achieve a low per-page cost for large digitization needs.

Multi-function Printers (MFPs)

Multi-function printers/copiers/scanners, or MFPs, are found in office environments and shared by many users. The scanning at an MFP is generally performed by a single individual in the context of completing a business transaction, such as an account opening, a loan application, or an insurance claim, at a branch office. Each scan operation typically involves only a few documents. However, it supports both low to high volume operations.

Remote Desktop Scanners

Personal desktop scanners are typically used in highly distributed scanning operations at remote offices/branches or by users working from home. These scanners support low volume operations

The below figure illustrates the DM process architecture Protech proposes to support thin and thick client scanning activity:

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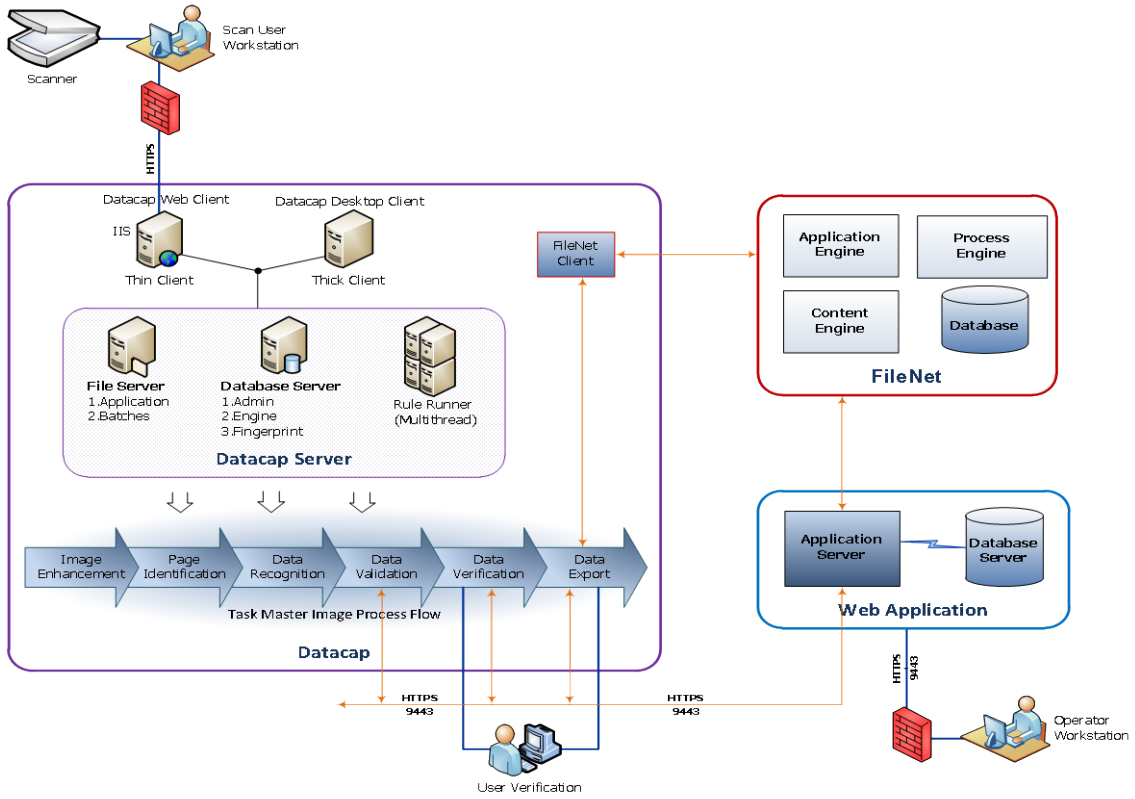

Figure 3.3-71. DM Process architecture for thin and thick client activity

REQUIREMENT: (#74) The DM component must store images for easy retrieval by authorized users.

Protech uses the OOTB features provided by IBM FileNet content manager for storing various types of images and documents with advance search and retrievable capabilities.

We store and retrieve all content within an IBM FileNet system, which provides a series of services for creating, retrieving, updating, deleting, and securing content. In addition, it provides interfaces for handling event-based actions, document life cycle, and integration with various storage mediums.

Our authorization solution makes use of IBM FileNet's capability by managing permissions through an access control-based authorization model. Individual access rights are determined based on the actions on a given object by a given user or group (known as principals). These individual access rights, called Access Control Entries (ACEs), are grouped together to form an access control list (ACL). Applying one or more of the following ACLs to an object individualizes the level of security that is enforced on an object:

- *Default: Each class is created with default instance permission ACL. By default, the default instance permissions ACL is applied to instances of the class.*
- *Templates: Security templates, which contain a predefined list of access rights, can be applied to an object.*
- *Inherited: Permissions applied to some objects (folders, documents, or custom objects) can be inherited by other objects so that these "inherited" permissions supplement other permissions on the receiving objects.*

REQUIREMENT: (#75) The DM component must accommodate common document formats including, but not limited, to Tagged Image File Format (TIFF), Portable Document Format (PDF) and doc/docx.

Many documents stored in the P8 content engine will display in their associated viewer on the user's client machine when opened. Workplace XT includes a viewer to display image documents and view, zoom, magnify, scroll, pan, rotate, print, and add annotations to them. Image Viewer supports TIFF, BMP, GIF, JPEG and JPG, and COLD file formats. By default, each of these file types opens automatically in Image Viewer.

A site administrator configures these file types to open in other programs, if so desired.

REQUIREMENT: (#76) The DM component must support integration with the workflow and document generation mechanisms.

Our Thunderhead solution supports an open-standards based architecture which allows it to interface with any similar open-standards system including NOMADS EGL source code, JAVA, DB2, and FileNet. The integration with FileNet allows it to fully leverage any taxonomy. Data supplied from the data source is used in a template to provide rich, personalized correspondence, triggering assembly rules for what the correspondence should look like. In addition, our solution affords the user the ability to generate correspondence with attached documents such as forms, notices, or other historical correspondence electronically stored from within FileNet.

DMS seamlessly integrates with business process management via Content Management Interoperability Services (CMIS) standard. We use FileNet Content Manager's capability to combine enterprise content, security and storage features with ready-to-use workflow and process management capabilities.

REQUIREMENT: (#77) Document indexing must support associations to such entities as person (party), case, and order.

Protech leverages DMS's ability to support document indexing to specific entities as desired. It is done in DMS in both capture (IBM Datacap) and repository (IBM FileNet). We handle production-level digitization, data extraction, verification, indexing, and exporting of documents to back-end systems at document level as well as batch level using IBM Datacap. Indexing at case level, document level, task level etc. are achieved using IBM FileNet.

When generated from Thunderhead, documents are indexed with data supplied from the data source. This is used in a template to provide rich, personalized correspondence, triggering assembly rules for what the correspondence should look like. The document indexes are created / modified as required and easily tied in to the document properties within the FileNet repository. Upon scanning the documents, FileNet uses these indexing properties to link the document to the original case or functional area to which it belongs.

REQUIREMENT: (#78) The DM component must have the capability to re-index and remove documents.

DMS has the capability for re-indexing, routing, purging, deleting, and updating documents. It provides a series of services for creating, retrieving, updating, deleting, and securing content.

The user can view all scanned documents through the application screen. This ability provides the users to review the documents and determine if it must be removed and rescanned in the event the document is not scanned correctly.

REQUIREMENT: (#79) The DM component must provide facilities for retention period management.

The retention management is done using the capabilities provided by DMS. A retention setting is applied either statically or based on events:

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- *Static retention for an object is set once. After a fixed amount of time, the static retention requirement is satisfied and the object can be deleted.*
- *Event-based retention is dynamic, allowing you to change the retention setting for an object after the occurrence of a business event. Event-based retention closely aligns the retention policy of the data with the business requirements for that data. Typical events that can require a change in data retention for an object include termination of employment, expiration of contracts, settlement of legal matters, and completion of tax audits.*

In a retention update sweep, Content Platform Engine iterates over all the objects in an object store to determine which objects should have a retention date applied or updated. We run a sweep once by using a retention job sweep and using Content Platform Engine to run multiple iterations by using a retention policy.

Although the retention setting for an object is adjustable, in most cases the retention setting for the object is determined by the default retention period that is pre-determined for the class. The clock on the server where Content Platform Engine is deployed serves as the retention clock. After the period that is specified by the retention date has expired, the object is deleted.

REQUIREMENT: (#80) The DM component must include mechanisms (e.g., Application Program Interfaces (APIs)) for integrating the access to and display of documents in other applications.

DMS provides APIs and connectors to integrate with multiple systems and can display documents in other applications. The IBM FileNet suite of products contains a set of robust application programming interfaces (APIs). These APIs range from core platform APIs to supporting application APIs. Core platform APIs within the core products, both primary engines, and the CE and the PE, offer a series of APIs that are available for different languages and uses. It supports, JAVA APIs .NET APIs, web services and COM APIs.

REQUIREMENT: (#81) The DM component must support replacement of and / or appending to a document or document set.

We use IBM FileNet's inbuilt document versioning concept to allow users to check-in / check-out document and perform replace, update, and delete operations on document while retaining the versions of documents or sets.

Documents or document sets are appended to existing document as an attachment or supporting documents. Documents are also updated /replaced, deleted, and modified using batch job operations. Batch operation accumulates and packages multiple operations (method calls) on objects. The batch is then executed in a single operation; also we use the batch mechanism to significantly improve performance.

REQUIREMENT: (#82) The DM component must support reading of barcodes as well as reading of key information from incoming documents via Optical Character Recognition (OCR).

Protech uses IBM Datacap as part of the DMS system. The tools strong inbuilt features are used for reading content from image via OCR/ICR/OMR/barcode recognition. It extracts data by using the following recognition technologies:

- *Optical character recognition (OCR) for machine-printed characters*
- *Intelligent character recognition (ICR) for handwriting, typically detached block letters, but also cursive writing on checks or in other well identified contexts*
- *Optical mark recognition (OMR) for identifying checked boxes and other marks, such as bubbles in surveys or a signature on a form*

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- *Bar code reading of several types, including one-dimensional bar codes, such as those used for price reference in stores, or two-dimensional bar codes that are used to encode much larger sets of data, such as name, address, or shipping information*

REQUIREMENT: (#83) The DM component must support full-text indexing of incoming documents via OCR.

The proposed DMS system includes IBM Datacap which gives full text results via OCR. It enables full text search, keyword search, word match etc.

REQUIREMENT: (#84) The DM component must log activity on stored documents, including indexing / re-indexing and physical document manipulations.

The proposed DMS system is configured for audit logging for common activities and enhances it using application-specific custom audit definitions. Standard event audits are created by the user and logged automatically by the application when the appropriate event or operation is performed. Custom properties are added to hold application-specific data.

Among the standard activities for which audit trails are maintained are the following:

- *Object creation*
- *Updates*
- *Deletions*
- *Denials of access*
- *Audit configuration changes*
- *Queries on auditable objects*

Auditable objects include document, folder, CustomObject, link, Referential Containment Relationship (RCR), and annotation objects. ClassDefinition objects are audited for changes to the object store metadata.

Audit events are stored in a table in the object store. They are queried, and exported to XML format for reporting. The audit events of auditable objects are listed on its audit history property sheet.

An audit entry in an audit log includes:

- *The event or operation that triggered the audit entry (for example, creation of a new object)*
- *The user who triggered the entry*
- *Audit type (Audit Success or Audit Failure)*
- *Date and time of the entry*
- *The object associated with the event or operation (class, ID)*
- *Success or fail response from the event or operation that triggered the entry*

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(3.13) Data Warehouse and Business Intelligence

(3.13.1) General

REQUIREMENT: (#85) The system must include a data warehouse or comparable facility to support analysis of system data to track program performance and help predict long-term child support program trends:

- The data warehouse must reuse, to the greatest extent possible, the data warehouse components present in the NOMADS legacy system.
- Data feeds and Extract, Transform, Load (ETL) must be established between the data warehouse and the transactional data store of the Nevada Child Support Enforcement Automated System (NCSEAS) system.
- Existing reports must be functionally preserved to the extent the data to support the reports are available in the transactional system.

Clean and reliable data is essential to a child support enforcement system. The Protech Team's solution leverages the proven data warehouse and business intelligence solution built and maintained by the state of Nevada. It will build upon this successful implementation by utilizing the in place advanced analytics that have proven extremely successful in improving Nevada's overall performance. The approach must reuse the data warehouse components from the NOMADS legacy system. An overview of the data warehouse approach for data management is presented below:

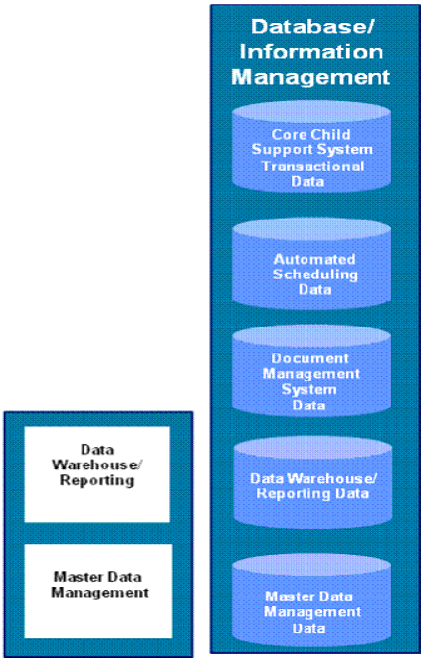

Figure 3.3-72. Data Warehouse Approach to Data Management
Spans all organizational business processes and application systems

Leveraging the existing data warehouse and business intelligence solution ensures continuity in reporting and individual accountability to worker performance. It also provides analytics at the state level, looking at various metrics, and then drills into regions, offices, units, teams, all the way down to the individual case worker. It can pin point cases that need corrective or additional actions resulting in a direct correlation in improving the state's performance in all five federal performance measures: percent of obligated cases, PEP percentage (statewide or IV-D), percentage of current support, percent of cases paying towards arrears, and cost effectiveness, as well as any other area the program wishes to place emphasis on. The data warehouse and business intelligence solution for NCSEAS will leverage the legacy solution already in place for NOMADS and use the same or similar ETL processes to feed the reporting solution to ensure real-time

analytic capability. At a minimum the same reports, dashboards, and ad-hoc that exists today within the data warehouse will be available in Protech's solution.

Protech and CGS have chosen to use SAP Business Objects 4x as the software component of the data warehouse. This solution will include the business front end, as well as the ETL tool to move the data. The decision to go with this software was made to capitalize on the software and licenses currently available to the State. However, the data warehousing solution, reports, ETL tool, analytics, dashboarding, and predictive analytics described in this proposal can be software agnostic. Should DWSS choose not to use SAP Business Objects, Protech can and will provide the same level of service and reporting with the software and business intelligence tools chosen by the State.

(3.13.2) Data Warehouse Architecture

REQUIREMENT: (#86) The system must provide and maintain an analysis / reporting data set separate from the system transactional data.

Protech's solution will include an analytical/reporting data set, separate from the transactional data that is optimized for reporting. The data is populated nightly via an ETL process that includes all the transactions through the close of business. Protech adheres to industry standards in its approach to data integration. At Protech, we leverage best practice methodologies from our training in the Kimball Group and Inmon data warehousing principles, as well as our own real-world experiences with data analytics to provide an integrated, efficient, and detailed analytical data warehouse. The reporting solution will continue to follow the Fact/Dimensional model for design, which streamlines data for reporting, an example of FACT/Dimensional modeling is as follows:

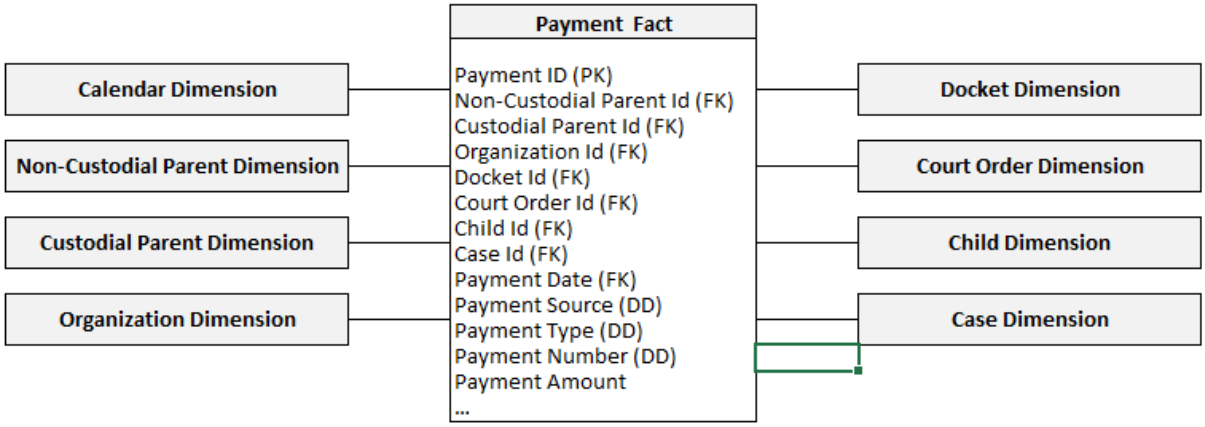

Figure 3.3-73. FACT/Dimensional Model

Protech proposes a robust architecture that takes in multiple data sources (which includes the NOMADS system and any external data), passes through an ETL, and stores them in a data warehouse. Our data warehouse will be like what's currently in place in DWSS and will use data marts (tables that are a collection of business processes). The presentation layer, SAP Business Objects, will connect to the data warehouse and provide users with an easy to navigate, flexible, and powerful web-based portal to view, print, execute, distribute and analyze existing and ad-hoc reports, dashboards and predictive analytics. The data warehouse architecture proposed to be used for NCSEAS application is presented below:

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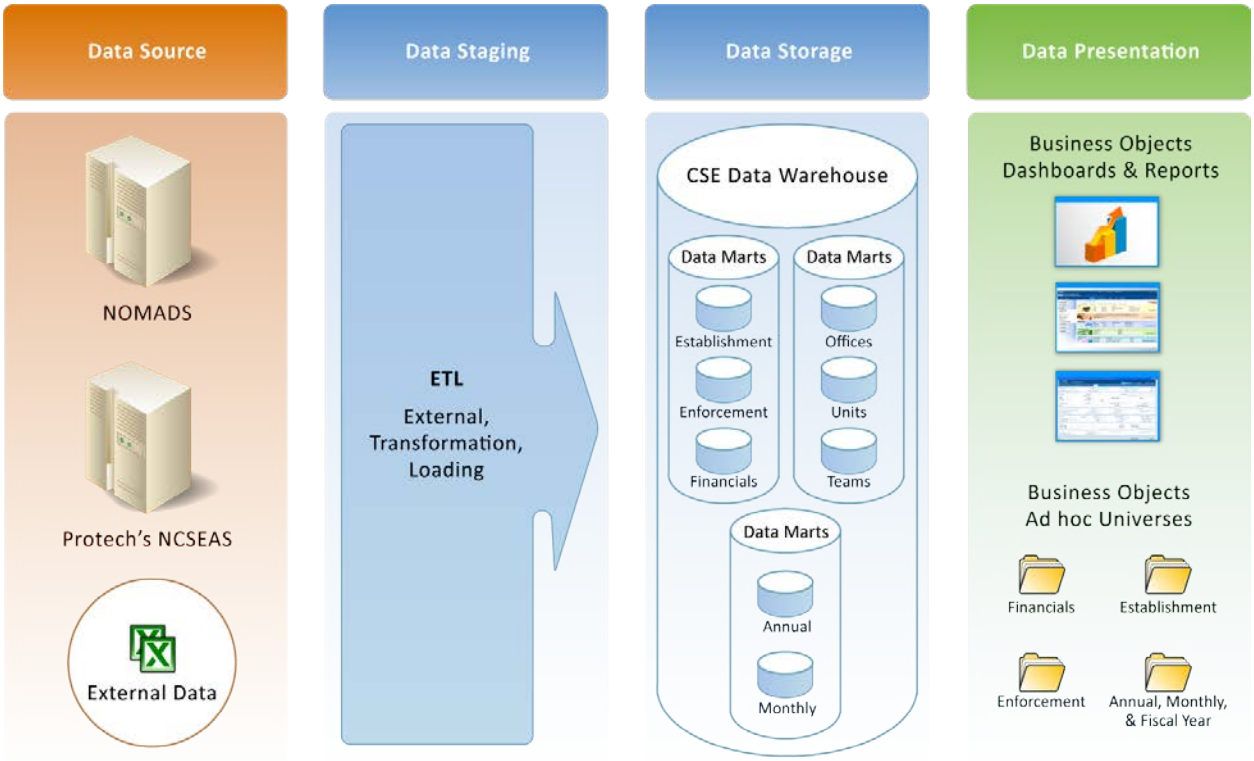

Figure 3.3-74. Data Warehouse Architecture
Data warehouse is the centralized repository that stores the reporting data set

Predictive analytics will play a pivotal role in CSEP's planning and day-to-day operations by enabling CSEP to focus its strategy and continually tweak plans based on actual performance and likely future scenarios. These tools sit at the core of a CSEP's component-based service oriented architecture strategy as business processes and applications (BP&A). We embed predictive logic deeply into the data warehouse, BPM platforms, complex event processing streams, and operational applications. Integrating the operational/data warehouse database with a statistical tool such as the Statistical Package for the Social Sciences (SPSS) provides the flexibility to conduct standard and ad-hoc type analysis.

Allowing users to join multiple data tables and filter certain data to create reports or conduct analysis depends on the underlying data warehouse model. The data warehouse model is built to conform to all dimensions and allow data from dimensions and fact tables across the data warehouse to be referenced in queries. Protech has the demonstrated experience in designing data warehouse models to accommodate the most complex queries and to allow for advanced data-mining apart from the required data analysis and report creation in NCSEAS. Protech's solution is designed to join multiple data tables. Users can filter data using the SAP BO filtering capabilities.

NCSEAS will accommodate reporting and inquiry-only application components without impact or dependence on the availability of the operational/transactional database. The solution will be modeled to use ETL features to create a snapshot for the data warehouse independent of the operation/transaction database. Protech uses SAP Data Services Integrator for the ETL process to load the data warehouse in a batch mode. Protech envisions very few scenarios where real time update of the DW from the main NCSEAS system would happen using messaging. This would help in achieving critical real time business intelligence. Our approach ensures there is no performance degradation in creating the data warehouse for the reporting component.

REQUIREMENT: (#87) The system must provide an automated ETL or similar process that copies specified transactional data to the analysis data set, validates, and provides selected rollup and pre-analysis services on the analysis data.

Protech's solution will provide an ETL that will accurately and efficiently move data from the source system, into the optimized data warehouse. The ETL process will also be used to build various levels of data to streamline reporting. Protech recommends the use of SAP Data Services as the ETL tool for this solution. Again, we propose this solution because it capitalizes on the software that is currently in place in DWSS. However, the reporting analytics and functionality mentioned in this proposal can be accomplished with many different toolsets, and we will move forward with what DWSS wishes to use for their software. The ETL process of populating the reporting database from the operational system is illustrated below:

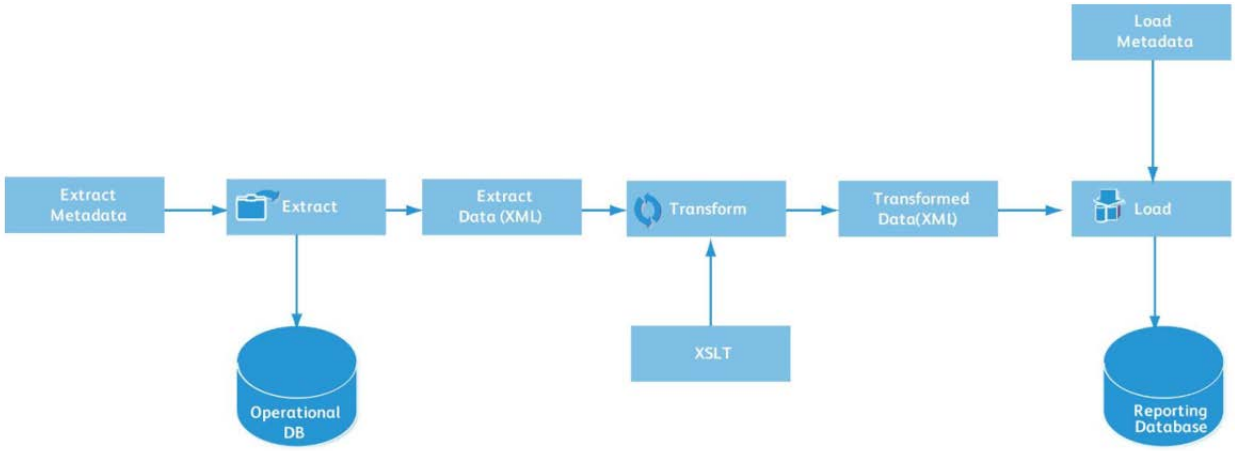

Figure 3.3-75. ETL Process

The ETL process is metadata-driven, allowing Nevada to customize their data model and have control over data loaded into the reporting database. The metadata is used to generate queries to extract the appropriate data from the operational database. It also includes the rules necessary to transform the extracted data into a format suitable for loading into the target schema.

Changed data is extracted from the source. This data is then transformed, using an Extensible Stylesheet Language Transformation (XSLT) stylesheet, into a format suitable for loading into the reporting database. Finally, the transformed data is loaded into the appropriate database tables.
The appropriate level of current and historical data will be maintained in the data warehouse through applying the appropriate ETL logic.

To speed up and standardize the most time consuming predictive modeling project tasks, the tool should be able to leverage existing data in the data warehouse and ETL tools to support a full range of data preparation features. These features include the ability to discover, acquire, capture and profile, sample, collect, collate, aggregate, de-duplicate, transform, correct, augment, and load analytical data sets.

REQUIREMENT: (#88) The data warehouse must allow re-creation of queries and reports after-the-fact as if they were being performed at a specified point in time.

Protech's proposed solution wil provide point-in-time analytics to facilitate decision making. The solution will snapshot various data points to allow for archiving, historical reporting, and over time analytics what wouldn't be possible with just real-time data. The solution can use this historical data to support forecasting and the predictive analytics components as well. The ETL process is metadata-driven, allowing Nevada to customize their data model, queries and control data loaded into the reporting database.

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(3.13.3) Business Intelligence

REQUIREMENT: (#89) The Business Intelligence (BI) component must provide a tool to query the analysis data and display meaningful information for users from the Data Warehouse.

Protech's solution will emphasize the usability of the data warehouse, making it as easy to use and as flexible as possible to maximize the reach of the software. Protech will design the data warehouse to be simple, deep, and powerful to support not only a wide-range of decision making but a wide-range of users, as well. The BI component will include a tool that will display the analytics created by Protech and support the analysis and meaningful display of other users.

Protech proposes to reuse existing SAP Business Object (BO) as the business intelligence component for NCSEAS, considering the following capabilities of SAP BO.

SAP Business Objects is a complete business intelligence platform that delivers all required capabilities with web services architecture, such as:

- *Reporting*
- *Analysis*
- *Planning*
- *Event management*

SAP Business Object reporting lets users create, modify, and distribute reports, ad hoc queries, business reports, and dashboards. BO is a browser based BI solution, is easy to manage, and scales to hundreds of thousands of users.

REQUIREMENT: (#90) The BI component must provide the ability to develop standard reports that can be shared with users and generated for different input parameters (e.g., date range, county, office, worker, etc.) on-demand.

The Protech Team's solution will create and distribute standard reports using the project communication guidelines. The solution will be flexible enough so that reports can be scheduled, can be on-demand, and can be rerun using a set of easily input parameters to answer specific business needs. The reporting solution will contain, but not be limited to the following reports (if applicable):

- *Arrears stratification - report: Displays cases that are carrying an arrears balance month-to-month. Must have an order older than 90 days.*
- *BOW paternity established data cleanup: Displays critical up-to-the-day information on the progress of the BOW cleanup project. Displays cases reviewed and those still needing review. Progress is also tracked in drillable bar charts.*
- *Cases eligible for review and adjustment: Displays a list of cases eligible for review and adjustment.*
- *Case load report: Displays a list of all active and pending closure cases.*
- *Case load composition by office: The new case load composition report provides stratification per office of case load by functional area and case type. This report is intended to be a replacement for the State of Nevada caseload by office report. This report utilizes the data warehouse and is refreshed daily.*
- *Cases omitted from the case load report: Displays a list of invalid caseworker assignments and valid cases that have been omitted from the case load report.*

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- *Cases with inactive, closed or no orders (DRM62A, DRM62B): A report that displays enforcement cases with a case status of active or pending that have an inactive, closed order, or no order at all.*
- *Continued service report: Displays a list of continued services cases.*
- *Cases with Incarcerated NCP's: Displays a list of cases that have NCP's that are either incarcerated or institutionalized.*
- *Continued service report: Displays a list of continued services cases.*
- *Credit balance cleanup cases: Displays cases with a credit balance and lists them in order sorted by office and caseworker.*
- *CSLN report: Displays a list of case matches from the Child Support Lien Network.*
- *Driver's license suspension exception - report: Displays a list of cases that meet criteria for having their driver's license suspended.*
- *E-Payment summary: Displays counts and dollar amounts of payments coming in through the Paymentus system.*
- *Foster care cases: Displays a list of foster care cases.*
- *High priority cases (arrears): Displays a list of cases that are making current support payments but have not made a payment towards arrears. All cases must have an arrears balance.*
- *High priority cases (current support): Displays a list of cases from the largest CMOA to the lowest.*
- *Incentive measures (enforcement variant): Incentive Measures report targeted at the Enforcement Unit of Clark County.*
- *Incentive measures (standard): monthly incentive measures report for the Offices.*
- *Medical support report: Displays a list of cases failing to provide medical support as ordered.*
- *Monthly collections by office (DRF93A): Displays a summary of collections broken out by office and payment source.*
- *Paternity established percentage: Month over month report by Office on the establishment of paternity.*
- *Payment delinquency report: Displays cases that are delinquent on current support payments.*
- *Payment record (CST): A report that allows users to enter a CST's SSN and a date range (optional) to gather data about payments.*
- *Payment record (NCP): A report that allows users to enter a NCP's SSN and a date range (optional) to gather data about payments.*
- *SS CMOA no CS/MS CMOA: Displays a list of case that only have a SS CMOA and no other active support*

REQUIREMENT: (#91) The system must have minimal impact on the performance of the production environment in producing standardized and ad hoc reports.

Protech's solution will be designed to minimally impact production. The solution will be designed to use its infrastructure, and own database, to keep the onus of data analytics away from the everyday processing of transactional data.

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SAP Business Objects (BO) provides support to the suggested platforms and seamless support to the chosen technologies. The fitment and combination give the matching performance.

In addition to pre-defined reports or standard reports, CSEP staff will occasionally need to generate ad hoc reports in NCSEAS. The user-friendly reporting system enables users to create individual reports as desired without using structured query language (SQL) to access the NCSEAS data assets. We carefully design and develop the data warehouse and reporting solution so that the technicalities of report generation are invisible to the user. Using the SAP BO that is already available to CSEP, data can be accessed from the data warehouse and a meta-layer created for regular and ad hoc analysis as described in the following paragraphs.

Our database design and system integration allow for pre-built report objects to be created from data queries. These pre-built report objects, or meta-layer, are accessed via an intuitive interface that allows the user to use data-sets to design and run queries through a simple point-and click interface.
In this simple SAP BO report builder interface, users can:

- *Insert data required for a new report*
- *Edit the inserted data*
- *Format reports*
- *Run a report*
- *Schedule created reports to run on demand or be archived as required*

Creating Reports

A new report contains no data. The user chooses the report items to include in the report from a package.

Packages can include:

- *Query subjects*
- *Query items such as columns of measures and non-measures*
- *Query items created by the data modeler such as calculated report items*
- *Dimensions organized in hierarchies and levels*

Editing Reports

The intuitive and user-friendly interface also allows the user to create drill-down and drill-through reports. Drill-down reports allow the user to expand lists in a report. Drill-through reports allow the user to navigate from between reports that contain associated data. The look and feel of the report can be enhanced using charts, borders, and a wide selection of fonts. It is also possible to determine what sections of data may need to be hidden from some viewers before the reports are distributed. The same report can be formatted to present aggregate values to some viewers and have a breakdown for other viewers. Entire sections of a report can be made available for viewing or hidden as required before publishing.

Running the Report

The newly created report can be run in many different file formats including PDF, Excel, CSV, XML, and HTML.

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The requirement that the system is capable of enabling users to specify the scope of data that relates to a period, management level (roles), data categorization, and data to include is related to the underlying data model, and how it is optimized during the structural modeling phase of the data modeling process. The location and distribution modeling techniques considered during the structural modeling phase include:

- *Data ownership*
- *Data distribution*
- *Audiences*
- *Sensitivity*
- *Roles*
- *Data isolation*
- *Organizations*

Users can keep report output for a specific number of runs or a specific number of days or months. For example, report output can be kept for the ten latest occurrences, or it can be kept for up to six months. It is also possible to keep all report output. To do this, the user must have read and write permissions for entry and read or traverse permissions for the folder that contains the entry.

Our solution also proposes SAP BO Web Intelligence for self-service query and reporting. The features include:

- *Ability to quickly build ad-hoc queries and reports without a knowledge of SQL or the underlying data structure*
- *A market-leading self-service reporting solution for rapid report creation*
- *Support for multi-source semantic layer to bring together different sources of information without having to know the DB structure or SQL*
- *Content accessibility from anywhere: Mobile, Web, Desktop*

The capabilities and processes discussed above will be carefully analyzed, designed, and implemented to eliminate impact on the performance of the production system.

(3.14) Code Quality and Maintainability

REQUIREMENT: (#92) The system source code must include sufficient internal documentation (comments) to explain the purpose of each source code module, any exposed programming interfaces, and explanation of non-obvious aspects of the source code / programming implementation.

Protech's approach to consistent and useful internal documentation is defined using two categories of comments: implementation comments and documentation comments (doc comments).

Implementation comments are meant for commenting out code or for comments about the implementation. Doc comments are meant to describe the specification of the code, from an implementation-free perspective.

Comments give an overview of the code and provide additional information that is not obvious in the code itself. Comments contain information that is relevant to reading and understanding the program, including non-obvious aspects of the source code.

Comments will be enclosed in large boxes drawn with asterisks or other characters.

Implementation Comment Formats:

We provide four styles of implementation comments:

- *Block*
- *Single-line*
- *Trailing*
- *End-of-line*

Block Comments:

We provide block comments in the source code for the descriptions of files, methods, data structures, and algorithms. Block comments are used at the beginning of each file and before each method. They can also be used in other places, such as within methods. Block comments inside a function or method should be indented to the same level as the code they describe. Here is an example of a block comment:

```
/*
 * Here is a block comment.
 */
```

Single-Line Comments:

Short comments will appear on a single line indented to the level of the code that follows. If a comment can't be written in a single line, it will follow the block comment format. A single-line comment should be preceded by a blank line. Here is an example of a single-line comment in Java code:

```
if (condition) {

   /* Handle the condition. */
   ...
}
```

Trailing Comments:

Our code contains very short comments on the same line as the code for additional description:

```
if (a == 2) {
   return TRUE;          /* special case */
} else {
   return isPrime(a);     /* works only for odd a */
}
```

End-Of-Line Comments:

We use // comment delimiter to comment out a complete line or only a partial line:

```
if (foo > 1) {

   // Do a double-flip.
```


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```
   ...
}
else {
   return false;        // Explain why here.
}
```

Documentation Comments:

*Doc comments describe Java classes, interfaces, constructors, methods, and fields. Each doc comment is set inside the comment delimiters /**...*/, with one comment per class, interface, or member. The comment will appear just before the declaration:*

```
/**
 * The Case class provides ...
 */
public class Case { ...
```

REQUIREMENT: (#93) The system source code must employ consistent naming conventions for data structures (including database objects), variables, modules, classes, and source-code files.

We have several checkpoints and mechanisms in place to ensure that consistent naming convention and code commenting rules are being followed throughout the entire project development life cycle. This includes a requirement to establish and identify the module type and system component to which the module belongs. Naming conventions have been defined for all aspects of the project life cycle, including:

- *Database naming standards*
- *Class and method names*
- *Stored procedure names*
- *Variable names*
- *Input and output interface files names*
- *Report naming conventions*
- *Test case naming standards*

We also follow strict naming conventions for our project and system documentation. This ensures all deliverables; including design, code, and documentation follows a consistent naming convention which can be easily understood by the development team.

The following outlines some naming conventions we apply, provided as examples:

Component	
Database	• Temporary tables that are used for data processing and any complex computation must Start with 'T' and append with a four letter short name of the table: TOWED,VPAID • If a column indicates an ID or value, or represents a number that is unique by itself, then prefix the column with ID_: ID_CASE, ID_ENTITY
Class and Methods	• Use terminology applicable to the domain. If your users refer to their clients as customers, then use the term Customer for the class, not Client. Many developers will make the mistake of creating generic terms for concepts when perfectly good terms already exist in the industry/domain. • Use lower case letters in general, but capitalize the first letter of class names and interface names
Stored Procedures	• Name must start with SP_ • All procedures associated with a screen are included in one package the naming convention is "SPKG_", and then the four letter short name of the screen
Variable Names	• Avoid names that are similar or differ only in case. For example, the variable names persistentObject and persistentObjects shall not be used together, nor shall anSqlDatabase and anSQLDatabase • Use abbreviations sparingly, but if you do so then use them intelligently. This means you shall maintain a list of standard short forms (abbreviations), you shall choose them wisely, and you shall use them consistently. For example, if you want to use a short form for the word "number," then choose one of nbr, no, or num, document which one you chose (it does not matter which one), and use only that one
Input and output interface files	• new interface files must follow LOAD/EXT_<<INTERFACE NAME>>_<<PROCESS>>.TXT naming convention Ex: LOAD_SOIL_NOTIFICATION.TXT EXT_DMV_MEMBERS.TXT
Test Cases	• Test name should express a specific requirement. This requirement should be somehow derived from either a business requirement or a technical requirement • Test name should include the expected input or state and the expected result for that input or state. Examples: • Public void Sum_NegativeNumberAs1stParam_ExceptionThrown() • Public void Sum_NegativeNumberAs2ndParam_ExceptionThrown () • Public void Sum_simpleValues_Calculated ()

REQUIREMENT: (#94) The system source code must offer external documentation sufficient to explain the system's architecture, key application patterns / design patterns, and how to perform essential programming tasks such as modifying a user screen, altering a workflow, modifying a report or document template, etc.

Protech uses an integrated approach to producing external documentation. Each group (developers, business analysts, and trainers) collaborates to ensure the consistent and accurate delivery of all information. Parts of the documentation are generated by the appropriate group and subsequently compiled for the consistent documentation of all procedures, including customization activities such as altering a workflow or modifying a document template.

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The following are examples of typical system documentation.

System Documentation		
Document	Prepared by	Description
Use Cases	Design and Development Groups	Used for workflow
Application Design	Design Groups	Used for system overview
Screen Use Documentation	Developers	Outlines how to complete input
Process Flows	Functional Leads	Used to support workflow and case histories
Test Cases	Test Team	Used for exercises and development of training database

Most of our manuals and presentation materials are produced using MS Office.

We build on our documentation as we progress through the phased implementation. The most updated versions of documents for all components and artifacts are always available in the SharePoint repository. Deliverables and technical work products such as data models, requirements, software designs, code, test cases, test scenarios, help text, and user manuals are also kept in SharePoint.

Document access rights are controlled according to document attributes and configuration settings as controlled by the configuration management coordinator.

(3.15) Development Tools

REQUIREMENT: (#95) The system must have configuration management features that separate source code from databases, and allow different "builds" to access different databases/instances.

To have controlled access to the system assets as code, requirement documents, design documents, test cases, and logs, we will be using the Perforce Configuration Management suite. It provides the following features:

- *Version control and workspace management*
- *Advanced parallel development*
- *Authoritative build auditing*
- *Integration with popular development tools*

Perforce Configuration Management suite tracks changes to every file and directory, maintaining complete, annotated version history assets including source code, binaries, executable, documentation, test scripts, and libraries. It provides support for the check-out/check-in development model recommended by Protech and enables parallel development by providing support for unlimited branching. It also provides advanced build management and auditing capabilities.

All developers and data team members will use this toolset to extract current copies of versioned objects. This code repository tracks changes to all source code, DDL, diagrams, and design documents. It provides the underlying mechanism for releasing a version from one environment to another, it allows the configuration, and testing managers to control what is included in each build or release. Perforce retains information about each revision and the original software units, allowing the development team to retrieve, modify, and return any revision of a work product in a safe, organized and consistent manner.

The toolsets that we use will support the version control needs of the project by providing check-in/check-out version control of source code, binaries, drawings, documents, and other items from project archives. A detailed status accounting of the changes to the baseline product will also be generated from this toolset and be included in a periodic configuration management report.

There are always special efforts required to create new environments as it involves installing the application server and then deploying the new build. In many cases, it is beneficial to have multiple instances of the development version of the application on the same application server while reusing the same web server, database instance, and the COTS products. One way is to build the application EAR file with all property files inside. This will allow several instances with different application names to be deployed on the same application server instance. Another method is to create multiple containers on the application server and deploy the different instances of the application on a different container. This allows one to view the developer/team work in a different build during development without waiting for the integrated, periodical application build.

We will build NCSEAS with multiple environments to take advantage of the iterative development and testing process, as well as to be able to promote the code to the next stages for integration testing, user acceptance, pre-production, and production. There will be separate configuration files for each environment. Each environment specific configuration files will have the details of the JNDI connections, web service URLs, context details, etc. In a single click, the code will be deployed to the respective environment.

Source code control and configuration management always go hand-in hand. With the help of effective configuration management process, builds and packages are delivered from development into other phases such as system test, user acceptance testing, and production. With the help of a configuration management system, the components developed or modified can be locked to prevent from being overwritten while the developer(s) are working on it. Perforce is also useful to effectively recover a previous version of a file or files for various reasons. It also gives an automated way of merging the files generated by multiple sources and to create an effective baseline for build and deployment. Configuration management items get compiled and assembled into a build that, in turn, gets deployed to the runtime infrastructure.

Perforce automation capabilities provide many benefits including:

- *Unify automation across development, test, and operations to eliminate delays and handoffs among discipline silos*
- *Easily control existing tools across disciplines through a standard automation system*
- *Systematically reduce or remove dependence on obfuscated or just plain old scripts*
- *Achieve consistent, measurable, and improvable processes across products and platforms*
- *Enable developer self-service and remove dependence on the build team*
- *Easily parallelize automated activities with just a mouse click*
- *Ensure that development, test, and production environments are consistent with each other as well as within themselves*
- *Provide consistent view of process and results makes it easy to see status and troubleshoot problems if they occur*
- *Ease the process of showing compliance through consistent, automatically generated reports*

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- *Improve quality by enabling more process 'turns' in the same amount of time*
- *Availability of agents for AIX, Linux, and Windows platforms with a source kit provided and supported for other platforms*

REQUIREMENT: (#96) The system must allow the application clock to be controlled separately from the server clock in order to test time-based functionality such as financial distribution, order effective-date management, monthly / weekly batch cycles, etc.

Protech proposes the use of the following dates in the NCSEAS system:

- *Business dates for online process – These are the dates required for the business function of the online NCSEAS application. This includes dates for capturing the audit fields, status dates such as case open/close date, obligation effective date, etc. This is captured from the database server clock for capturing the actual event date.*
- *Business date for batch process – These are the dates required for the business function of the batch processes of the NCSEAS application. We track each batch process by virtue of the last time the batch was executed. Such functionalities are required to identify only those records that are appropriate for process during a subsequent iteration of that batch execution. The business date stored in the database is compared against the last execution date of the batch, and only the records that satisfy the date condition would be processed. All the batch processes including this date are stored in the database as a parameter table.*
- *Batch operations effective date – Our entire batch solution will have a sophisticated feature of utilizing "Operations Effective Date" instead of the server date. This provides operations with the utmost flexibility of doing a controlled retro or future system updates. This date is utilized for jobs that must be run at a set frequency, on-demand or specific days of a week or month such as:*
    - *Daily*
    - *Weekly*
    - *Monthly*
    - *Quarterly*
    - *Annual*
    - *On-Demand*
    - *Specific Day of a week*
- *User defined system date – Our solution will have a clock module for controlling the date/time required for both business validation and database updates. This clock module overrides the actual server date and allows the system to consider the user-defined date as the current date for any online or batch processes. This utility once configured has the switch capability for the testers to either use server clock or the user defined application clock. The date to be set by the testers is determined based on the time-based functionality to be tested and the test scenario. The setting of the user defined date is done in the database by the administrator after review and approval by the appropriate personnel.*

Test Approach

Our solution uses the user defined system date for controlling the date/time required for testing the NCSEAS application including the batch and online processes. All functionality in our application will utilize this clock module as the application date & time. This utility once configured has the switch capability for the testers to either use server clock or the user defined application clock. This greatly increases the flexibility to advance

or fix the date clock to perform any date specific testing activities like federal test deck, financial distribution, financial charges on the order, order processing, enforcement activities, and any time specific testing.

The testers will have the ability to control the system date. The batch testing will be done by setting the batch process date and the batch operations effective date. The system compares this date against the user-defined date and enables the workers to test specific time-based functionality in the system.

Batch Cycle

The bulk of system updates in NCSEAS are performed using nightly batch processes. Our entire batch solution will have a sophisticated feature of utilizing "Operations Effective Date" instead of the server date. This provides the operations the utmost flexibility of doing retro or future system updates. This will equip the NCSEAS with the insight of the future activities like financial distribution, alerts to the worker, and bench warrants to be better planning of cost and resource allocation.

(3.16) Automated Referral Processing

REQUIREMENT: (#97) The system must implement an automated screening process to automatically evaluate referrals from agencies such as IV-A, Title XIX, and Child Welfare.

[redacted]

[redacted]

Figure 3.3-76. Components of IBM BPM

IBM BPM differentiates between the process runtime called process server and the process governance covered by process center. The process center includes a repository for all processes, services, and other assets created in the IBM Business Process Manager authoring environments. The process center includes two servers: the process center server and the performance data warehouse server. The process center

server allows developers that are working in Process Designer to run their process applications and store performance data for testing and playback during development efforts. Performance data warehouse retrieves tracked data from process server or process center server at regular intervals.

The picture below illustrates a typical perspective of Process Designer and some views:

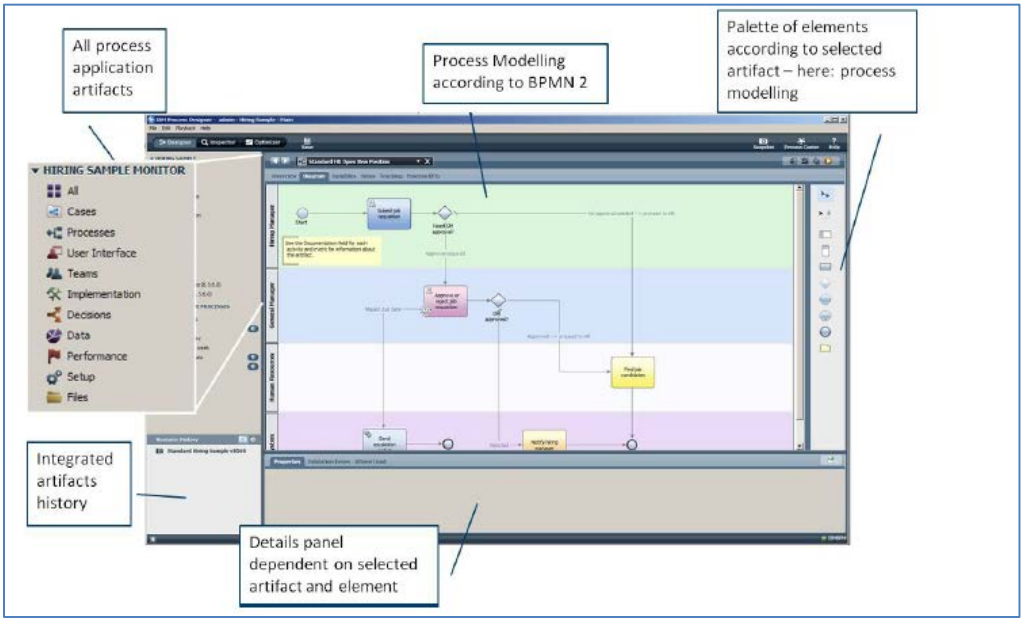

Figure 4.3-77. Process Designer

Process Designer also includes a WYSIWYG user interface designer for defining the task views based on the so called 'Coach Framework'. It's possible to define sophisticated user interfaces with multiple screens, screen flows, access to services, data validation, etc. The look and feel of the user interface is based on Cascading Style Sheets (CSS) and can be adjusted to the users' needs.

The following describes the life cycle of a workflow application and the required deliverables within IBM Business Process Manager:

Process Model

The process model represents the process flow and orchestrates the different kind of activities, gateways, events, etc. according to the BPMN 2 standard.

Data and Business Objects

Contain the data which is required by a process instance during execution. Typical business objects could be 'CP, 'NCP', 'Payment, 'Order', etc. These objects contain the data of the user interfaces and service calls and can be leveraged in the entire process model.

User Interface

The user interface contains the screens, data, screen flow, and input validation if required.

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Service Integration (incl. business Rules)

If a business process requires read/write access to external systems, needs to calculate something, relies on business rule based decision, etc., this is handled by the various service integration and implementation options which allow to call other systems, call a rule engine, send messages and so forth. All required services will be provided by the ESB (BPEL/Mediation) layer of IBM BPM.

Team Definitions

The team definitions represent the groups of people which tasks can be assigned to. The member of teams can be assigned based on an existing user and group registry or dynamically.

(3.17) Calendar Management

REQUIREMENT: (#98) The system must include a calendar-management component that allows for managing individual (e.g., worker) calendars as well as pool-type (e.g., genetic testing) calendars.

The CSEP scheduling requirements highlight several key themes, including:

- *Ability to schedule flexible, configurable, rules-based appointments for:*
  - *Judicial hearings*
  - *Prehearing case conferencing*
  - *Caseworker reviews*
  - *Genetic marker appointments*
- *Ability to exchange NCSEAS scheduling information with external scheduling systems including CSEP's e-mail system, the courts, and Genetic Marker Testing (GMT) vendors*
- *Implementation of automated and prioritized bulk scheduling of legal actions on specified dates for specific locations, based on the legal action types and configurable business rules*
- *Identification of resource capacity and bottlenecks at scheduling locations for specified resources or groups of resources*
- *Integrated scheduling with case processing workflows and the generation of document packets to multiple parties*

Protech's solution for the NCSEAS program addresses each of these functional requirements, providing CSEP with a comprehensive and effective scheduling system.

Common Scheduling Service based on SOA principles

We provide a common, standards-based appointment scheduling service that updates NCSEAS and, based on configurable parameters, calls a schedule synchronization service to update other scheduling systems including CSEP's Exchange/Outlook system, court systems, and GMT vendor systems. The configurable synchronization service provides synchronous or asynchronous update capabilities and uses customized message formats for each partner scheduling system as applicable.

Scheduling information is available to the caseworker based on integrated screens that display schedules and related data in various formats, such as calendar formats and workflow review formats. External parties can also view scheduling information through the service portals, the integrated voice response system (IVR), and other standard customer service channels.

Bulk Scheduling

In addition to providing sophisticated online scheduling and synchronization services, our proposed solution also features a bulk scheduling capability that integrates with the child support system to automatically schedule all cases that are eligible for legal action at various points in the workflow. Using this capability, our solution identifies the appropriate time and locations to schedule actions, based on the priority of the action, the availability of the location, and the type of action that is handled at that location. Once the scheduling is completed, the case workflow is updated with the scheduling information and document generation services are initiated automatically with the correct parameters and data so that notices and document packets are sent to the appropriate parties based on configurable business rules.

Scheduling with External Systems

Our solution provides online and batch scheduling of cases for court hearings for all related and relevant entities including courts, users, genetic testing vendors, and customers. Based on configurable business rules in the BPM layer, when a user schedules a case for a court hearing, he/she is presented with a scheduling calendar for the recommended location and time frames. These can be viewed for a year, a month, or a day. The user selects an appropriate time for the schedule, and in response, the system transmits the schedule to the scheduling system for acceptance. Based on a successful response, NCSEAS generates appropriate document packets to the interested parties and makes entries into the case workflow audit database.

In other implementations, we have worked with genetic testing vendors such as LabCorp to send and receive genetic testing and scheduling data based on configurable workflows. Data exchange between the genetic testing vendor and our solution is automated, requiring no user intervention.

Schedule Synchronization

Using the integration layer, the NCSEAS scheduling system interfaces with external exchange systems including the CSEP Exchange server. This bridge allows the NCSEAS scheduling system to update CSEP's email system with specific data, considering child support privacy requirements and displaying enough information to synchronize the two systems.

Protech will work with CSEP to integrate NCSEAS with Exchange in a manner specified by CSEP, using software preferred by CSEP. Java Exchange Interoperability (J- Integra) is one example of a software solution we have had success using for this type of requirement.

Web services Integration

NCSEAS can retrieve data on courtroom availability through an online web service provided by the court system, or by an asynchronous data feed into the system. Protech has successfully built systems that feature both approaches in Michigan and New Jersey.

Once the availability is determined, our solution assesses the types of hearings required, the priorities of hearings at regional and agency levels, and the availability of users, judges, and hearing officers. It then uses this data to automate scheduling child support hearings with the courts.

Upon completion of scheduling, our solution generates scheduling notices to the interested parties, considering data confidentiality requirements for case participants and the timing of schedules accordingly.

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Integration with ECM

Our system integrates with other components of the system, including but not limited to, business process management, document management, and the automated case record to schedule and generate all appropriate communication related to appointment scheduling.

For example, when the system determines that license suspension is applicable based on the case delinquency and other conditions, an automated license suspension workflow is started, which results in the generation of a notification of intent to the Non-Custodial Parent (NCP). When the NCP requests an appointment, the caseworker can schedule such an appointment directly from the workflow screen. When such a schedule is completed, notices are generated automatically to the NCP and other interested parties to appear for the conference or the hearing. A record of this schedule is maintained in the case diary and the automated case record. This event is also visible on other calendar views that display the timeframe when this event was scheduled.

The generation of scheduling and cancellation notices is implemented through the Enterprise Content Management (ECM) system, and notifications are sent to the parties through the mail or other preferred contact channels. If this event is canceled or rescheduled, cancellation and rescheduling notices are generated automatically, and a record of this is maintained in the case record. These notices can also be accessed directly online for historical purposes.

Integration with Contact Center

Our solution generates appointment notices, reminders, and cancellation notices through a comprehensive contact service that is integrated with the customer service contact channels based on configurable business rules. Throughout the life of a case, participants use any of the available communication channels to receive and send information to the child support system and then establish priorities for receiving information through mail, fax, phone, text, or website notifications. These priorities and agency priorities for communication channels are stored for each participant and are used by the contact service when any communication is to be sent to the case participant, from scheduling or other systems.

Security

Our solution uses comprehensive, role-based access to display and process data across the system with configurable rules, including access to data associated with other users. This security mechanism ensures that only authorized users can display other user's appointments, hearings, and schedules.

Support for Multiple Participants

When a schedule is created, our solution provides the ability to include multiple participants and entities based on their calendars and priorities. The system computes the availability of all participants automatically and suggests time slots for the appointment.

Reassignment Based on Load Management Algorithms

Our solution offers the ability to reassign appointments in bulk to alternate users or individually assign appointments. Users can manually reassign all appointments to a specified user or enable an auto-reallocate option. This option facilitates the allocation of the reassigned appointments to users as determined by a task/load management algorithm based on workloads. This includes methodologies such as alphabet split, which can be used for new appointments and a round-robin method that ensures staff are assigned appointments equitably.

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CSEP has specified the need for automation in picking appointment slots within constraints relating to time frames, existing schedules, and the availability of participants, locations, resources, and capacity. Inevitably, this leads to conflicts that need to be resolved. Our solution implements a conflict resolution priority system that distinguishes mandatory requirements relating to an appointment or appointment type from the non-mandatory elements. Requirements are prioritized to assist the conflict resolution with mandatory requirements being rated higher than the optional requirements.

For example, an appointment may involve a case worker, supervisor, and the CP with time frames specifying that the meeting be conducted by a specified date. If the schedule of the non-mandatory supervisor conflicts with the availability of the location within the specified timeframe, the conflict is resolved by picking a date-time even though the supervisor may not be available. However, users scheduling the appointment are provided a list of alternative dates annotated with the conflict to enable them to override the system's conflict resolution suggestion manually.

Schedule Monitoring

The scheduling component monitors usage of location, resources, and workloads concerning pre-determined capacities. The NCSEAS system enables users to specify limits for under-utilization, which is monitored and the user/user group is alerted if these limits are crossed.

Integrated Dashboard

The solution features an integrated dashboard that consolidates all the activities relating to appointments along with the ability to access case and participant information to assist the front office in identifying and assisting clients. The front office can also view all scheduled appointments, walk-ins, and those on waiting lists.

Reporting

The scheduling component enables a variety of reports to be generated by selecting filters. Reports on appointments can be generated for a location, case or docket, or user, based on appointment status, event, or proceeding type, and for a specified period. The reports can be exported to PDF or Microsoft Excel.

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(3.18) Alerts Management

REQUIREMENT: (#99) The system must include an alerts-management subsystem that allows for informational alerts, action alerts, alert forwarding, and filtering of alerts.

[redacted]

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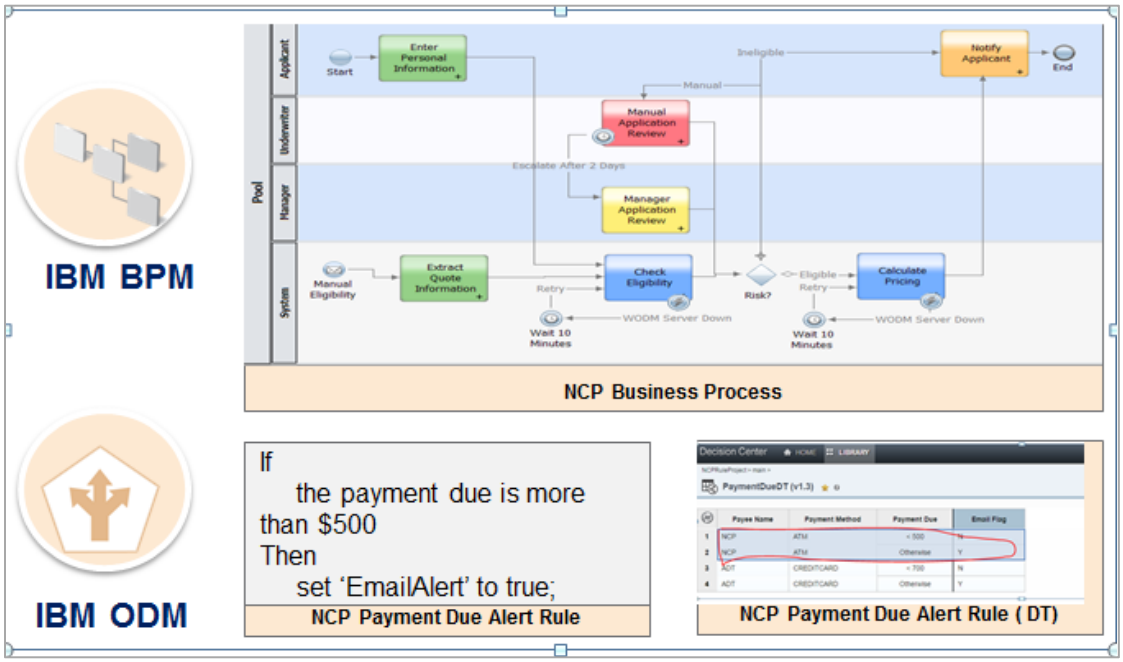


Figure 3.3-78. BPM & ODM Solution

Rules and Rule Flow

The diagrams below depict the rules defined as BAL and decision table in Rule Designer:

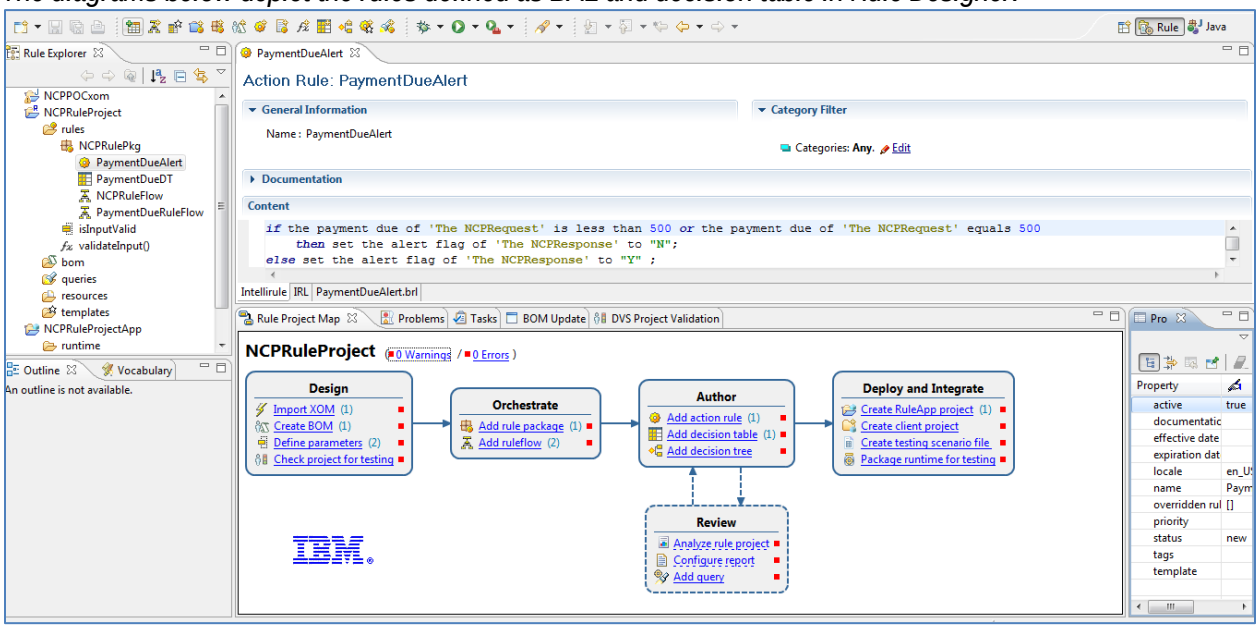


Figure 3.3-79. Rules Defined BAL

The best practice is to use the decision table where the implementation of homogeneous business rules is needed. The below diagram outlines the following business rules:

- *If the payment due is less than $500 and payment method is ATM, then EmailAlertNotification is "E"*
- *If the payment due is equal to $500 and payment method is ATM, then EmailAlertNotification is "N"*
- *If the payment due is more than $500 and payment method is ATM, then EmailAlertNotification is "Y"*
- *If the payment due is less than $500 and payment method is CREDITCARD, then EmailAlertNotification is "E"*
- *If the payment due is equal to $500 and payment method is CREDITCARD, then EmailAlertNotification is "N"*
- *If the payment due is more than $500 and payment method is CREDITCARD, then EmailAlertNotification is "Y"*

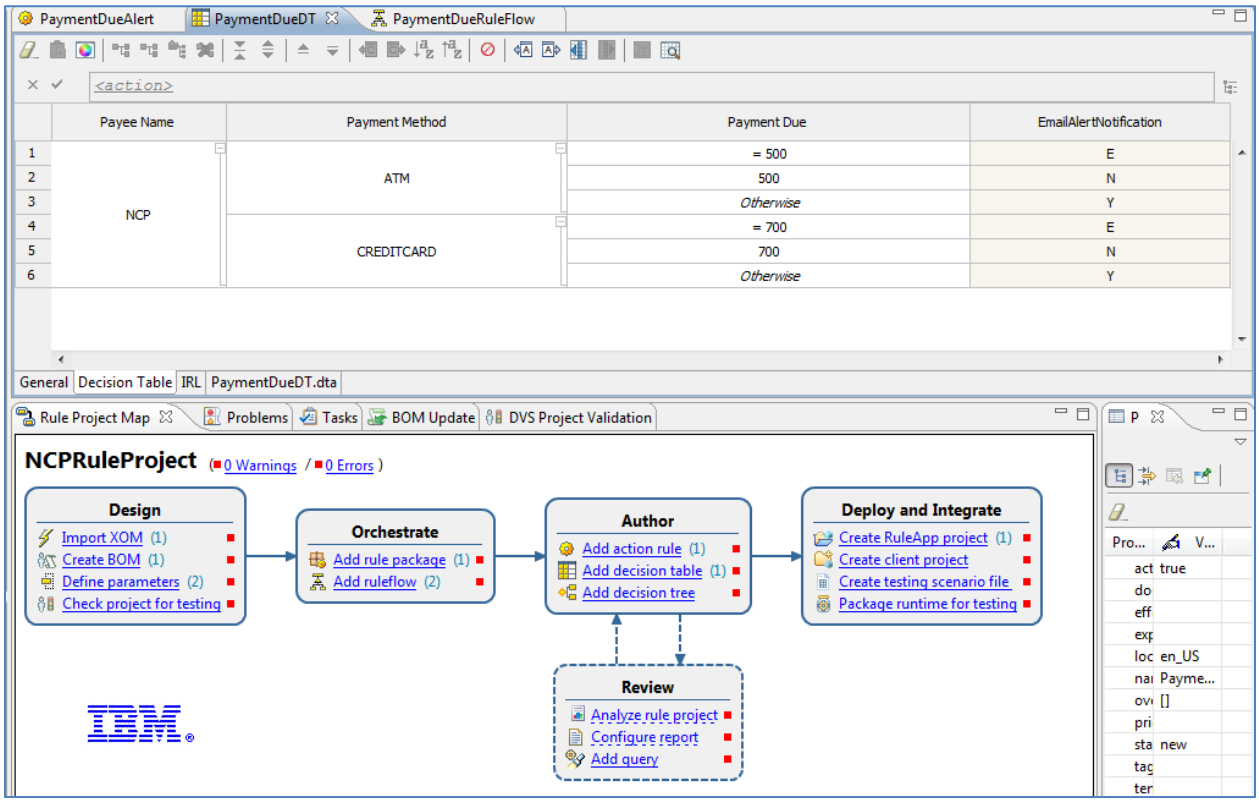


Figure 3.3-80. Rules Defined as Decision Table

The business rule service can be composed of one or many rules, and the rule flow orchestrates the rule sequences and runtime executions. Here the rule flow contains only one rule, "PaymentDueAlert."

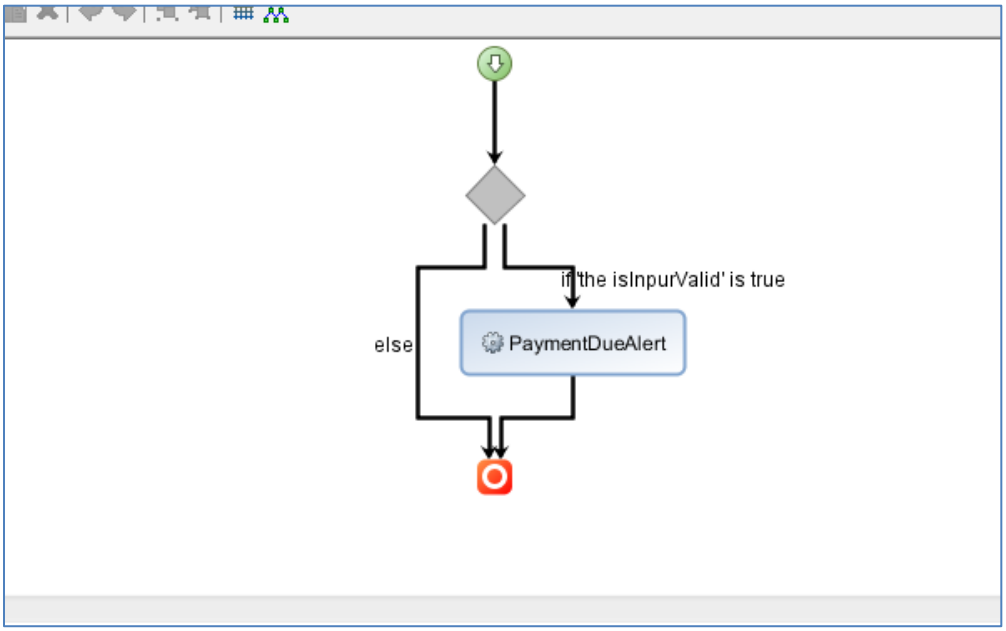
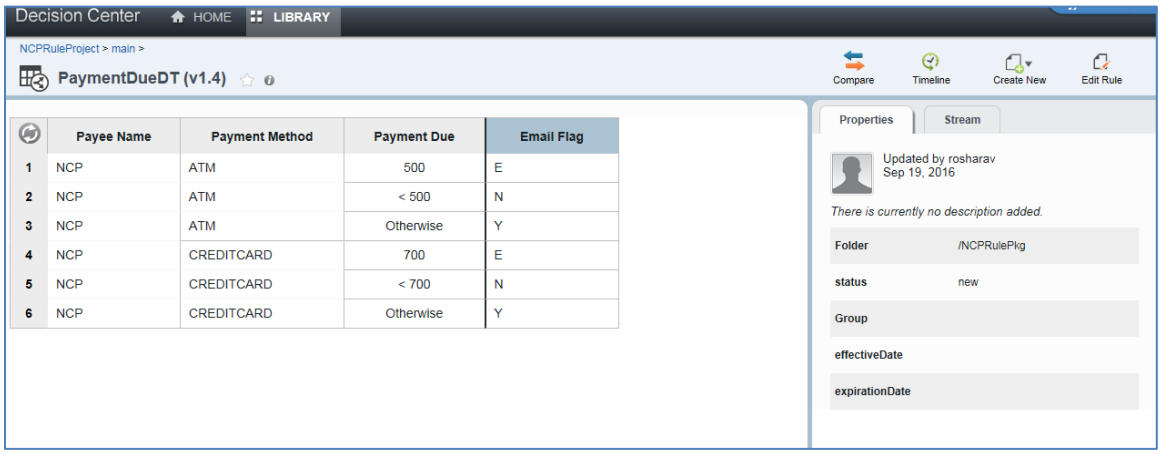


Figure 3.3-81. Rule flow

The business users can change the rule using the business console by clicking the edit button.



	Payee Name	Payment Method	Payment Due	Email Flag
1	NCP	ATM	500	E
2	NCP	ATM	< 500	N
3	NCP	ATM	Otherwise	Y
4	NCP	CREDITCARD	700	E
5	NCP	CREDITCARD	< 700	N
6	NCP	CREDITCARD	Otherwise	Y

Figure 3.3-82. Business Console

Our alert management subsystem provides the following additional functions:

- *Priority-based graphical views of alerts by functionality, due date, user-assigned priority, and supervisor-assigned priority.*
- *Calendar views of alerts which compare the tasks on hand to other caseworker tasks.*
- *Drill-down access to knowledge management forums, including case notes, directly from alerts to inform a caseworker as to how such alerts are handled by other caseworkers.*
- *Ability to create user-defined folders to group alerts and handle them at a later date or send them to other users.*

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- *Ability to create annotations on alerts and discuss them with other caseworkers through a forum interface, as well as enable quick-search and advanced search features for notes and alerts using text-based search criteria.*
- *A personal scheduler to modify review times of specific alerts and for the creation of self-defined alerts for time management.*
- *Various aging reports for personal alert management.*
- *An online audit trail of alert resolution.*
- *Online caseload balancing among different teams and caseworkers.*

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(3.19) Customer Service

REQUIREMENT: (#100) The system must support Interactive Voice Response (IVR) interactions.

In our solution for NCSEAS, we will provide data extraction feature to the existing IVR system using web service calls. We assume that there is a separate IVR system available which can be integrated into our new system using web service calls. In our solution, we will integrate NCSEAS with the agent-facing productivity tools to handle the business-facing or transactional aspects of a customer interaction.

Our solution provides a web services layer (SOAP/XML) for enabling the system to system integration between call center applications (like Genesys, Cisco, Aspect, SAP BCM, etc.). We purchase certified ICI adapter through your telephone vendors. To make this integration work out of the box, there is some configuration required both on the call center application/adapter side as well as on NCSEAS.

We provide a server to server integration framework called as 'Integrated Communication Interface' (ICI). There will be a tight coupling between the NCSEAS and the CTI adapter. In all cases, the integration is activated once a call center agent logs on to NCSEAS. When the call center agent logs on, they also log on to the contact center application/CTI adapter through the ICI interface web service call. This web service call tells the contact center/CTI adapter that a particular user with a certain work center ID is logged on to NCSEAS. It also provides the CTI adapter with a call back URL that ties back to the NCSEAS user session for back and forth communication between the CTI adapter and NCSEAS. Once this connection session is established, data between NCSEAS and the CTI adapter is exchanged using 'Call Attached Data' (CAD) which is an encoded XML payload. It is through CAD that the NCSEAS system can send the CTI adapter, the customer service agent's work center details, and the CTI adapter can send the customer information (including customer account number, the reason for the call, etc.).

The Protech Team has vast experience implementing batch programs to exchange data to and from external systems. The file exchange process is handled securely with the use of Secure FTP for file transfers. Interfaces for IVR data transfers are also provided.

Protech will work with DWSS during the initiation phase and recommend appropriate data exchange mechanisms with IVR systems.

REQUIREMENT: (#101) The system must offer a customer service web-based portal to support retrieving basic case information, supplying informational updates, making payments, and other forms of customer interaction.

Protech will provide a web customer service portal using Spring's web framework, providing information to the following process groups of NCSEAS:

For parents or guardians, provide an option for the noncustodial parent to make payments using payment gateway service.

Key functionalities

- *Portal will be available for the public and parents/guardians to access the website*
- *Parents/guardians can navigate the website to find necessary information*
- *Providing general information that is available*
- *Option for accepting payments*
- *Capture the contact information of the visitor for response*

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For the employer, provide numbers to call and provide links for the employer to make payments or visit the employer web service site.

Key functionalities

- *Portal will be available to the employer to access information*
- *Employer can navigate the website to find necessary information (including numbers to call)*
- *Portal provides general information that is available (including links to other websites as appropriate).*

For child support professional, provide information to other child support professionals within Nevada.

Key functionalities

- *Available to find necessary information*
- *Portal provides general information that is available*
- *Allow workers to get reports from the secure portal*

For other child support professionals that are not in Nevada.

Key functionalities

- *Available to find necessary information*
- *Portal provides general information that is available*
- *Allow workers to get reports from the secure portal*

REQUIREMENT: (#102) Document generation must support multiple languages.

The proposed solution leverages the current DWSS implementation of Thunderhead, which can generate a form or item of correspondence in any language. If the language is specified in the electronic case file, then the generation of correspondence in a selected language can be automatically triggered via the "Primary Language" data variable that is set in NCSEAS, or it can be selected manually by the business user. Additionally, the solution fully supports the use of special characters, which enable the creation of correspondence in Spanish along with a variety of other languages.

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(4) Attachment M – Project Requirements

(4.1) Project Methodology

(4.1.1) Waterfall SDLC

REQUIREMENT: (#1) Nevada DWSS follows a Project Management Body of Knowledge (PMBOK)-based waterfall-oriented System Development Life Cycle (SDLC), and requires bidders to do the same.

Our Project Management Framework and Methodology

Protech recognizes that a consistent approach to project management, with repeatable processes, is key to ensuring the successful implementation of the NCSEAS system. The Protech Project Management Methodology (Protech-PM) is our proven and tested methodology for managing projects such as NCSEAS. Using Protech-PM we have successfully managed Child Support Enforcement System engagements for Arkansas, Michigan, Massachusetts, New Jersey, Delaware and other initiatives.

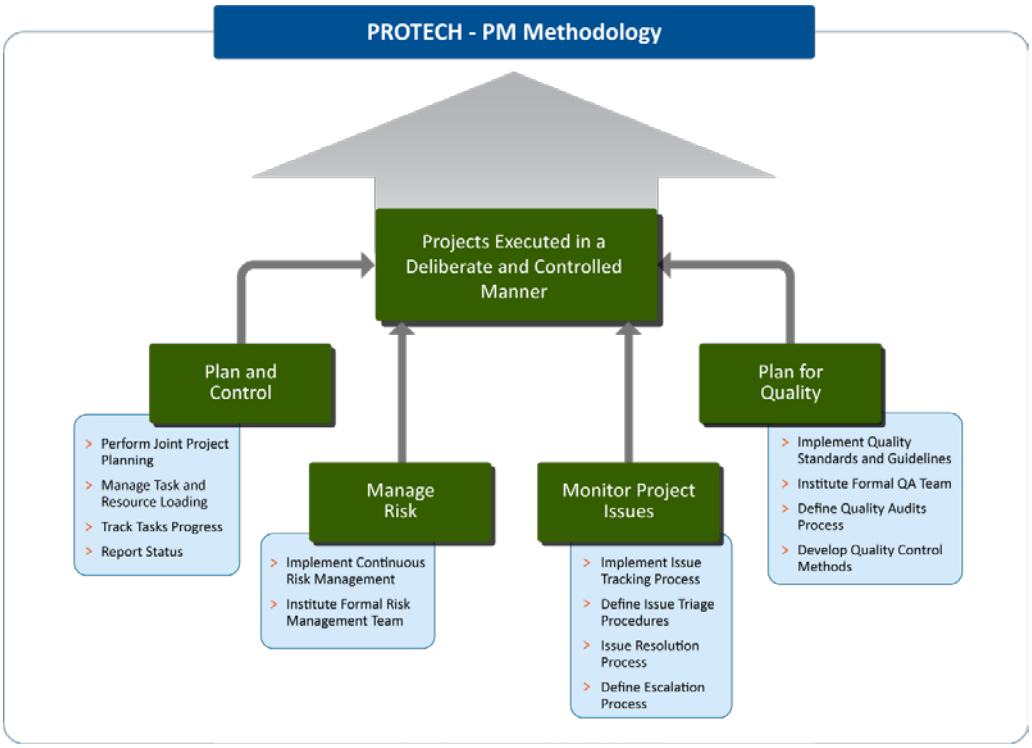

Figure 3.3-83 Protech-PM Framework and Methodology

Protech has adapted the Project Management Institute's (PMI) framework as the foundation for the Project Management Methodology and identifies this methodology as Protech-PM. Protech-PM is a robust methodology that utilizes proven techniques adapted from the Project Management Institute as well as our own best practices developed through years of experience providing system integration and technical services to our clients. Protech-PM addresses full lifecycle methodologies from project initiation through system implementation to end-users. In the sub-sections of this area, we demonstrate how our project management methodology aligns with the needs of the state and brings about the best processes, artifacts and results within the context of the overall Project Management Framework. Additionally, our methodology provides the flexibility to be modified as needed to address the various phase cross over tasks and dependencies.

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- *Project Management Framework: Our project management framework at the highest level will address the following components and when implemented will contribute to the success of the NCSEAS project.*
- *Project Planning: The key project management processes that need to be integrated into the Project Plan for system development and deployment and the plan for training.*
- *The Project Life Cycle: The five phases and key activities in the project life cycle.*
    - *Project Initiation*
    - *Project Plan*
    - *Execution*
    - *Control*
    - *Closing*
- *Project Stakeholders: The individuals and organizations that are actively involved in the project, or whose interest may be positively or negatively affected based on the outcome of the project.*
- *Project Management: The principal methods to manage the project and how the project plan will be executed for the NCSEAS project.*
- *Interface Definition: The approach to defining interfaces to the NCSEAS project.*
- *Data Conversion: The approach for manual and automated data conversion.*
- *Training Preparation: The approach to planning the training program, developing training materials, and the execution of training.*
- *User Documentation: The approach for developing the technical and user documentation for the NCSEAS project.*
- *Operations Planning: The approach for developing operation procedures for the NCSEAS system.*

Project Planning

The Protech-PM is a flexible methodology and adaptable to the needs of the DWSS. Project planning for the NCSEAS project addresses the types of planning that will have to be accomplished for the project; planning for NCSEAS will involve the nine project management processes corresponding to the PMI framework. In addition, we will address processes for configuration management and deliverables management as set forth in the NCSEAS requirements. Project planning is also where the training plan begins to take shape and will be addressed in more detail as we discuss the Protech Project Management methodology and the detailed training requirements.

Project Plan

The project plan will describe what processes and activities will be put in place to facilitate effective project management throughout the life of the NCSEAS project. Specifically, the project plan for the NCSEAS project will address eleven project management processes and activities including scope, time, human resource, quality assurance, cost, communication, risk, configuration, deliverables, project integration, and contractor management. The project plan will address how Protech will capitalize on its experiences and best practices in developing plans for quality, configuration, risk, deliverables, conversion, testing, training, and issues management.

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Figure 4.5-2 below illustrates the project management processes and activities, in the context of the Project Plan that will be put in place to facilitate effective project management throughout the life of the NCSEAS project.

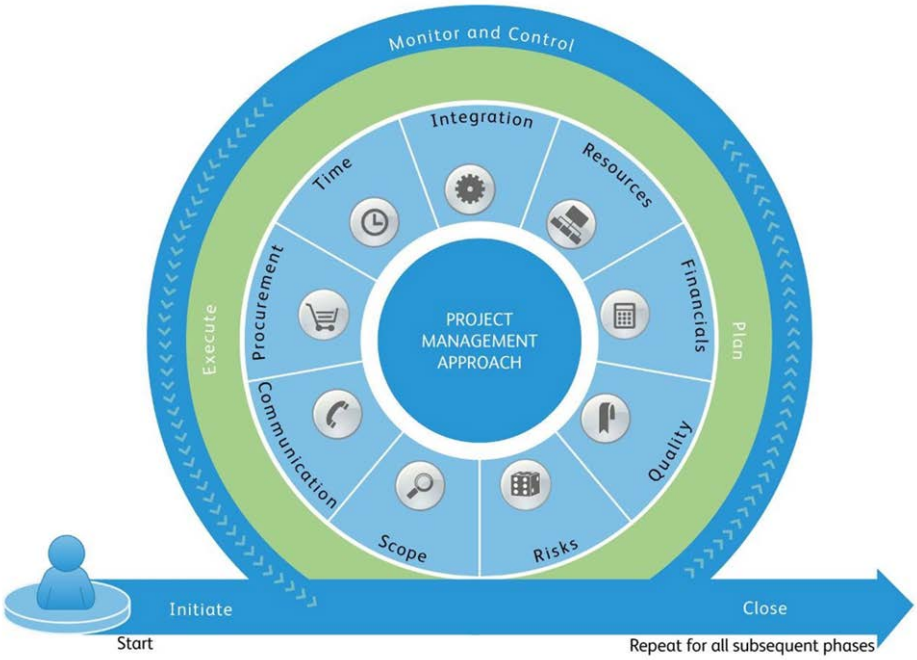

Figure 3.3-84 Illustration of the Project Management Processes

Scope Management

During the initiation and planning phases of the project, the NCSEAS project management team will work on the development of a written statement defining the parameters of the project and the processes required to ensure that the project includes all the work required for successful completion. By developing a written scope statement, the NCSEAS project management team will establish the basis for future project decisions and form the basis for an agreement between the Protech project team and the State. During scope definition, the NCSEAS project team will also identify the project objectives and project justification, and will validate the product description and the complete list of project deliverables. There are four components to scope management, namely scope planning, scope definition, scope verification, and scope change control. Protech will apply all four components to develop and document a complete work breakdown structure thus providing a solid foundation for the project.

- *Scope Planning - During scope planning, Protech will work with the DWSS staff to develop a written scope document that will serve as the basis for future project decisions.*
- *Scope Definition - On the NCSEAS project, this process will be used to sub-divide the major project deliverables into smaller and more manageable components.*
- *Scope Verification - The process that will be used to formalize acceptance of the project scope by stakeholders. It requires reviewing of work products and results to ensure that all were completed correctly and satisfactorily. If the project is terminated, scope verification will establish and document the level and extent of completion.*

- *Scope Change Control - This process is critical to the successful delivery of the NCSEAS project. NCSEAS project managers will use an integrated change management process to manage and track changes when they occur.*

Time Management

Project time management includes the processes required to ensure timely completion of the NCSEAS project tasks and deliverables. The processes include:

- *Activity Definition - Activity definition involves identification and documentation of the specific activities (at the lowest level) that must be performed to produce the deliverables and sub-deliverables identified. These activities are sequenced and linked, if necessary, in a Work Breakdown Structure (WBS).*
- *Duration Estimating - Activity duration estimating will involve assessing the number of work periods (e.g., hours, days, weeks) likely to be needed to complete each identified activity for the NCSEAS project.*
- *Schedule Development - After the activities have been defined and sequenced and their duration estimated, a schedule will be formalized. This will involve determining start and finish dates for project activities. Protech is well versed in the use of MS Project and will utilize this tool for the NCSEAS project.*
- *Schedule Control - Schedule control involves the factors that create schedule changes to ensure that changes are beneficial. It involves determining that the schedule has changed and managing the actual changes when they occur. It also includes identifying the resources, constraints and assumptions that can impact scheduling.*

Human Resource Management

Human resource management includes those processes that the NCSEAS project management team will use to make the most effective use of the staff assigned to the project. The key elements of resource management are organizational planning, staff acquisition, and team performance.

- *Organizational Planning – Organizational planning will involve defining, documenting and assigning project roles and responsibilities and establishing reporting relationships. For the NCSEAS project as well as many other projects, the majority of the organizational planning is done early in the project and is reviewed periodically throughout the life of the project to ensure continued applicability.*
- *Staff Acquisition – Protech will staff the NCSEAS project with the best resources based on the requirements of the project. Staffing plans formalized in the planning phase of the project will define what skills are required from various individuals, teams and the time frames when those skills are required.*
- *Team Performance – Protech recognizes that the success of the NCSEAS project team in meeting project goals can be achieved only if the team is qualified to perform the activities of the project. Protech will conduct frequent performance evaluation of its staff to ensure that staff will continue to meet the requirements of the NCSEAS project. Protech will work with the NCSEAS project manager to perform continuous evaluation of all project staff assigned to ensure project can be successfully implemented.*

Quality Assurance

For the NCSEAS project, quality management will involve the processes required to ensure that the NCSEAS project will meet or exceed the requirements and expectations of the project stakeholders and the end-user community. During the planning phase, the NCSEAS project team will agree on quality and performance metrics that will be used as a measure for continuous project success. The major processes by which quality is achieved are through quality planning, quality assurance, and quality control.

- *Quality Planning – The initial step will be the development of a quality assurance plan during the planning phase of the project. By developing this plan early in the project, project quality standards and project guidelines for each phase and deliverable of the project are identified up front.*
- *Quality Assurance – Protech will conduct quality assessments on a regular basis to evaluate the overall performance of the project and to ensure that the project is satisfying pre-defined quality standards.*
- *Quality Control – For the NCSEAS project, Protech will continuously monitor specific project results and identify ways to reduce and/or eliminate unsatisfactory results. Quality checkpoints will be incorporated into the quality assurance plan; we will conduct product walk-through, inspections, and reviews against the standards documented for each deliverable. It will be the responsibility of the PMO team to educate the project team on the quality assurance plan and other relevant project guidelines.*

Cost Management

Project cost management is a process that ensures the project is completed within the approved funding. There are four key attributes to cost management that the NCSEAS project management team will plan for - resource planning, cost estimating, cost budgeting and finally, cost control. These processes are discussed below:

- *Resource Planning – This process is used to determine the resources (people, equipment, materials) required to perform project activities. This can be accomplished by analyzing the WBS to identify project elements that will require resources; reviewing historical information for the types of resources that were required for a similar project; analyzing the scope statement containing the project justification and objectives; and analyzing the resource pool for people, equipment, and materials that are relevant and potentially available to the project.*
- *Cost Estimating – The NCSEAS project managers will develop an approximation or estimate (quantitative assessment of the likely costs) of the resources needed to complete the project. The estimates will be supported by documentation describing the basis of the estimate, documentation of any assumptions made, and documentation indicating a range of cost for the work item.*
- *Cost Budgeting – During cost budgeting, the NCSEAS project managers will allocate the overall cost estimate to individual work items to establish a cost baseline for measuring project performance. The sources of cost budgeting include the cost estimates, the WBS and the project schedule, which contains the planned start and expected end dates for the project elements to which costs will be allocated. This information is needed to assign costs to the time period when the cost will be incurred.*
- *Cost Control - Cost control is the mechanism the NCSEAS project managers will use to control factors that may change the cost baseline. Cost control for the project includes the following:*

- *Monitoring cost performance to detect variances from the plan,*
- *Ensuring that all appropriate changes are recorded accurately in the cost baseline,*
- *Preventing incorrect, inappropriate or unauthorized changes from being included in the cost baseline and,*
- *Informing and/or obtaining mutual consensus from stakeholders on authorized changes and revising the cost baseline (estimates).*

Communications Management

Communications management involves methods for communicating and receiving information about the project to and from the user community, the stakeholder groups, and the project team. The methods of dissemination can vary widely. The key to communications management is the implementation of the communication plan that will be developed during the early phase of the project. The attributes of a solid communication plan will include the identification of an easy to use, enterprise-wide tool, identification of a forum for members of the project team to communicate, such as bi-weekly status meetings, status reporting, executive steering committee meetings, meeting minutes, change order review meetings, and other status meetings.

Risk Management

The NCSEAS project managers will also address project risk management as one of the key activities in the planning process. Risk management is the process of identifying, analyzing and responding to project risks that could result in cost and schedule overruns and/or project failure. Risk management will begin with the development of a risk management plan during the planning phase of the project. The plan, at a minimum, will address the assessment of the environmental, operational and technical risks prior to the establishment of the NCSEAS project.

Configuration Management

At Protech, we understand configuration management to be the discipline of identifying the configuration of a system at discrete points in time, for systematically controlling changes to this configuration and maintaining the integrity and trace ability throughout the life cycle of the software system. Our planning for configuration management will start with the development of a configuration management plan during the planning stage of the project. From our years of experience with system integration efforts, we understand that configuration management is absolutely important to manage and control software and hardware changes as well as to manage and control project deliverables. Protech will make certain that these aspects of configuration management are incorporated into the plan.

Deliverables Management

A project of this scope and size will generate a considerable amount of documentation. The project management team, which will be established for this project, will control the generation and revision of these documents. The project plan that will be developed during the planning phase of the NCSEAS project will include a detailed deliverable submission and approval process. The formal process that will be put in place for the NCSEAS project will require the originator of the document to log the document using a formal deliverable tracking process that will be defined during project planning. Documents will be assigned a unique control number and recipients will be required to acknowledge receipt of documents. For formal deliverables review and sign-off, Protech will work with the DWSS team to develop and agree to a deliverable submission and approval process document. The deliverable submission and approval process will outline the content and layout for each deliverable under the contract. Protech will seek agreement for each

deliverable layout and content before work commences on that deliverable. The review date along with the duration for each deliverable will be documented. While there will be informal reviews of interim deliverables, all deliverable will go through a formal approval process; sign-off will be required by the appropriate DWSS personnel when a deliverable is deemed acceptable by the state.

Integration Management

For the NCSEAS project, integration management will deal with the coordination and integration of the various elements of the NCSEAS project. The NCSEAS project management team will prioritize among competing project objectives and alternatives to meet the NCSEAS project goals and stakeholder expectations. The Protech project management team will work with the NCSEAS project management team to confirm and validate that all project activities are synchronized and geared toward the success of the NCSEAS project.

Contractor Management

It is the prime vendor's responsibility to ensure that the teaming partners and subcontractors are held to the same quality assurance standards as the prime contractor. Protech, the prime contractor for this engagement, will have ultimate and final responsibility for all deliverables, all terms and conditions of the contract, and all aspects of the vendor/client relationships and communication with DWSS. Protech will be responsible for managing the subcontractor relationships and will fully oversee their participation on the project. All subcontractors will report to Protech project management and will be responsible for tasks and deliverables specified by the Protech project management team and PMO.

Training Plan

Protech will deliver the NCSEAS Training Plan, and all necessary training courses as outlined in the RFP. These courses will be supplemented with appropriate reference and training documentation as well as online accessibility. Facilitating on-the-job success by testing, evaluation and other support material will be incorporated into the plan.

With input from DWSS, Protech will tailor a training plan specifically to the DWSS's objectives and end-users and the overall project work plan. Training recommendations and scope of services will be agreed upon before training is finalized and scheduled. The training plan will detail the expectations and scope of delivered training as well as effectiveness measures and revision procedures.

The training plan will cover all tasks related to training design, development, and delivery including, but not limited to:

- *Identification of the training needs*
- *Inclusion of different teaching styles insuring students have exposure to visual and auditory learning opportunities*
- *Determination of the training delivery methods/media (both the training material prototypes and identification of needed support equipment such as overhead projector, video equipment, computer terminals, training region, etc.)*
- *Establishment of a detailed training curriculum, course structure and format, required prerequisites, and accompanying reference documentation*
- *Proposal of support tools and job aids to facilitate student's application of new skills*
- *Development of student testing mechanisms*

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- *Identification of evaluation criteria and opportunities to measure the effectiveness of the training*
- *The training plan will address logistical issues including, but not limited to:*
- *Definition of the training audience including student locations and availability*
- *Preliminary schedule for all training offerings*
- *Suggestions for class promotion and schedule communication to DWSS staff*
- *Student registration instructions*
- *Procedures for securing facilities and resources*

Project Life Cycle

The project life cycle consists of five distinct phases - project initiation, planning, execution, controlling, and closing. Each phase of the project life cycle will have key deliverables and tasks that define it (figure 4.5-3). The following section illustrates the various phases of the project life cycle, a repeatable process that we have applied, executed and managed across our projects.

Figure 3.3-85. Project Life Cycle and Key Activities

Project Initiation Phase

This phase is the conceptual phase of project management for the NCSEAS project. During the initiation phase we will specify what the project should accomplish as well as gain executive level support. During this phase, control processes are established; the scope and work breakdown structure are identified; the resource, schedule, and cost baselines are drafted; and methodologies are identified. The Protech project manager is identified and the project team and a project organizational chart are defined for the NCSEAS project.

Project Plan Phase

The purpose of this phase is to document the project plan and sub-plans such as quality assurance, risk management, training, and configuration management. The project plan will outline the overall project methodology and the scope of work and effort that will be required to complete the NCSEAS project. Another typical key activity during this phase is the development of a statement of work and the roles and

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responsibilities of those involved in delivering the solution. For the NCSEAS project, we will work together with the DWSS planning team to refine the statement of work.

During this phase, the system change request tracking begins. On other Protech Child Support Projects, the Protech System Change Request Database or similar tool is used to track changes. This Protech System Change Request Database, with modifications tailoring it to NCSEAS, can be used for tracking changes. The project schedule will be updated using Microsoft Project. This schedule will assist in projecting timeframes and determining critical path and resource commitments.

Execution Phase

This is the phase where the tasks specified in the project plan are executed. During this phase, the project effort will focus on participating in, observing and analyzing work being done. The majority of project effort is expended during this phase of the project. There is significant overlap in the work performed during the execution and control phases of the project. The key deliverables produced in the execution phase represent the final version, or release, of the software.

Control Phase

Project control mechanisms are utilized to measure and report on the progress of the NCSEAS project. Key metrics are collected and analyzed proactively to mitigate project risks and to avoid quality and schedule issues. The key to the controlling process is to compare actual project delivery metrics with the planned delivery metrics and take corrective actions to ensure that the two components converge. The project management team is actively involved in issue management and resolution, scope and risk management, budget monitoring, schedule tracking, and status reporting.

Closing Phase

The closeout phase involves the administrative and financial efforts needed to close out the project after NCSEAS has been completed. A closeout checklist is filled out to ensure that all work has been performed to the expectations of the DWSS project sponsor. Project reviews are performed with the project team and DWSS project sponsors to document "lessons learned". Actual effort spent will be compared to projected effort and delivery date projections, to ensure that our planning process maintains accuracy. Routinely project post-mortems are completed to determine best practices and to identify possible pitfalls for future projects. Process improvement results, the output of this evaluation, help ensure success in future endeavors.

Project Stakeholders

Stakeholders are an integral part of any project and the stakeholders in the NCSEAS project encompass a wide array of individuals and organizations. The NCSEAS system will support enhanced data sharing capability to perform data validation on data from NOMADS as well as many other external sources. In addition, the architecture of the NCSEAS system allows various ways to share information with other State and Federal agencies. The Protech-PM model defines stakeholder groups as federal, state and advocacy groups, Office of Child Support Enforcement, customer group (county users, tests groups, design teams and training group), and the delivery group. These groups have a direct influence on the project by promoting change using various mechanisms.

Like any large-scale information systems project, the NCSEAS project will be subjected to organizational influences that will impact the management of the NCSEAS project. State and federal agencies impact the project through legislative and political mandates that will result in changes to the NCSEAS system. Protech will work with DWSS to minimize the impact of those changes to the NCSEAS system.

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The customers impact the system by way of changing user requirements, whether in the execution phase or construction stages or during acceptance testing of the system. The delivery group is committed to translating the program vision and direction of the stakeholder group into tangible deliverables that are implemented into the NCSEAS system. It is the project management team's responsibility to report on the progress and status of the project to stakeholders. The project management team will be required to provide strong leadership and provide timely feedback to the stakeholders on the progress of work on the project. It will develop the project plan based on the project direction and statements of work.

Project Management

Selecting a vendor who offers a world-class management approach for the development of NCSEAS is critical for the overall success of the NCSEAS project. Protech will use its proven project management methods, tools, and best practices which have been incorporated into Protech-PM to minimize the risk of the NCSEAS project. Protech-PM is the culmination of Protech's experience in best practices for planning, managing and delivering software solutions. The fundamental components of Protech Project Management Methodology are designed to provide:

- *A project management team comprised of highly qualified personnel, each with a special expertise;*
- *A smooth and uneventful project startup and kick-off that will pave the way for the future success of the project;*
- *Methods for project status and progress reporting to facilitate communications between DWSS and Protech on important project issues;*
- *Processes to maintain regular communication channels with DWSS project staff;*
- *Processes to maintain project risks and provide risk mitigating strategies and Monitor risks;*
- *A quality assurance plan to control the quality of deliverables and work products throughout the project life cycle;*
- *A configuration management process to ensure management and control of changes to the project;*
- *Processes and procedures for issue management and tracking and issue resolution;*
- *Processes for managing change requests and change control;*
- *A software life cycle methodology that utilizes an onsite/offsite software development process;*
- *A software release management process that will minimize the risk of the NCSEAS implementation; and*
- *A process to manage payment to subcontractors in a timely manner.*

Using this comprehensive, proven approach we ensure the success of NCSEAS. Our experience in human services and child support systems coupled with experience in implementing large-scale integration projects makes Protech the team that can successfully work with DWSS to bring this very important project to a successful completion.

Project Management Staffing

The NCSEAS project represents a large, complex undertaking. A project of this nature must be staffed with skilled individuals whose roles and responsibilities are clearly defined, communicated, and understood. The staffing process begins with establishing the objectives of the project team. Next, we apply the prior

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experience of our team in delivering projects of similar size and complexity. Experience and knowledge drives the organizational structure and roles and responsibilities, allowing for the successful development and implementation of the NCSEAS system. This section provides an explanation of how the NCSEAS project will be structured. It reflects the roles that we feel are critical to the success of the NCSEAS project.

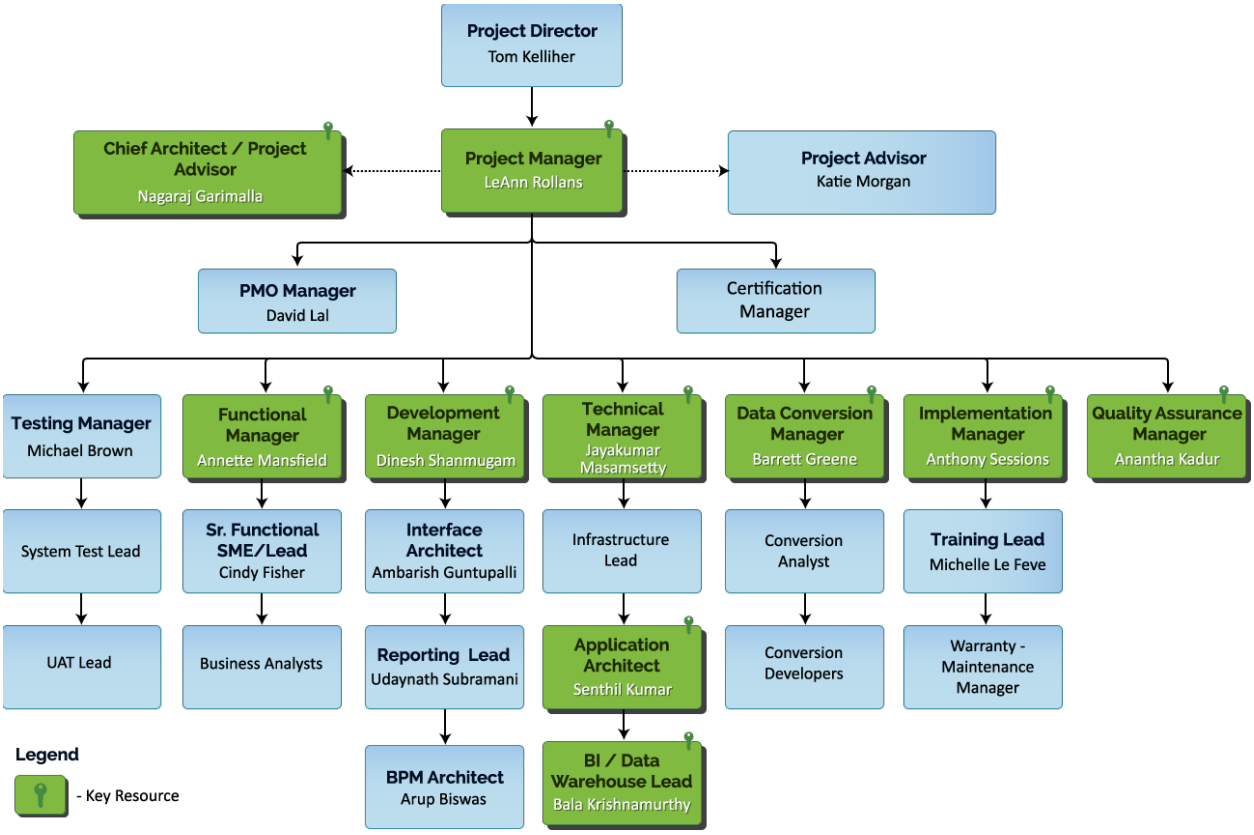

Figure 3.3-86. NCSEAS Project Organization Chart

The following is a description of the responsibilities of each key staff member.

Project Manager – LeAnn Rollans

LeAnn Rollans will manage the NCSEAS project on a day-to-day basis. LeAnn is highly qualified in project execution and customer management, having provided these services in several projects for Protech Solutions Inc.

Project responsibilities include:

- *Responsible for all technical, schedule, and cost aspects of the project*
- *Develop and maintain the project plan, work plan, and schedule*
- *Responsible for management of the Protech and Subcontractor staff*
- *Revise/communicate project management document*
- *Requirements and design issues*

- *Clarify roles and responsibilities and direct the activities of the team.*
- *Quality control of all tasks and deliverables Ensure timely delivery of all project phases*
- *Corrective actions identified by Protech or DWSS*
- *Responsible for all project deliverables, specifically all project planning and reporting deliverables, implementation plans, and exit reports*
- *Formal reviews*
- *Ensure staffing, facilities, and tools*
- *All other aspects of project performance*
- *Establish project teams, management, and executive committees*
- *General project management activities*
- *Conduct project kick-off meeting*
- *Preparation and submission of project status reports*
- *Document analysis, design, and implementation tools*
- *Identify and resolve project issues*
- *Develop/modify/verify project standards and guidelines*
- *Manage change control*
- *Verify deliverable templates*
- *Monitor work and deliverable quality Internal reviews*

Chief Architect / Project Advisor – Nagaraj Garimalla

Nagaraj Garimalla will serve as the project's chief architect. Nagaraj Garimalla has over 20 years of professional experience in the strategic application of information technology to creative and practical solutions for businesses and governmental entities. He has in depth project management experience in developing and establishing comprehensive program and system solutions in complex organizational and operational environments. Project experience spans the full life cycle of system development and implementation—from strategic planning and concept development through program and system design, development, and testing to full rollout and establishment in the operational environment. This experience in the public sector concentrated on the development of Child Support Enforcement Systems in the State of Arkansas, Maine, Michigan, Massachusetts, Delaware, New Hampshire and New Jersey.

Project responsibilities include:

- *Serves as executive liaison with State executives*
- *Manages and validates the overall technical viability of the NCSEAS application and system environment*
- *Applies his broad understanding of advanced technology to implement the defined requirements of the NCSEAS Project*
- *Provides overall direction on technical architecture, data governance, including the application and its external interfaces*
- *Works closely with the Technical Manager and members of the development team*

- *Chairs the technical board*
- *Technical design of all systems architecture areas*
- *Final approval of Database Design*
- *Executive oversight of infrastructure implementation*

Technical Manager – Jayakumar Masamsetty

Jayakumar Masamsetty will be the Technical Lead for the NCSEAS implementation. Jayakumar has been the technical manager for many of our child support solutions and his expertise in defining the technical solution, road map, identifying key constraints and bottlenecks will be a definite asset to the program.

Project responsibilities include:

- *Management of the technical feasibility and design*
- *Transitions from design to construction, ensuring system design consistency between project phases*
- *HW/SW Planning, procurement and installation*
- *Coordinate tasks with DHSS and CSEP for technical planning*
- *Monitors the overall quality of the technical environment*
- *Create appropriate documentation and strict adherence to system development standards*
- *Communicating with users to resolve issues*
- *Manages and documents technical meetings*
- *Review technical requirements ,dependencies, capacity planning, utilization*
- *Validate current data management processes*
- *Investigate technical specifications for interfaces*
- *Prototype application*
- *Development standards verification*
- *Support for system, integration and acceptance testing*
- *Create, assemble and submit deliverables*

Development Manager – Dinesh Shanmugam

Dinesh Shanmugam will lead the development efforts for the NCSEAS implementation. He has been the development project manager for many of our child support solutions and his expertise in project management methodologies, design/development of complex enterprise systems, effective problem solving skills, child support enforcement policies and regulations will be adding significant value to the team.
Project responsibilities include.

Project responsibilities include:

- *Software Development Planning, scheduling, execution, managing and progress reporting*

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- *Provide the Technical and Functional guidance to the team leads and the developers.*
- *Manage successful completion of design and development deliverables*
- *Manage development related risks and issues as per the project Risk Management and Issue Management processes.*
- *Participate and assist decision making in the Change Control Board meetings and discussions.*
- *Participate in application design sessions.*
- *Direct Business Analysts towards an optimal functional and technical solution, estimating effort involved and distributing work to the development team.*
- *Continuous interaction with the Program Management office, Subject matter experts, functional design, Quality Analysis, Integration Testing and the client stakeholder teams throughout the project period to ensure integrity and timely delivery of the project.*
- *Defect management and effective implementation of the configuration management processes i.e., follow through the effective resolution of defect, unit / system testing, and deployment to production.*
- *Review and approval the functional / technical designs*

Implementation Lead – Anthony Sessions

Anthony Sessions will be the Implementation Lead for NCSEAS. With several years of implementation experience on multiple Child Support Projects, Anthony brings with him the organizational know-how, technical knowledge and understanding of the intricacies involved in deploying state-wide solutions.

At a high level, the Implementation Manager will be responsible for the following tasks:

- *Develop Implementation Plan*
- *Draft Pilot and Regional Rollout plans and contingencies*
- *Define process and procedures for pilot readiness*
- *Coordinate Training Plan and materials*
- *Develop Operations Guide*
- *Develop Technical Documentation*
- *Manage and Monitor operation and technical training*
- *Rollout by Region and managing the implementation schedule and plan to completion*

Functional Application Lead – Annette Mansfield

Annette Mansfield will serve as the Functional Manager for the NCSEAS implementation.

Project responsibilities include:

- *Management of the application feasibility and design*
- *Transitions from design to construction, ensuring system design consistency between project phases*

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- *Coordinates system development, including the application and its external interfaces*
- *Monitors the overall quality of the development effort to ensure appropriate documentation and strict adherence to system requirements and standards*
- *Communicating with users to resolve issues*
- *Manages and documents requirements meetings*
- *Review system requirements, Validate current business processes/data (JAD sessions)*
- *Investigate interface and requirements*
- *Process analysis*
- *Requirements impact analysis, Application flow, Reporting analysis,*
- *User Interface and Report detailed design*
- *Support for System, Integration and Acceptance Testing*
- *Create, assemble and submit deliverables*

Project Kickoff

A project kick-off meeting will officially establish the start of the project. The kickoff meeting will be planned and held according to the project schedule established by the NCSEAS team during the project planning phase. Protech encourages all project team members and stakeholders to attend such meetings. For the NCSEAS project, the project kickoff meeting will be used to present an overview of the project, project schedule, key milestones, and deliverables for the project.

Status Reporting

Protech understands the need for proper internal and external communication for the NCSEAS project and realizes that accurate and frequent communication is important for such a mission-critical project.

Protech will work with the DWSS and follow the communication protocols and procedures currently in place for the DWSS. In areas where there is not an existing standard, Protech has standardized templates for project status and meeting minutes that we can leverage for the NCSEAS project.

The Protech project manager and the DWSS project manager will work side-by-side and will report project status to the executive steering committee. Subcontractor staff will report to the subcontractor managers and subcontractor's managers and other team leads will report to the Protech project manager and the DWSS project manager.

The project team will maintain proper documentation of all status reports and meeting minutes, in both electronic and hard copies. Protech also recommends the creation of a project web portal that contains project documents and communication material that will help in keeping the project members, stakeholders, and user community informed about the day-to-day progress of the project.

Protech has used this approach on many of our other system integration projects; we create websites that post information such as the RFP for the project, proposal, project plan and schedule, status reports, meeting minutes, issues, and other relevant project information.

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Our experiences have taught us that effective communication, both formal and informal, is a basic foundation of any sound project management approach. Protech believes that keeping all project stakeholders fully informed of project status and conditions is the best way to achieve consensus and clarity and we believe this can be best accomplished through formal status meetings and status reporting.

Status Meetings

The Protech project manager will schedule formal status meetings with DWSS on a bi-weekly basis. Agendas and project status reports will be prepared and distributed prior to each meeting, either in hard copy or electronic form. When all meeting participants cannot be in the same place at the same time, Protech will provide telephone access numbers so that participants can join in meetings via the conference bridge.

In addition to status meetings with DWSS, the NCSEAS project team will have regularly scheduled project status and review meetings with the project team to gather status on the project activities and to discuss and resolve project issues.

Protech recommend documentation of meeting minutes for all meetings with the DWSS and project team meetings in order to document the decisions reached and the action items assigned and also to provide consistent information to all project participants. Meeting minutes will be made available through a shared file server on the LAN or other electronic or paper media.

Status Reports

The Protech project manager will generate status reports to DWSS on a bi-weekly basis. These status reports will be reviewed at bi-weekly status meetings and will be distributed prior to those meetings. The status reports at a minimum will include:

- *NCSEAS Project Schedule;*
- *Summary of accomplishments for the past period;*
- *Planned accomplishments for the upcoming period;*
- *Deliverables status;*
- *Issues and concerns; and*
- *Early warning summary*

Project status meetings will be a medium by which the NCSEAS project management team will attempt to resolve project issues.

Partnership with DWSS Project Management Staff

During the project initiation phase, the Protech project manager and the DWSS project manager will agree on the type and frequency of communication between Protech, the DWSS project management staff, the NCSEAS oversight project manager, and the IV & V contractor for the project (should one exist). This process for communication will be either written or verbal and will be documented in the project management plan.

Risk and Risk Status

Protech utilizes specific techniques to assist in the mitigation of risks. Our approach to risk identification, mitigation, and control is explained in section, 6.6.5 Project Management In the early stage of the project, Protech will document a comprehensive list of the potential project risks that may cause road blocks to the success of the NCSEAS project throughout the system lifecycle. For better identification and management of

the various types of project risk, the NCSEAS project management team will organize risk along various risk containment areas.

Quality Assurance

Protech places a strong emphasis on quality management programs and the use of quality metrics throughout the project life-cycle, beginning with strategic and tactical quality planning processes at project outset; continuing with constant usage of quality control components exercised as an integral part of the deliverable production process. This is coupled with diligent enforcement of the quality assurance plan components to ensure deliverables meet pre-defined quality standards across the project; regularly and consistently verifying completion of quality control checklists and monitoring quality assurance and control measurement checkpoints; and ending with formal client acceptance of the specified "end-user product" as evidenced by signatures from authorized end-user representatives. Protech's quality assurance methodology is rooted in industry best practices such as CMM and ISO 9001.

Our work-product or artifact templates are based on IEEE Software Engineering Standards, ISO Standards, and other Industry Standards (PMI's PMBOK, RUP, etc.). Our organizational standard software process, known as PQSP (Protech Quality Solutions Process) is a comprehensive process framework with a number of processes and procedures addressing all aspects of software engineering and management. PQSP is the most important component of assuring all our projects and support groups follow the defined processes effectively.

Configuration Management

Protech will manage version releases of all contract deliverables and other critical documents as determined by the DWSS. Protech configuration management processes also have controls in place for managing changes to hardware and software; the configuration management tool is discussed in both section - 5.14 Database Configuration Management Plan and section 6.11 Configuration Management. The configuration management process shall assure that all hardware and software releases are implemented in an efficient manner and the status of all existing deliverables is known, and only approved versions are released for production use, that prior released versions can be recreated, and changes to already completed deliverables only when authorized. The final release of each deliverable will reside on the DWSS LAN under their control.

A configuration management team will be formed to manage the changes for hardware, software, and other work documents for the NCSEAS project. This team will be a subset of the development team and the technical team and will have authority for managing the project's hardware and software.

Issue Management

Given the size and complexity of the NCSEAS project, problems and issues are certain to arise. An issue is used here as a generic term for an exception that occurs or something that is unplanned. As issues are raised by project team members and stakeholders, they are managed to closure through a series of actions to resolve the issue. Protech's Issues Resolution process tracks, prioritizes, and documents issues that arise. Protech tracks issues through an automated Issue Tracking Database where we track information on the issue, resolution, and the associated Change Request (CR) or action item, where applicable. The Protech project manager is responsible for communicating issue status and resolution of issues in a timely manner. The Protech project management team will assign an issue resolution coordinator to track the issues as they are identified, document issue resolutions as they are reached and when a decision is made to implement solutions to issues.

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Problems typically arise throughout the system development life cycle and they generally fall in two categories. First, there are problems that need to be addressed at the project management level. Communication with the issue resolution coordinator will help us to recognize, address, and resolve problems before they impact the project. Second, there are problems that relate directly to the design or intended functionality of the NCSEAS system. The Protech Team will identify and document these problems and track them in the issues tracking database.

In the event that a milestone date, or a series of milestone dates, is in jeopardy of not being met, the project management team will evaluate the need to escalate the problem(s). Protech has extensive issues escalation procedures that can be adapted to the NCSEAS project during the project planning phase.

Change Control

Control and management of change is vital to the NCSEAS project's success. Change Requests (CR) normally modify or enhance the baseline system, procedures, documentation, and application programs. Change requests can also alter the initial scope of the project or add/modify functionality after the system design has been baselined. Proper management and control of changes adds clarity and structure to the planning and managing of changes. The key components of this process include:

- *Change request form*
- *Change request tracking tools (i.e., spreadsheet or database)*
- *Change control approval process*

A change request form must be designed to capture three critical pieces of information:

- *What is the requested change?*
- *What is the impact of the change on the program?*
- *Is it approved, denied or deferred?*

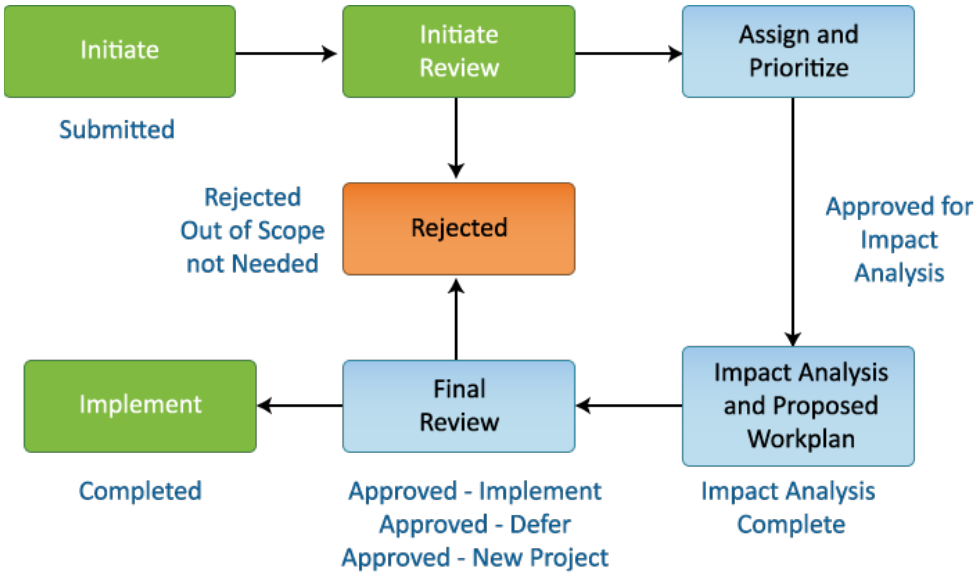

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Figure 3.3-87. Change Control Process

Initiate – Once the need for a change has been identified, the originator must complete a Change Request (CR) form. At the beginning of the project the project team will design and finalize the form. The originator must describe the current issue and fill in details, if known. The originator may optionally assign an initial priority to the request in order to communicate the urgency of the request.

Once an issue has been raised, it should be forwarded to the Protech project manager. The Project coordinator and project director will also review all requests (either during the project status meeting or earlier if the request is urgent).

Any member of the project team who perceives a need to change a process or product may submit a change request:

- *Project management*
- *Steering Committee member*
- *User Group member*
- *Team member*

Initial Review – The next step is to determine whether the change warrants further investigation and whether, in fact, it is within the scope of the project. If further investigation deems that the change is not in the scope and is not needed, the CR will be closed with details on potential for a future release. If the change is deemed as required by the project – whether it is in scope or out of scope - the impact of making the change will need to be evaluated.

Assign and Prioritize – If the CR is deemed to warrant evaluation, the project manager will assign it to a team member for evaluation. The team member and project manager will review the CR to determine whether an impact analysis should be carried out. The project manager will determine whether the request is an actual change by comparing it with the relevant original requirement. The change may also be elevated to the project steering committee for consideration if it is deemed necessary.

Impact Analysis and Proposed Work Plan – Once the request and an impact analysis have been deemed necessary; the impact analysis will be performed. The analysis will detail the impact to both schedule and cost of making the change. Examples include:

- *Impact on the system (i.e., programs, database, files, etc.);*
- *Resource allocation impact;*
- *Phase/project delivery time frame impact;*
- *Impact on other areas of the project; and*
- *Specific tasks/deliverables requiring rework and time estimates for each.*

Final Review – Once the impact of the change has been analyzed, a decision will be made on whether to implement the change. The change request may be:

- *Approved and implemented into the project*
- *Approved but deferred (or not implemented) in the current project*

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- *Rejected*
- *Cancelled*

If the change is rejected or cancelled, the CR will be closed. If the change is approved, it will need to be signed off before any further action may be taken. The project management (DWSS and Protech)—and possibly the steering committee, if necessary—will be responsible for approving or rejecting the CR.

Implemented – If the CR is approved, the change may be implemented in a number of ways. If the change is to be implemented as part of the existing project, all deliverables affected by this change must be updated accordingly. The project plan must be updated (if affected) to include the change itself (including effort required to analyze the change) and any rework of other products/deliverables. All reworked deliverables will be reissued, and all interested parties will be informed that the change has been completed. The team member assigned to the CR will make the change. The project manager will update the project work plan and any other relevant documentation.

Rejected – The CR may be closed or rejected at any point in the process, and the change must be completed, rejected, or cancelled. Closed CRs will be reviewed in the project status meeting. Any team member may request or recommend closure of a change request.

Submission, Approval, and Maintenance of Deliverables

The purpose of the deliverable submission and review is to allow both the DWSS and Protech to maintain control over the status of the deliverables for the NCSEAS project. As each deliverable is completed and reviewed, Protech will initiate a request for approval from the DWSS through this sign-off form. Protech will request deliverables approval as they are completed. The DWSS Project Manager shall render a written decision, either acceptance or disapproval, as soon as possible, but no later than the pre-determined number of business days after the written request for deliverable approval. If however, the DWSS requires additional time beyond this period, Protech will be notified accordingly. If the DWSS requests additional time to review and approve the deliverable, the original completion date may be adjusted accordingly. If any deliverable is determined to be unacceptable, the DWSS Project Manager will issue a detailed written "Notice of Disapproval-Deliverable Review" form to Protech describing each of the deficiencies and citing the appropriate references to the deliverable.

If no "Notice of Disapproval" is rendered or the DWSS seeks no request for additional time within the required timeframe after the submission of the deliverable, the deliverable will be deemed accepted by the DWSS.

The DWSS shall allow Protech a specific period of ten (10) business days from the date of receipt of the "Notice of Disapproval" to meet with the DWSS project manager to clarify any of the deficiencies described in the "Notice of Disapproval." Commencing with this ten (10)-business day clarification period, Protech will work to correct all identified deficiencies and submit the corrections. If Protech corrects all identified deficiencies, the DWSS's response shall include a "Notice of Acceptance."

Formal Reviews

Protech has established formal processes to conduct reviews for deliverables that require varying levels of input from the system users. Protech will use processes such as design review meetings, conference room pilots, and code walkthroughs in the review of DWSS deliverables. Formal reviews will be scheduled based on the completion status of deliverables per project schedule and will be scheduled at the client site. Some deliverables that fall in this category include system specification review, design review, test readiness

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review, installation readiness review, and operational readiness review. We will ensure that the appropriate Protech team member prepare for, attend, and participate in these formal review processes.

Technical Interchange Meetings

In projects of the scope and size of the NCSEAS system; technical issues will arise on a frequent basis that must be addressed in a timely manner so that project schedules are not negatively impacted. The software team lead and the database team lead will bring any technical issues to the attention of the Protech project managers in a timely manner. The Protech project manager will immediately meet with the DWSS project manager to schedule a Technical Interchange Meeting (TIM) so that issues are quickly resolved. Software and database team members will participate in TIMs along with the project managers.

Management Tools

Protech uses project management tools (such as Microsoft Project, issues tracking database, etc.) to plan, manage, and monitor large system development projects. Protech understands that careful and insightful planning is essential to the success of project management in any large system development plan. Our past experience with other large-scale systems projects has helped us to incorporate the use of project management tools into our overall strategy for effective project management.

The benefits of project management tools include:

- *The ability to allow management to perform forecast analysis to determine the most efficient and effective strategy to achieve overall goals.*
- *The ability to provide flexibility to update activities based on changes in scope of work.*
- *The ability to monitor milestones easily.*
- *The ability to identify deliverables, resource requirements, and timelines.*
- *The ability to identify project completion dates based on available resources. Conversely, it will point out the resource requirements to completing the project by a given date.*
- *Provisions for various standard and customized reports to aid making decisions.*

Risk Management

Based on the requirements set forth for the NCSEAS project and Protech's extensive experience in large-scale system implementations, we understand that project risks can arise from many aspects of the entire software development life cycle, that can ultimately affect project cost and schedule. As part of its project management methodology, Protech will employ a standard project risk assessment and management approach to manage risks for the NCSEAS project.

Risk management strategy, planning, and documentation (i.e., the identification of risks), in conjunction with a risk mitigation plan is one way Protech proactively plans for and deals with risks that could hamper the success of the project. In other words, risk management is a formalized way to identify, analyze, address, and potentially eliminate problems within a project, before they affect the outcome of the project, or before the risk becomes unmanageable.

The management of risk is a discipline that is necessary due to the high failure rates of IT projects, the possibility of changes to business requirements, and inherent changes in technology. Ultimately, the strategy of risk management is to increase the probability that the project will succeed. At Protech the concept of risk management is continuous.

It is important that any risk management effort includes processes concerned with identifying, analyzing, and responding to project risk. These processes include maximizing the results of positive events and minimizing the consequences of adverse events.

Principles of Risk Management

Protech utilizes a structured framework for the identification, escalation and resolution of project related risks. Our continuous risk management process is adopted from the Software Engineering Institute's (SEI) team risk management paradigm and provides a team-oriented approach to managing project risk. In this approach, project participants enjoy open communication and are encouraged to expose potential issues that could cause the project to go off track. Additionally, the project team improves their prospects for a successful project by jointly arriving at resolutions affecting the project.

Protech employs the seven principles of continuous risk management (CRM) as follows:

- *Open communication requires encouraging free-flowing information at and between all project levels, enabling formal, informal, and impromptu communication, and bringing unique knowledge and insight to identifying and managing risk.*
- *Forward-looking view requires thinking toward tomorrow by identifying uncertainties, anticipating potential outcomes and managing project resources and activities while anticipating uncertainties.*
- *Shared vision requires arriving at a mutual vision based on common purpose, shared ownership and collective commitment by focusing on results.*
- *Global perspective requires viewing projects within the context of client peers and best practices.*
- *Integrated management requires making continuous risk management an integral and vital part of project management by adapting methods and tools to a project's infrastructure.*
- *Teamwork requires working cooperatively to achieve a common goal and pooling talent, skills and knowledge.*
- *Continuous process requires sustaining constant vigilance while identifying and managing risks routinely throughout all phases of the project life cycle.*

Risk Management Plan

These principles are embodied within our risk management strategy and provide a foundation for the identification, analysis, resolution and potential elimination of problems within a project before they affect the outcome of the project or before the risk becomes unmanageable.

In addition, it is important that any risk management effort include processes concerned with identifying, analyzing, and responding to project risk. These processes include maximizing the results of positive events and minimizing the consequences of adverse events. The following table illustrates our continuous risk management activities throughout the life cycle of a project.

Risk Management Functions	
Function	Description
Identify	Search for and locate risks before they become problems.
Analyze	Transform risk data into decision-making information. Evaluate impact, probability, and time frame; classify risks; and prioritize risks.

[redacted]

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Risk Management Functions	
Function	Description
Plan	Translate risk information into decisions and mitigating actions (both present and future) and implement those actions.
Track	Monitor risk indicators and mitigation actions.
Control	Correct for deviations from the risk mitigation plans.
Communicate	Provide information and feedback internal and external to the project on the risk activities, current risks and emerging risks. Note: Communication happens throughout all the functions of risk management.

Detailed project plans where all activities, milestones and resources are defined and a sound methodology for controlling the plan will help mitigate the risk of a project slippage. The Protech project manager will monitor the project issues closely and submit a report to the DWSS project manager. Any issue that needs immediate attention will be escalated to the project steering committee.

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REQUIREMENT: (#2) Bidders must describe the essential phases of a PMBOK-waterfall project, which description shall include:

- Linkages between phases (i.e., whether one phase is a "hard" precursor to another or some other relationship exists);
- The primary artifacts that flow from earlier phases into later phases;
- How the later phases put these artifacts to use in defining their tasks and executing their work efforts; and
- Any periods of overlap that may be allowed between earlier phases and later ones and, if they exist, describe what artifacts or information sets the later phases make use of if an earlier phase has not delivered its primary artifact yet.

The Project Life Cycle – Waterfall Approach

System Life Cycle Approach – Linkage between phases and project artifacts

Protech will adhere to a PMBOK Fifth Edition project management methodology deploying a System Development Life Cycle Methodology (SDLC) for the NCSEAS project based on traditional waterfall methodology. A practice that describes essential phases to include requirements, design, code development, testing, training, implementation, warranty, and post production support and the linkage between them.

The project life cycle consists of five distinct phases where one is a set precursor to the next - project initiation, planning, execution, controlling, and closing. Although phases follow in a sequence, there is a high degree of overlap between them and each phase of the project life cycle will have key deliverables and tasks that define it (figure 4.5.3). The following section illustrates the flow of the phases within the project life cycle and the interrelationship from earlier or concurrent steps to subsequent phase; a repeatable process that we have applied, executed and managed across our projects. As illustrated, phases can and do overlap as previous phases are revisited when more information becomes available.

Protech will utilize our proven and tested software development approach for the on-site/off-site development of the NCSEAS system. We propose to work with the DWSS to develop the software based on a pre-defined number of software releases, with each release following the traditional SDLC.

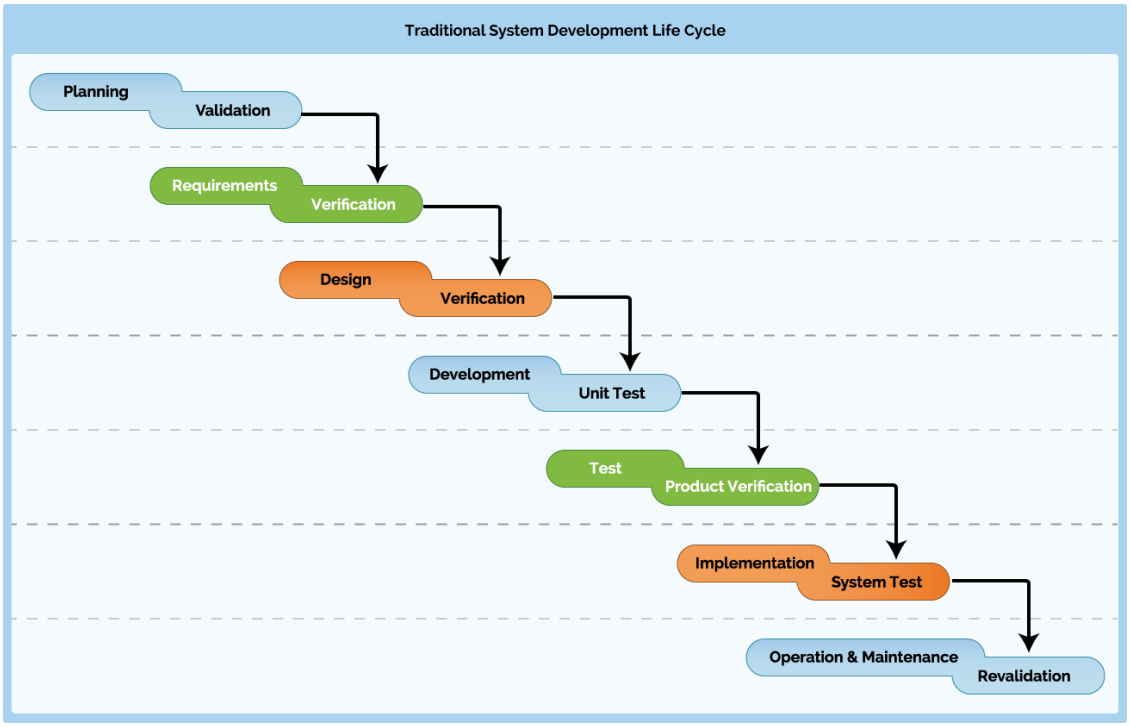

Figure 3.3-88. System Life Cycle Approach

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Periods of overlap that may be allowed between phases are contemplated in the preliminary project plan included as an appendix to this RFP response. The interdependencies set forth in this preliminary plan, along with the identification of the project's critical path, identifies the artifacts can will be available to subsequent phases in case an earlier phase has not delivered its primary deliverables and artifacts as scheduled.

The Protech Team will follow best practices and industry standards and models for software development. Within this traditional lifecycle, we will utilize a release management approach to a successful implementation of the project. Protech's approach to project management and system development lifecycle is based and fully complies with the principles established by the PMBOK.

The software development lifecycle with the various phases requires multiple check points, milestones, project monitoring, evaluation, critical path analysis, and various inputs and outputs from each phase. To highlight these individual phases in terms of deliverables – a method that validates assessment and completion – we have listed under each phase a chart of all deliverables that are prepared, reviewed, validated and formally signed off. This approach demonstrates how primary artifacts can flow from earlier phases into the next and how moving from one phase to another is measured by the quality, content, and level of details presented in each of them.

Phase 01 and 02 Deliverables	
Description of Deliverable	Project Phase(s)
Weekly meetings and minutes	Phase 01 - Project Management
Weekly reports	Phase 01 - Project Management
Monthly Reports	Phase 01 - Project Management
Project Management Plan	Phase 02 - Project Initiation and Planning
Obtain certificates of occupancy	Phase 02 - Project Initiation and Planning
Project Schedule	Phase 02 - Project Initiation and Planning

Requirements

In this section we will discuss our approach to validating the completeness of the requirements for the NCSEAS system. This section includes best practices for requirements elicitation, tracking, tracing, and the method that will be used from requirements definition through the design phase of the project. This phase in the project lifecycle will require input from the DWSS project staff as well as the end user community as the requirements are validated. Protech will use a combination of Joint Application Design (JAD) meetings and one-on-one interviews to validate the requirements of the NCSEAS system. Our baseline system requirements are to be derived from the CACSES system and used as a foundation for mapping, analyzing and creating the new set of requirements that apply to the Nevada child support system requirements.

Once the requirements are validated and documented, Protech will use the Rational DOORS tool for requirements tracking. Requirements management affects all phases of a project. At Protech, we established standards for performing the requirements management process (a SEI CMM level 2 process) on all projects.

The requirements management process can be divided into four primary areas as shown in the following diagram:

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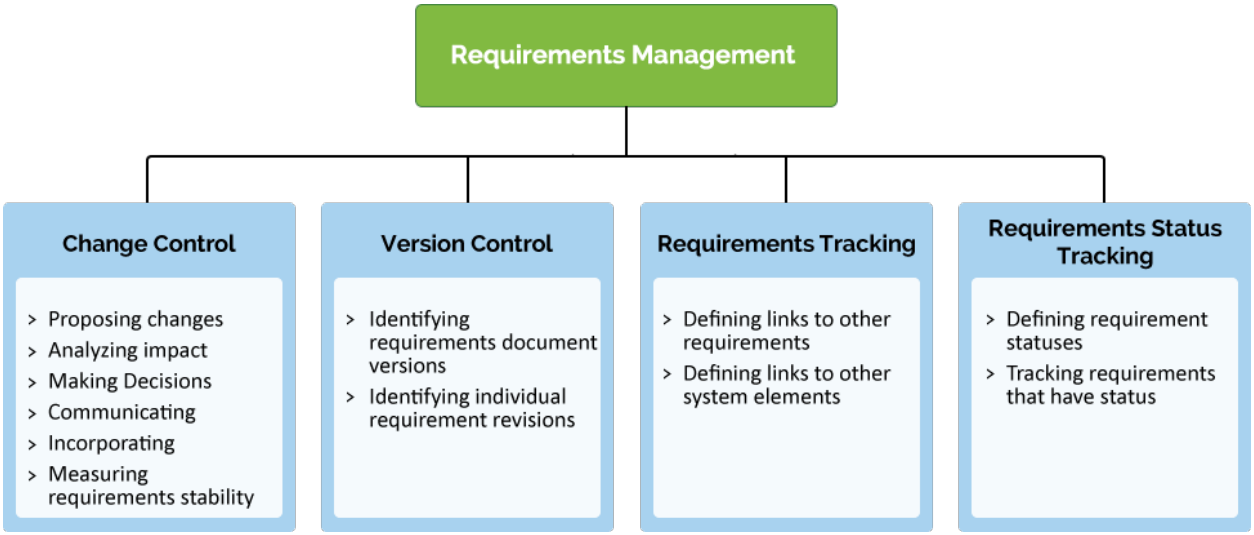

Figure 3.3-89. Requirement Management Components

Requirements management begins when the requirements are baselined and placed in change and version control. (Baselining the requirements occurs when the requirements are reviewed and approved by the stakeholders.) From that point forward, the program management team, or change control board, controls all changes. All requested modifications to the requirements are evaluated, and the change control board determines if and when the change is needed. Only requirements that have been accepted and scheduled for the current release will be implemented.

Another component of requirements management is requirements tracing, achieved by creating, managing and maintaining a Requirements Traceability Matrix (RTM). Requirements tracing is a process that is essential to validate the requirements are complete and the application will be able to be designed, built and tested as defined. Via tracing requirements, a complete understanding of the application is produced. From a requirements perspective, it will determine the uniqueness, dependencies, and completeness of a requirement. For design and development, tracing will aide in identifying internal and external dependencies, scope of development, and the order that components that must be designed and developed. For testing, it determines the complexity and number of the test cases to be developed.

Interface Definition

Internal and external interfaces make up a large component of any large-scale system development effort. Protech has developed interfaces for large-scale human services system for over fifteen years, and will leverage this experience to build interfaces across all state and federal agencies as applicable to the NCSEAS system. We have a well-structured methodology that we will apply on the NCSEAS project for the development and implementation of interfaces. This will include the approach that will be used for documenting the requirements for new and changed interfaces to the NCSEAS system and how these will changes be managed. Our approach to a successful interface implementation starts with the establishment on an interface plan or in the case of NCSEAS, the development of an Interface Definition through a series of JAD and one-on-one user sessions. The interface definition will address both internal and external interfaces.

Protech's interface approach focuses on adequately gathering and validating the requirements of each interface as specified in the RFP. Development on an interface will follow the system lifecycle phases of requirement analysis, design, code development, testing, and finally implementation. Each interface

definition will describe in detail the purpose of the interface, format, content, frequency, and processing requirements.

The success of the interfaces to and from the NCSEAS system relies a great deal on the quality of the data; in order to control data quality, data moving between systems will be subject to rigorous scrutiny. Once interface requirements are gathered and validated, the requirements traceability matrix will be updated.

Phase 03 Deliverables	
Description of Deliverable	Project Phase(s)
Ease of Use Management Plan	Phase 03 - Requirements Validation
Functional Requirements/Design	Phase 03 - Requirements Validation
Technical Requirements/Design	Phase 03 - Requirements Validation
Requirements Traceability Matrix	Phase 03 - Requirements Validation

Design

The methodology for development of a high level design will include design for the entire NCSEAS system that can be traced back to the requirements of the system. The design team will gather the input of the user groups during design and will use this input in the NCSEAS design, the requirement specification document, and the traceability matrix to develop the design description documents. The work products and deliverables from the design phase will include forms, screens, and report design, in addition to the logical data model, data dictionary, entity relationship diagrams, user and system security design, and batch processing requirements.

Protech will use a combination of development tools and Rational tools during the design process. The output from the design phase will be the high level design of the NCSEAS system. Our approach will address design standards and guidelines that will be utilized for integration of standard tools and third party tools in addition to custom development efforts that will result in one integrated software solution for the NCSEAS project. Protech has a library of software development standards and guidelines that will be made available to the NCSEAS project. The design phase will show how the system will be realized in the implementation phase.

Phase 04 Deliverables	
Description of Deliverable	Project Phase(s)
Ease of Use Management Plan	Phase 04 - Design
Database Configuration Management Plan	Phase 04 - Design
Technical Approach Plan	Phase 04 - Design
System Capacity Plan	Phase 04 - Design
Development Hardware and Software Purchase	Phase 04 - Design
Database Development Plan	Phase 04 - Design
Application Development Plan	Phase 04 - Design
Data Governance Plan	Phase 04 - Design
Security Management Plan	Phase 04 - Design
Functional Requirements / Design	Phase 04 - Design
Technical Requirements / Design	Phase 04 - Design
Detailed Design	Phase 04 - Design

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Code or Application Development

This section will discuss the approach for developing the custom software and customization of CA CSES, utilizing industry best practices and software development standards such as IEEE. We will also include software code change processes and problem status reporting and resolution. During development we will integrate the results produced by individual implementers (or teams), into an executable system.

The coding phase consists of building program modules using the detailed design documents produced in the design phase. The developer will construct code based upon specifications using IBM/Rational toolsets. We will develop software components (source files, binaries, and executables). Each module will be constructed and unit tested by the assigned developer and we will conduct technical reviews and code walkthroughs with members of the development team and client teams. The reviews will help ensure conformance to development and programming standards prior to qualification testing.

Phase 05 Deliverables	
Description of Deliverable	Project Phase(s)
Business Continuity and Disaster Recovery Plan	Phase 05 - Development and Unit Test
Production Hardware and Software Configuration Plan	Phase 05 - Development and Unit Test
Development and Operations Hardware and Software	Phase 05 - Development and Unit Test
Development, Modification and Conversion of System	Phase 05 - Development and Unit Test
Module Inventory	Phase 05 - Development and Unit Test
Development, Testing and Training Environments	Phase 05 - Development and Unit Test
Unit Test Results	Phase 05 - Development and Unit Test

Testing

The testing approach for the NCSEAS project will consist of procedures to demonstrate that the application reaches specified levels of quality, usability, and performance. It will also address problem reporting, tracking, and resolution. Several key objectives will be addressed while testing. These objectives will assist in reducing associated testing risks in delivering a quality product.

The objectives are as follows:

- ***Verify that the application meets the requirements as specified in the Design Description;***
- ***Execute tests in a production-like environment;***
- ***Resolve defects encountered, except for those that fall under the established exit criteria agreed to by Protech and DWSS;***
- ***Run regression tests as needed to cover typical and key business scenarios;***
- ***Obtain State approval that the system is ready to be moved into production; and***
- ***Identify risk areas.***

Protech will use standard software quality assurance practices in the testing of the NCSEAS application. The NCSEAS Team will set capability measurements at the beginning of the testing phase. The measurement objectives and goals are set at the beginning of the testing process and then measurements are taken and reviewed against the goals during the process. These measurements will assist in determining the effectiveness of the tests; some common measurements that we will use include:

- ***Number of defects found;***

- *Time to fix defects, by defect type;*
- *Number of testing errors; and*
- *Test variance impact statistics.*

Our testing approach will also utilize automation to enhance and facilitate the testing process and to increase the "repeatability factor". Automated testing will allow a greater amount of testing to occur using fewer resources than would be required by a manual process. Consistency of execution is another benefit of automated testing.

Additional tests that will be planned and executed for the NCSEAS project are module, integration, interface, system, stress, performance, and usability testing. We will discuss the different testing phases in the order laid out.

Module Testing

Module tests are implemented early in the iteration. They focus on verifying the smallest testable elements of the software (e.g., functions, procedures, scripts, command files, etc.). Module testing is typically applied to components in the implementation model to verify that control flows and data flows are covered and function as expected. The developer performs module tests as the module is developed and once tested, modules are released to integration testing. Test data is created to test the modules as needed.

Integration Testing

Integration testing is performed to ensure that the components in the implementation model operate properly as a unit. Integration testing confirms that the combined modules operated effectively together and verify that the exchange of data between modules was processed as expected. Integration testing exposes incompleteness or mistakes in the interface specifications. Members of the development team will perform integration testing before releasing the software to system test.

Interface Testing

Interface testing verifies that each interface operates effectively with the system, including the DW and BI modules.

System Testing

System testing is done when the software is functioning as a whole to verify that the system meets the end user's stated functional requirements, all equipment works as an integrated system, all software executes as intended (including checkpoints and restart logic), all communication links work properly, and all data sharing requirements work properly without adversely affecting the system.

Stress Testing

Stress testing ensures that the system functions as intended when abnormal conditions are encountered. Stresses on the system may include extreme workloads, insufficient memory, and unavailable services/hardware or diminished shared resources.

Performance Testing

Performance testing uses a constant workload and varying system variables to tune or optimize the performance of the system. Measurements typically include the number of transactions per minute, number of users, and size of the database being accessed.

Usability Testing

Usability testing verifies that the system is easy to use and that the user interface appearance is appealing. These tests consider the human element in system operation. Usability testing is very subjective and it has to be very carefully scrutinized.

User Acceptance Testing

Qualification testing or user acceptance testing is the final test action prior to deploying the software. The goal of acceptance testing is to verify that the software is ready and can be used by the end-users to perform those functions and the tasks the software was built to do. This step in the testing cycle is typically performed by end-users; for the NCSEAS system qualification testing will be performed as releases are ready for user acceptance testing. This test utilizes test cases and test scenarios developed by the training team during the development of the training plan.

Phase 07 Deliverables	
Description of Deliverable	Project Phase(s)
Testing Management Plan	Phase 07 - Integration, System, and Performance Testing
Test Plans	Phase 07 - Integration, System, and Performance Testing
Acceptance Testing	Phase 07 - Integration, System, and Performance Testing
Acceptance Test Reports	Phase 07 - Integration, System, and Performance Testing

Training

In this phase, Protech will work to achieve the training objectives set forth in the RFP. Our training plan outlines the different training activities, schedule, and staffing model required to accomplish the training program for NCSEAS. One of the major documentation efforts within the project is the development of user manuals for functional and technical users of the NCSEAS system. Protech has been developing user documentation for many of its system integration projects for many years now and will utilize its experiences and best practices in developing specifics pertaining to the NCSEAS application. User manuals will be developed for the various levels and functional areas for system users, system administrators and operators, and technical support staff that will be logically organized with content that is indexed with a glossary for easy reference. The user manuals will address the business functionalities and technical and operational procedures of the NCSEAS system. A typical user manual for functional system users would include:

- ***Complete instructions for the users, explaining the use of each function***
- ***System usage scenarios that use real-life examples***
- ***Relation between the input data and the relevant record in the system***
- ***Procedures to generate or suppress standard and ad-hoc reports***
- ***Identify the report distribution and audience***
- ***Identify the prioritization process that will include the system determined priorities and the user override procedures***
- ***Security features***
- ***Error and warning messages with their corrective measures***

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- *Help features with their usage*
- *System troubleshooting*
- *Data entry (mandatory and non-mandatory) and the validation with database update procedure*
- *Screen layouts and the Navigation*
- *Search capabilities*
- *Inquiry features*
- *Information on help-desk*

The user manuals will be self-explanatory, easy to read, understand, and follow. Protech will also develop quick reference documents that will provide an immediate aid to the user. These documents will also be available in electronic format that can be either viewed online or printed for easy reference. During the qualification testing/UAT and other reviews, any changes made to the application will be reflected in the user manuals and the quick reference documents.

The training plan will provide details of the system components, scripts, format, and medium of instruction. The computer based training program will provide navigation flows, help text, escalation plans, and a guide to learning the system. The training team will work in conjunction with the implementation team to finalize the location and schedule, and to organize the effort to complete the rollout across the three regions of the program.

Phase 09 Deliverables	
Description of Deliverable	Project Phase(s)
Training Management Plan	Phase 09 - Training
Web-Based Training Development Plan	Phase 09 - Training
Training Materials (for UAT testers)	Phase 09 - Training
Training Materials (for end users)	Phase 09 - Training
Training Manual	Phase 09 - Training
Training	Phase 09 - Training
Web-Based Training Center	Phase 09 - Training
System Training Report - Pilot	Phase 09 - Training
System Training Report - Region 1	Phase 09 - Training
System Training Report - Region 2	Phase 09 - Training
System Training Report - Region 3	Phase 09 - Training

Implementation

Protech will develop an installation and initialization plan that will clearly describe the plan for deploying the NCSEAS application. This plan will include all network, hardware, and software requirements required for a successful deployment. The purpose of the deployment is to successfully deliver the software to its end users. It covers a wide range of activities including:

- *Producing releases of the software*
- *Packaging the software*
- *Distributing the software*

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- *Installing the software*
- *Providing help and assistance to users*
- *Manual and Automated conversion of existing software or data*
- *Formal acceptance*

Although deployment activities are mostly centered on the transition phase, many of the activities need to be included in earlier phases to prepare for deployment at the end of the construction phase. The NCSEAS software releases will be tested in a pilot environment in preparation for full deployment. Automated and manual data conversion will be implemented just prior to full deployment of the NCSEAS software.

Phase 10 Deliverables	
Description of Deliverable	Project Phase(s)
Release Management Plan	Phase 10 - Implementation
Operations Support Plan	Phase 10 - Implementation
System Implementation and Support	Phase 10 - Implementation
Implementation and Initialization Plan	Phase 10 - Implementation
Implementation and Initialization Report	Phase 10 - Implementation
Implementation Report - Pilot	Phase 10 - Implementation
Implementation Report - Region 1	Phase 10 - Implementation
Implementation Report - Region 2	Phase 10 - Implementation
Implementation Report - Region 3	Phase 10 - Implementation
Fully Implemented System	Phase 10 - Implementation

Production Support

This phase in the life cycle consists of the activities to manage the help desk, monitor performance of the system in production, and ensure continuity of operations. This includes performance monitoring and management feedback, tracking of system performance statistics, costs, resource allocations, detecting defects in the application, operations, managing systems problems, recovering from system problems, and implementing system changes.

Phase 11 and 13 Deliverables	
Description of Deliverable	Project Phase(s)
Warranty Support Plan	Phase 11 - Warranty (Initial Maintenance & Operations)
Maintenance and System Operations (Initial)	Phase 11 - Warranty (Initial Maintenance & Operations)
Periodic Help Desk Reports	Phase 11 - Warranty (Initial Maintenance & Operations)
Periodic Warranty Support Reports	Phase 11 - Warranty (Initial Maintenance & Operations)
Periodic Operations Reports	Phase 11 - Warranty (Initial Maintenance & Operations)
Maintenance Transition Report	Phase 11 - Warranty (Initial Maintenance & Operations)
Warranty Completion Report	Phase 11 - Warranty (Initial Maintenance & Operations)
Maintenance Transition Plan	Phase 13 - Transition, Maintenance & Operations
Knowledge Transfer Plan and Procedures	Phase 13 - Transition, Maintenance & Operations
Maintenance Training	Phase 13 - Transition, Maintenance & Operations
Operations Plan	Phase 13 - Transition, Maintenance & Operations
Operations Transition Plan	Phase 13 - Transition, Maintenance & Operations

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Phase 11 and 13 Deliverables	
Description of Deliverable	Project Phase(s)
Technical Support Procedures	Phase 13 - Transition, Maintenance & Operations
Customer Support Procedures	Phase 13 - Transition, Maintenance & Operations
Help Desk Management Plan	Phase 13 - Transition, Maintenance & Operations

(4.1.2) Waterfall SDLC Experience

REQUIREMENT: (#3) Bidders must describe their experience applying PMBOK to waterfall-structured development projects.

Waterfall SDLC Experience

Our experience with waterfall SDLC methodologies began when we designed developed and implemented the Michigan Child Support System in Wayne County. Subsequently, we applied several categories of SDLC protocols, control mechanisms, and followed the SEI – CMM model to our practice areas to refine and develop a comprehensive approach to project execution. With the inclusion of PMI's PMBOK as a standard for the discipline of project management framework, we leveraged the best practices and industry standards to create a well-defined and robust methodology. The project lifecycle described in the previous section is a culmination of our years of system implementation experience and is tied to our successful implementations in Arkansas, Massachusetts, Maine, New Jersey and Delaware.

In New Jersey and Delaware, our approach to the system development and implementation was a combination of waterfall and iterative methodologies. The primary reason to adopt a structured methodology combined with iterations within each phase was to leverage the transfer systems of Michigan, Maine, and Massachusetts. As we transferred key functions from these states, each developed over the course of many years, it was prudent to think of iterations as a quality control and schedule management strategy. The core business functions sourced from Michigan and the financials from Maine and Massachusetts posed a set of challenges. Integrating these into the waterfall methodology required a creative approach, only achievable with stringent iterative planning, management, and execution.

(4.1.3) Desired Elaborations on Waterfall SDLC

REQUIREMENT: (#4) Bidders must describe beneficial elaborations on the basic PMBOK-waterfall scheme and how they would be put to use in this project. Examples of beneficial elaborations might include:

- Demonstrations and / or limited-scope hands-on testing of pieces of the system while it is still under development;
- Use of field personnel and other subject-matter-experts to provide feedback on design concepts and working code during design and development phases;
- Use of prototyping to examine and test-fit aspects of the system design before the fully-built system will be available; and
- Testing approaches where largely-complete pieces of the system are fully-tested as soon as they are ready, and re-tested later through automated means or using regression testing, probe-testing, or other forms of retesting.

The lessons learned, the challenges encountered, and the success behind our implementations of the New Jersey Child Support Enforcement System (NJKiDS) and the Delaware Automated Child Support Enforcement System (DACSES) are unique differentiators Protech brings to NCSEAS. Applying PMBOK based methodologies will be our primary goal in order to align with the DWSS program. However, when we believe an elaborated approach would prove highly beneficial to the State of Nevada we will by expediting the process of design, development, and implementation phases of NCSEAS.

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Desired Elaborations on Waterfall SDLC

Our waterfall-based project execution and control methodology has been enhanced with several key practices. Protech's approach leverages proven assets while it fulfills the waterfall approach preferred by the State; however, we accelerate the system development lifecycle as outlined below:

Testing Approach

Protech believes that testing is an integral part of virtually every phase of the system development lifecycle. Test planning begins at the earliest stages of the project and continues through test execution as the final stage before implementation. For that reason, the Protech testing process begins at the first phase of the project: requirements definition. It is here where testing is first considered, and test planning begins.

The most important step in the successful testing of a software component or logical functional release is to capture a clear and deep understanding of the functional requirements and the usability expectations of the system. Since the baseline system is the California CSES application, gaining insight into the nuances of the system and the portability to NCSEAS is a critical component of our testing approach. Requirements gathering ensure that the requirements are "testable". The ability to test requirements is ensured by capturing them as complete, unambiguous statements that are clear, concise, and consistent with other system requirements, and describe the functionality at an elemental level (i.e. not as a compound set of conditions). When problems with requirements are eliminated, the development and test cycles are shortened and the quality is typically improved. Once the requirements for a given package have been refined to this standard, development of test cases and conditions can proceed on a solid base. For this reason, testing is an ever present consideration in the minds of the project team.

Quality Control

An important and decisive component to system development is quality control. Often described in detail as a process every vendor promises to maintain during the development and maintenance lifecycle, we at Protech strongly enforce and monitor quality control across our teams as a collaborative effort.

As an adjunct to the various types of tests being run, Protech will periodically conduct quality assurance and management reviews to ensure adherence to work plan, standards, and performance metrics, and to guarantee customer satisfaction with the end results.

These reviews will include but are not limited to the following:

- *Code Reviews – Software design will be reviewed against the code to identify any coding or logic errors. Depending on when the code review takes place, modifications that result could require re-testing.*
- *Prototype Planning and Development – Wherever applicable, the team will define the prototypes and workflows to demonstrate and obtain approval as a first step to design.*
- *Operations Reviews – Operations review will verify that appropriate backup and restore procedures are in place and that appropriate escalation procedures have been defined.*
- *Test Reviews – QA representative and system and UAT test teams will check test scenarios to requirement matrix and check results back to scenarios.*
- *Work Plan Reviews – This includes review of the work plan and verification that progress is being made according to schedule.*

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- *Risk Management Reviews – At the beginning of the project a comprehensive Risk Management Plan will be developed for the project. It will be the responsibility of the Project Manager to ensure that the risk matrix is verified and modified as risk situations are passed or as new risks develop. The risk management plan requires constant monitoring by the Covansys and PCSD designated Project Management through the life of the project.*

These reviews are important to further guarantee that the finished product consistently adheres to the original design, with optimal levels of quality and with all requirements and expectations being met.

The figure below provides an illustration of the ongoing relationship between testing and application design during the software development life cycle. Red arrows indicate a possible return to a previous activity, should defects be identified during test planning.

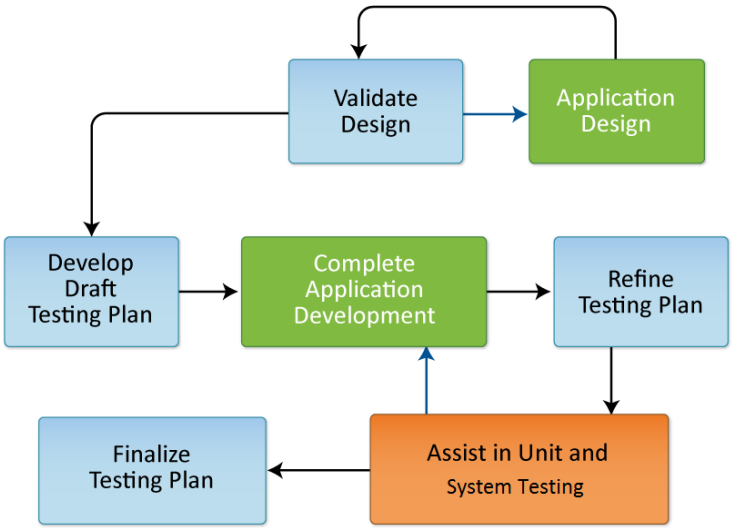

Figure 3.3-90. Requirement Management Components

The actual execution of the test begins after development is completed. It involves several distinct phases, each of which addresses all functional and technical considerations with a systematic and rigorous process. The testing will encompass the following phases:

- *Unit Test – ensures that all logical paths within the module/program/system are tested and the expected results are achieved. This type of testing will also ensure that the modules, programs, and the system conform to all established standards.*
- *Integration Test – tests multiple software components as an integrated unit to verify that the system meets the specified requirements. If the system exchanges data with other systems, the integration test will verify that the exchange of data between systems was processed as expected.*
- *System Test – verifies that the system meets the end user's stated functional requirements, all equipment works as an integrated system, all software executes as intended, including checkpoint and restart logic, all communication links work properly, and all data sharing requirements work properly without adversely affecting other systems.*
- *Regression Test – will verify that all existing functions continue to perform as expected when new functionality has been added, and that these new capabilities do not negatively impact the existing functionality.*

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A Different Stack of Solutions for Locate Functions, Reporting, Workflow, and Event Management

Our experience over several child support systems development projects has allowed us to think and create out-of-box solutions. Rather than create the standard locate interfaces and manage the results, our team will share a different approach to the locate functions required for NCSEAS. A data driven and priority based approach to handle data sources, updating them in the system, handling the triggers, and managing the interfaces is an area we have dealt differently in Arkansas and New Jersey. When we conduct the JAD Sessions for locate interfaces, our SMEs will explore various options to design and develop solutions with a focus on improving data reliability and efficiencies in processing them. Similarly, our analysis of reporting functions is based on historical data of how often they are used across the user base and the value provided by each will be assessed. Reports that do not provide the required value may be evaluated and alternate solutions will be provided to the state. In an age when data and reports are electronically stored and managed, our goal would be to minimize paper and print – factors that could improve the operating costs for DWSS / CSEP in the long run.

Managing worker tasks, events, and their case load is often a lengthy design process. Our experience with task based systems, event based triggers, and case load driven assignments across multiple systems allows us to present a comparative analysis and solution to the system users of the NCSEAS System. While there are pros and cons to every process decision, it is our intent to evaluate the overall user base, system, and technical specifications and, as system integrators, provide the best option to the state.

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(4.2) Conversion of Legacy Data

(4.2.1) Sources of Legacy Data

REQUIREMENT: (#5) The vendor must convert designated data from the legacy Nevada Operations of Multi-Automated Data Systems (NOMADS) system and other ancillary data stores as identified by Department of Welfare and Supportive Services (DWSS).

Protech' approach to migration, transition, and conversion of legacy data is a vital part of our full systems development lifecycle methodology. Protech has staff with experience to develop a comprehensive plan that considers the overall implications implementing the NCSEAS solution, given that the data source primarily resides in an integrated IVA-IVD system within a relational database system. Understanding that NOMADS is such a solution; Protech's approach and experience will work well in migrating the legacy data.

The Protech data migration staff has developed a standardized methodology for data migration and a set of tools, templates, and program frameworks that increase the quality of data conversions and the efficiency of the work effort. A data conversion will accompany the implementation of each rollout by region as prescribed in our implementation plan. For intermediate stages, an ongoing bridging process that regularly synchronizes redundant data between NOMADS and NCSEAS is required.

REQUIREMENT: (#6) State DataBase Administrators (DBAs) and Project Managers will identify the authoritative sources to be converted.

During the course of the project, the functionality to be delivered will be evaluated by the conversion team, the application development team and DWSS staff. This analysis will identify the data in NOMADS to be converted during the NCSEAS project. It will also identify the scope of the NCSEAS Interface processes, which will be necessary to keep NCSEAS and the remaining portions of the NOMADS system synchronized during the rollout period and operation.

(4.2.2) Legacy Data Background

REQUIREMENT: (#7) Approximately 245 tables / data sources are expected to be converted from the legacy system (and ancillary systems) to the new system.

We will work with the State very closely to identify all data sources that need to be converted, for all records – whether they are active or inactive. Using sophisticated conversion algorithms, we convert legacy data into the structures required for NCSEAS.

We will create extensive error-handling reports for automated cleansing, manual cleansing and semi-automated cleansing. We also create data integrity reports to ensure that the converted data meets the referential constraints of NCSEAS.

We will invest heavily in maintaining the integrity of the data from source systems, and insure that the case, financial, support order and balance information is accurate and representative of your users.

REQUIREMENT: (#8) It is estimated that as of December 2014, there were ~600,000 cases in the system that will need to be converted. Further estimates project that ~32,500 cases are added each year.
REQUIREMENT: (#9) The bulk of the to-be-converted data resides in a relational database system.
REQUIREMENT: (#10) Some data may reside in flat files or non-relational database systems (e.g., Virtual Storage Access Method (VSAM)).

The first step in the process is to understand the current use of each of these data sources. This step is completed and the outcome of the Planning phase produces a finalized list of CSE data sources required for data conversion and is documented accordingly.

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Protech performs an impact analysis to determine the interaction of the various ancillary data sources within the source system. It is very important for the conversion team to understand in detail the data entities and attributes stored in each of the various data sources to perform a thorough impact analysis. The target system application functional and technical design along with the baseline data model provides the other half of the input to the impact analysis process.

The data mapping rules dictate where and how the data extracted from different sources is loaded in the target system in combination with the application design. The data mapping rules include the ancillary and sub-system data as needed. Extracting data from the various data sources is defined in the conversion design phase including the file format, file layouts, and data validation mechanisms.

(4.2.3) Legacy Data and SDLC

REQUIREMENT: (#11) Vendor must analyze data sources and identify the correct mapping to the new system.
REQUIREMENT: (#12) Following analysis, the vendor will recommend pre-conversion data preparation activities needed to properly prepare the source data for automated conversion.

The conversion team will be responsible for the data conversion of the NOMADS data to the new NCSEAS database. The high-level responsibilities include:

- *Identification of programs in the legacy system that use converted files*
- *Identifying and defining program flows in the legacy system*
- *Defining data attributes in the legacy system*
- *Defining bridging interfaces on the legacy system*
- *Developing bridging processes*
- *Unloading data for conversion and testing*
- *Participation in mock and production conversion*
- *Developing data clean up rules*
- *Developing conversion rules*
- *Validating cleanup plans and processes*
- *Validating conversion specifications, test plans, control and reconciliation reports, and converted data*
- *Updating legacy data to improve its quality*
- *Validating data integrity, including member and case counts, financial balances and financial transaction summaries*

Identification of Specific Databases and Files to be discontinued

During the conversion planning, the conversion team will work with DWSS experts to understand what data elements need to be converted. Normally, this process would identify databases or files that are no longer required. However, because the NOMADS system will remain in operation during the regional rollout phase; few, if any, databases or files can be expected to be deleted after the implementation of NCSEAS. However, the analysis may indicate that certain update functions of NOMADS should be disabled or limited in order to facilitate the operation of the NCSEAS / NOMADS Interface.

Protech will develop a data-mapping matrix to capture the source and target data fields and the associated business rules. Protech will develop a data-cleansing plan in conjunction with the NCSEAS staff. This plan will outline how data quality will be defined and reported, and how it will be repaired prior to conversion to the NCSEAS system. The plan will pay particular attention to key data elements, which may include: primary participant or case identifiers, data elements required to facilitate ongoing NCSEAS / NOMADS data exchange or data that directly impact performance metrics or data reliability evaluations. A conversion quality control plan will be developed to detail all of the control points within the conversion process and establish parameters for user acceptance of the converted data. Additionally, the quality control plan will identify the control and error reports for the conversion processes and identify the anticipated risks associated with the process.

The conversion process is a complex and critical part of the application. Given the nature of conversion, proper resources should be allocated to the acceptance testing of the conversion process, to ensure data reconciliation.

Phase steps:

- *User acceptance criteria are developed which may include the identification of specific reconciliation reports for use during acceptance testing.*
- *"Mock" conversions are run to ensure correct processing for all types of accounts and data.*

Protech utilizes the conversion approach detailed in the following figure to perform a basic data conversion. Automated conversion tools allow us to generate data integrity checks and data mapping, provide user requested reports, and develop a reconciliation process.

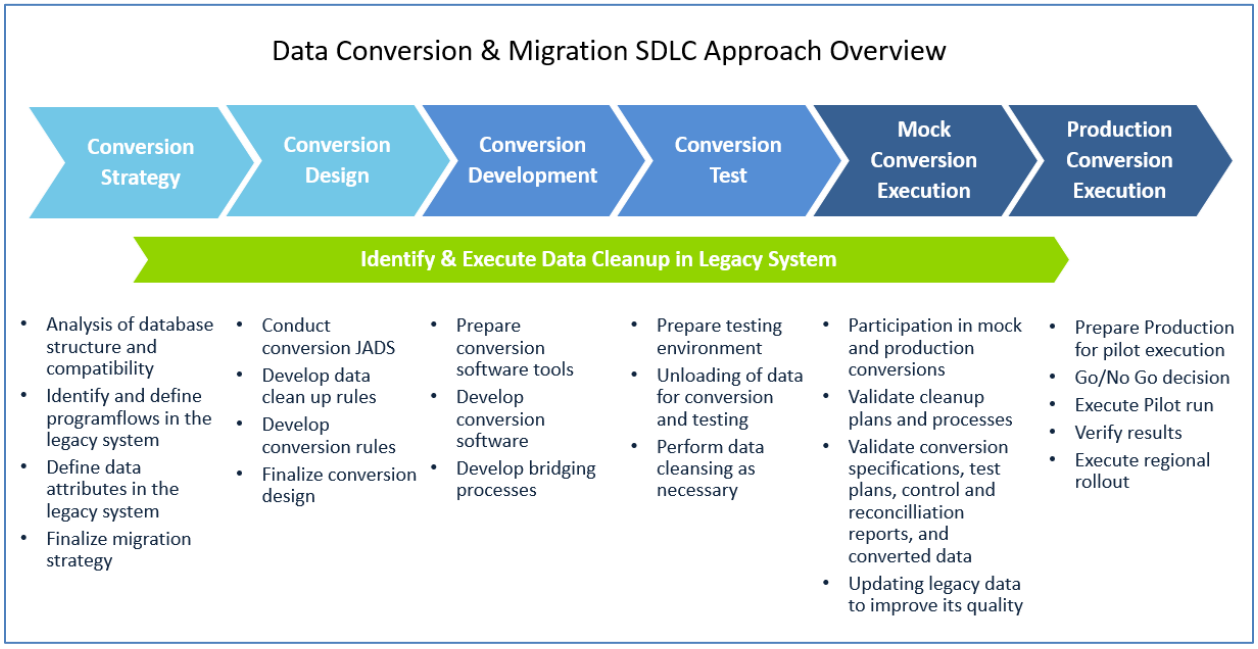

Figure 3.3-91. Automated Conversion Approach

REQUIREMENT: (#13) Vendor will develop automated conversion routines to effect the data conversion to the new system, including all data preparation activities that can be reasonably automated.

Based on prior experience with these types of conversions, the following tasks are typically executed during an automated conversion process:

- *Analysis of database structure and compatibility*
- *Identification and definition of program flows*
- *Definition of data attributes in existing applications*
- *Unloading of data for conversion and testing*
- *Participation in mock and production conversions*
- *Development of conversion rules, if necessary*
- *Development of Business rules*
- *Validation of clean-up plans and processes*
- *Validation of conversion specifications, test plans, control and reconciliation reports, and converted data*

In some cases, the conversion process may identify inconsistent or missing data. To address these types of data discrepancies, Protech's conversion team members will work with the DWSS /NOMADS system users to determine which discrepancies should be cleaned up in the existing systems before conversion.

REQUIREMENT: (#14) Vendor will develop reports detailing the data that requires manual preparation (clean-up) prior to conversion.

The focus during conversion validation is to identify and resolve data conversion issues and errors. To facilitate this process, conversion error reports are generated which identify the records that would not be converted. The Protech Team develops these reports to analyze any failed conversion attempts, documents the planned approach for subsequent attempts (such as additional data cleanup and rerun or manual processes), and executes and oversees conversion reruns or manual correction processes as appropriate. Protech will also leverage their delivered data warehousing solution to support data cleanup and validation. The team can build reports that can be used to cross validate between the source and target systems, and that can be used to determine if the conversion rules are correctly converting data.

REQUIREMENT: (#15) Vendor will develop tools that assist Nevada staff in performing manual clean-up where required.

Protech's NCSEAS conversion approach emphasizes automated conversion. Protech recognizes that automated conversion is preferable from both the standpoint of labor hours needed to pull and interpret files, consult other documentation, and conduct data entry, and from the standpoint of data consistency. However, it is likely that even with careful analysis and planning, some manual conversion or manual cleanup of automated conversion will be required.

Manual conversions require a very different approach than automated conversions. Since most of the activities rely on human intervention, a successful manual conversion relies on strong procedures and control steps that ensure the conversion is executed properly the first time.

Given the need for control procedures, a data-cleansing plan will be developed by Protech. This plan will outline how data quality will be defined and reported, and how it will be repaired prior to conversion to NCSEAS. Protech staff will seek to maximize the amount of manual data update effort that can be completed

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within the NOMADS system, so as to minimize the need for external manual conversion. A conversion quality plan will be developed to detail all of the control points within the conversion process and establish parameters for acceptance of the converted data. Additionally, the quality control plan will identify the control and error reports for the conversion processes and identify the anticipated risks associated with the process.

As with automated conversion, Protech's experienced and skilled staff can leverage the delivered data warehousing solution to validate the manual conversion process and verify that data integrity has been maintained.

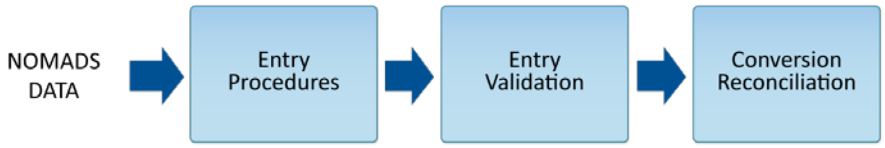

Figure 3.3-92. Manual Conversion Approach

Protech's approach to manual conversion utilizes the following steps to help determine the proper procedures are developed based on the available information and environment:

- *Identify conversion process and procedures*
- *Develop conversion environment*
- *Determine data requirements (historical and current data)*
- *Determine the source of the data (reports, conversion extracts)*
- *Map existing data elements to data requirements*
- *Generate conversion data*
- *Implement validation procedures*
- *Finalize reconciliation requirements/criteria*
- *Perform trial conversion*
- *Data transformation and migration requirements*

REQUIREMENT: (#16) Vendor will develop pre-conversion quality reports that can be run on-demand in order to assess the progress of manual cleanup and the overall "health" of the to-be-converted data.

The tasks associated with any conversion of this size are complex in part because of potential incompatibilities between existing NOMADS application data and NCSEAS. The conversion process, therefore, begins by evaluating existing applications and identifying data necessary for the implementation of NCSEAS. This process will be facilitated by Protech's deep understanding of child support enforcement systems and their associated data requirements.

In addition, care must be taken to evaluate the presence, quality and consistency of data in the primary data source (NOMADS) in terms of key data elements. Key data elements may include primary participant identification information, core case information and, crucially, data used to both produce federal performance measure reports and data used to prove data reliability. Because conversion represents the unique opportunity to correctly populate these data fields the first time, quality must not be compromised in these key areas. Correction of data in such areas after the fact would undoubtedly be costly and

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inconvenient. Moreover, the consequences of unacceptable data quality in such key data elements may have crippling results on the effectiveness and performance of NCSEAS or the evaluation of performance measures for federal certification.

Protech understands the value and importance of DWSS's case, member and financial data. It understands that this data serves as the core of its customers' services. Protech will assure that this data is converted accurately, and will take the necessary steps to ensure the overall health of the data.

REQUIREMENT: (#17) Vendor will develop post-conversion quality reports that assess the quality of the converted data once in the new system.

Protech's data conversion expertise and careful analysis methods will allow Protech to develop a comprehensive conversion plan, which will be coordinated with the development and rollout of the NCSEAS system and training. The Data transformation and migration requirements will be addressed, at a minimum, with the following:

Conversion Strategy

The strategy section of the conversion plan will discuss the conversion philosophy and rollout strategy for the automated and manual conversion. The conversion rollout will be closely tied to the implementation and training plans.

Work Plans and Resources

The conversion section of the work plan will be enhanced with a lower level of detail to identify each subsystem to be converted, the timeframe and activities necessary for data mapping, program development, and conversion testing/validation exercises. In addition, the identification and participation of the necessary resources will be added.

Data Mapping

Data mapping for manual and automated conversion requires extensive analysis to be performed on the application(s), including the examination of both current and historical data. Decisions will be made based on user input and business requirements, as well as the use and treatment of the data in the new system.

- *From where -- identifies fields to be converted from the existing system(s), with field descriptions.*
- *To where -- identifies equivalent fields on the new system.*
- *Apply field logic for automated conversion -- defines any conversion logic (e.g., calculations, dependencies, interpretations, default values, conversion rules, and edits) that must be applied to the field to make it "new system ready."*

Program Development

For each file/field utilized in the automated conversion process, conversion programs will be written that will read, interpret, and insert information into the NCSEAS database structure. Every conversion program will produce a detailed audit trail that will account for the records converted. In addition, exception and error records generated by the conversion programs will be clearly documented by the conversion exception reports. These reports will be studied, and any problem records identified will be corrected and converted. The programs will be developed such that they can be run in iterations of "mock conversion," maximizing opportunities to correct data before the final conversion process is undertaken.

Relationship to NOMADS Interface

The primary data conversion and the NCSEAS / NOMADS Interface will share many, if not most, processes. Data mapping, as well as the use of default and inferred data, will be a shared process for most elements of the conversion functionality. In addition, the NCSEAS / NOMADS Interface will also be capable of operating in a data validation mode to evaluate incoming data without necessarily updating questionable data into NCSEAS. As a result, Interface and Conversion programming will be developed in modular, reusable fashions wherever practical

REQUIREMENT: (#18) Vendor will test conversion routines, using post-conversion reports to measure and report out on progress.

The testing of the conversion logic will occur as an iterative process. The conversion application will be unit, integration, system, and acceptance tested. While the unit and integration testing will concentrate on the conversion programs' behavior independently and as a group, the system and acceptance test phases will test the application with actual application data. The legacy data will be exercised with conversion logic, and the results will be recorded and compared against the expected results of the test. If there are errors in the logic, the application will be corrected, and a retest will occur in accordance with the standard application retest procedures.

The following deliverables and milestones are typically associated with conversion:

- *Conversion Plan – The conversion of current applications will involve a set of coordinated activities between the conversion, implementation, application development, and the Project Teams. To ensure that data conversion is performed efficiently, a conversion plan will be developed. The plan details the key elements critical to a successful conversion from manual procedures to automated computer support.*
- *Conversion Quality Plan – A successful conversion will rely on the development of data control polices. This plan will detail the points in the conversion process where quality and control procedures will be established.*
- *Conversion Readiness Checklist – A detailed pre-conversion checklist will be developed for both the manual and automated conversions. The checklist will provide a method of informing the end-users of the activities necessary to prepare for the conversion process.*
- *Manual Conversion Procedure – The execution of manual conversion will rely heavily on a set of standardized procedures and standards. To achieve the standardization, the procedures for the execution, validation, and reconciliation will be outlined with the manual conversion procedures document.*

REQUIREMENT: (#19) Vendor will further test conversion routines by accessing converted data in the new system through in-development system screens and program modules.

An automated conversion will be performed to populate NCSEAS for the system rollout.

With any conversion effort, data issues may arise, as details of the conversion process are refined. These issues may result from several sources including the identification of data inconsistencies (format, structure, and meaning) between the applications or even the lack of specific data required by in the existing application. The data integrity process will involve the examination of the existing NOMADS data against NCSEAS to determine the best corrective action given the conversion process.

Data integrity issues may be identified at any point in the conversion process. These issues will be tracked in a project database to ensure they are properly addressed during the conversion process. As part of the

overall process, a plan will be developed for the solution of the known data integrity issues prior to the final execution of the conversion.

There are natural limitations to any conversion of legacy data. Legacy data typically has incurred formatting changes over time, which limits the ability of the conversion to create new data that is 100% accurate. For example, reporting periods for data items may have changed, making it impossible to maintain a consistent representation of time increments as they relate to data. Another typical problem is that a new data item may not have been collected for all reporting periods or for all records within a reporting period. Decision rules must be developed to give criteria for reporting or translating this inconsistent or missing data.

As part of the conversion analysis for each stage of conversion, Protech will work with NCSEAS staff to identify these problem areas and to develop necessary business rules to deal with these conditions. These business rules will serve as the basis for developing the acceptance criteria for the conversion project. Protech will offer recommendations regarding how to translate the data from the NOMADS system to NCSEAS based on prior experience with such efforts. However, Protech expects DWSS staff to make the final decision based on these recommendations.

In some cases, inconsistent or missing data can be identified by conversion programs, but not corrected. In other cases, automated correction may be possible, but would be very complex or not 100% accurate. To address these types of data discrepancies, Protech' conversion team members will work with DWSS staff to determine which discrepancies should be cleaned up in the existing system before conversion to NCSEAS. Some cleanup of legacy data can be accomplished by the NCSEAS users through the existing data maintenance application. Other data clean up may have to be accomplished through the development of automated processes.

The conversion typically parallels the application implementation process. This relation to the application implementation process ensures that the implementation activities are tailored to the steps within the data conversion process. Because of this link, data conversion requires a specialized set of deliverables that are tailored to the activities of these processes.
The conversion development process will employ the following phases:

- *Prototype stage*
- *Design and build*
- *Testing and acceptance criteria for converted data*
- *Prototype stage*

During the prototype stage, the work effort includes determining the proper approach to conversion given the overall functionality and data constraints. During this stage, the details and scope of the conversion effort including the identification of the necessary manual activities are analyzed.

Phase steps:

- *The initial scope and high-level criteria for the conversion effort is established.*
- *The initial conversion plan document is prepared.*
- *The current system's data structures are documented, as are the processing requirements that describe how that data is created and maintained. File layouts, application documentation, and batch schedules are reviewed to obtain this information.*

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- *Known data integrity and data clean-up issues are documented in the conversion repository.*
- *Static data (application reference tables) are identified and documented for collection in the future phases.*
- *Manual conversion steps are identified.*
- *Programs and files in the existing applications are matched against the necessary data identified in the previous steps. Any anomalies are identified for possible manual activities.*

REQUIREMENT: (#20) Vendor will produce regular conversion progress reports that detail the progress of the conversion effort by data source and in aggregate, using pre-conversion quality reports, post-conversion quality reports, and other information source as appropriate to give an accurate account of the completeness of the conversion programming effort.

This phase of the conversion process focuses on the flow of conversion activities and the inter-dependencies between the data taking into consideration the final production rollout process. The flow of activities is further refined by the definition of the necessary business rules required for the transformation of the data. As part of this phase, the automated tools are developed and tested by executing "mock" conversion executions. Likewise, the manual procedures are developed and documented.

Phase steps:

- *Inter-dependencies between conversion data are documented and analyzed to provide input to the conversion flow.*
- *The flow of processing for the conversion effort is planned and documented.*
- *NCSEAS / NOMADS Interfaces and their functional overlap with conversion processes are considered.*
- *Detailed business rules are developed for each of the necessary conversion data fields. Any algorithms, calculations or default values that may influence the creation of the new values are defined.*
- *Database integrity reports are developed to verify conversion activities.*
- *Individual programs are unit tested to ensure the program is functioning correctly and effectively. Unit test results are produced.*
- *Manual conversion procedures are developed.*

REQUIREMENT: (#21) Vendor will execute conversion routines for production go-live, using a big-bang or phased approach as appropriate for the conversion and roll-out strategy elected by DWSS.

Protech understands that the NCSEAS implementation is based on a three-region rollout plan. A phased rollout will present special data conversion challenges in terms of timing of data conversion and in ongoing synchronization of NCSEAS and NOMADS.

Before the pilot, the central legacy database and the counties that are participating in the pilot will be converted into NCSEAS database. During this period, the counties that are on legacy system, will need to continue operating on the NOMADS system and will need to access data on their county database, the legacy database. The legacy database will also need to receive updates from the NCSEAS database to ensure any new data elements that have entered the new system through County that has already been converted to NCSEAS. This will raise one issue that will need to address during early Conversion planning phase. NCSEAS will likely have new data elements that are not in the legacy system. Or, the properties of the

new data elements have been modified in use such that conversion back to the NOMADS data model is not possible without any loss of information (meaning). The data communication back from NCSEAS to legacy will need to address this issue.

Protech conducts the conversion cutover cycle after the State makes the decision to move forward with the cutover during each phased rollout. Details on cutover activities are described in the subsections that follow:

1. NCSEAS System Downtime

In general when data is uploaded to a production database, system downtime must be imposed until the upload process is completed and the results can be confirmed. The upload process may require imposing downtime of the NCSEAS system on a statewide basis. This is because NCSEAS operates as a statewide application using a single statewide database serving all counties involved in the cutover region. To mitigate the impact of downtime during business hours, the following steps will enable the State to avoid downtime altogether (if possible), and/or minimize the number of business downtime hours as much as possible.

- *Utilizing the conversion statistics captured during the mock conversion phase, an estimate of the number of hours required to complete the actual upload can be calculated*
- *Schedule the conversion data upload process to occur during non-business hours*
- *Defer non-critical tables for upload until the next non-business operations period*

2. Cutover Schedule

The accuracy of the cutover schedule is critical to the success of the final conversion of data into the target database. To confirm that the schedule is complete and accurate, the Conversion Team will meet with the State staff approximately one month prior to the final conversion. The Conversion Team will conduct a detailed walkthrough of each of the cutover steps identified on the schedule. A specific conversion cutover schedule and checklist will be developed as part of each Region's implementation plan. This would detail the tasks and timeline for the conversion cutover process so that all of the players are completely aware of their roles and responsibilities during the actual cutover.

3. Finalize Any Leftover Cleanup Activities

The final week prior to the actual cutover will provide one last opportunity for the county staffs to perform cleanup for outstanding data cleanups. In addition, work in progress clean up tasks must be finalized, and any activities that are timed near the cutover will be discussed and planned. Any post-cutover data cleansing that is anticipated must also be addressed and communicated to the State.

4. Pre-Production Verification

The purpose of the pre-production verification test is to ensure that unforeseen errors do not occur in the cutover. Typically, this verification is a part of the conversion monitoring process. One reason verification could fail is that conversion scripts do not run as expected because of Network errors (Environmental issue).

In such instances, the NCSEAS application will be stopped from going live and the counties belonging to that region would switch back to the NOMADS system for their regular processing until the issue is rectified and conversion is successful.

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5. Execute Cutover Schedule

The conversion team manages the execution of the conversion cutover schedule. It is the responsibility of the conversion team lead to track the progress of each scheduled item and confirm that each cutover handoff occurs on schedule.

6. Application Verification

An essential focus of the conversion team at post-cutover is to identify and resolve conversion fallout. While the conversion methodology aims to minimize conversion errors, a certain level of conversion fallout is inevitable. Immediately after the cutover, the conversion team and State staff work together to resolve any fallout errors that were encountered in the final conversion run.

7. Cutover Reports

The error information from the final conversion will be loaded into the NCSEAS application as a conversion exception table. This table will have information which identifies the conversion error with description and the entity involved along with the severity of the error. The conversion team generates the summary statistics, error counts and the errors by error number in the form of reports. These reports are reviewed in detail by the conversion team to identify data that could not be converted to the target application due to errors in the conversion data.

The conversion team provides the reports to the State staff, and works with them to resolve any data fallout issues. Resolution of these issues is typically handled through manual data cleanup within the target application. In addition to data fallout issues, there may be instances where inaccurate data passes through the conversion process. The discovery of inaccurate data occurs during the normal course of post-conversion operations. As these errors surface, the conversion team assists the State staff in developing a resolution strategy.

(4.3) Current Computing Environment / Reuse

REQUIREMENT: (#22) To the greatest extent possible, the vendor must reuse and integrate with existing infrastructure investments described in Current Computing Environment section of the Request for Proposal (RFP).

Protech applauds the DWSS stakeholders for including the "reuse" factor as part of the RFP. Often, systems are built with a new stack of products and tools, overlooking the benefits of cost containment and leveraging the existing skills and technical knowledge of the staff members. Our assessment of the existing infrastructure and environment led us to draft a set of tools and products which we believe will provide long term benefits in terms of cost control, and reusability. We also believe that our solution could set the tone for other agencies to implement a similar model.

We propose to use the IBM AIX computing platform as the basis for the core applications which allows us to explore all possibilities to maximize its features and functions. The entire technical architecture of this platform is built to optimize and reuse the existing computing environment. We have described our approach of leveraging the existing storage, security, reporting, and desktop hardware in section #23 below.

Our solution's architecture reflects considerable bias towards the reuse of existing IT assets to minimize the costs associated with the acquisition and maintenance of IT infrastructure. To this end, we have thoroughly examined the list of current computing environments mentioned in Section 3.3 of this RFP and allocated assets for reuse as appropriate. Some examples are the re-use of the IBM technology stack, using Novell Access Gateway for the access gateway service, SAP BO/Crystal Reports as the BI solution, Perforce for source code management and Bugzilla for defect/issue management. We will also work with the CSEP to evaluate other components and products as required, to ensure that the overall solution does not add to the complexity of the architecture, but rather reduces the multiplicity and maintenance costs.

REQUIREMENT: (#23) Bidders should identify which existing tools and components they intend to reuse, and describe the intended use.

The below table explains the reusability part of the existing tools and components:

Existing Tools and Components			
Description	Name	Reused in Proposed Solution	Description on Intended use
Network	TCP/IP, WAN, Cisco, F5	Yes	Our Network communication is based on the TCP/IP protocol. We recommend the use of Cisco Networking hardware. Our standard for core switches is the Cisco 6509/6513 platform. Redundant firewalls are deployed in a multi-tier setup to support environment and tier isolation. The Data Center will be connected to WAN by high speed connection links and to the Internet.
Storage	110 Terabyte	Yes	Our solution may require more storage. We will reuse all the existing storage capacity and procure additional storage as per the sizing specified.
Application Infrastructure	JAVA, MVC, J2EE, COBOL, CICS, Enterprise Generation Language (EGL) V8+	Yes	The primary solution that we propose uses JAVA, J2EE and MVC architecture.
Security	Novell Access Gateway 4.x / E-DIR / IDM, Active Directory	Yes	As per the RFP, Novell E-Directory will be part of our solution for the credential store.
Utilities	Business Objects XIR2 Thunderhead WebSphere Application Server on AIX WebSphere Process Server/ BPM WebSphere Decision Server WebSphere Decision Center WebSphere MQ FileNet P8 Environment Datacap	Yes	Our solution will make use of Business Objects XIR2 as a BI tool, Thunderhead, WebSphere Application Server on AIX for all Java/ J2ee applications, WebSphere Process Server as the runtime engine, WebSphere Decision Server use for combining the business rules management and business event processing, WebSphere Decision Center as repository, WebSphere MQ for messaging across multiple platforms, FileNet P8 Environment for the content Management
Source Code Management	Perforce	Yes	Perforce will be reused for managing version control of software objects.
Defect Management	Bugzilla	Yes	Bugzilla will be used to track and manage defects and further integrate with Perforce for an integrated configuration management
File/Database Access Method	SQL, VSAM	Yes	SQL and VSAM will be used for file and data base access methods
Printers	Canon, HP, IBM, Ricoh	Yes	Our solution facilitates the delivery of printed documents using the Canon, HP, IBM, Ricoh printers

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Existing Tools and Components			
Description	Name	Reused in Proposed Solution	Description on Intended use
Reporting	Business Objects/Crystal Reports	Yes	The existing reporting tool SAP BO and crystal reports will be reused for the reporting components
Standard Desktop	8 - 16 GB Ram Minimum 100 GB drives - Not accessible by users Windows 10 OS (64 Bit) ZEN for desktops (ZCM) Microsoft Office Pro Internet Explorer/Chrome/Firefox Altiris/SEP	Yes	The configuration of the desktop, Windows OS, processor, office tools and browsers are the latest and will be reused
Developer Software	WinSqL Toad	Yes	WinSQL and Toad for testing the SQL and designing the data models

REQUIREMENT: (#24) Bidders should identify tools and components they would replace with alternate products in the same category, describing why the proposed item is superior to the existing one.

In order to keep the solution current in terms of technical compatibility, we propose the following additions to the computing platform and database. We truly believe that these additions will provide maximum performance and security and provide cost optimization.

Additions to Platform and Database			
Description	Name	Reused in Proposed Solution	Description on Intended use
Database Management Systems	DB2 for ZOS 10.1 UDB 9+ for Distributed Environment	No	Our solution migrates the database entities to multiple environments. We will use DB2 for AIX as our primary Relation Database Management System
Computing Platform	AIX V6.1, 7/Windows 2012/ Z/OS/ESX6, SLES11+	No	Our solution Propose AIX 7.1 & windows 10

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V-3.4 Functional Requirements

REQUIREMENT:

11.2.2.5/3.4 For the functional requirements, see Section 2 of Attachment M, Implementation Vendor Requirements.

(2) Attachment M – Functional Requirements and Elaborations

(2.1) Case Initiation

(2.1.1) Automated Referral Processing

REQUIREMENT: (#1) The system must provide automated processing of referrals to and from IV-A, Title XIX, child welfare (IV-E), the court system, and intergovernmental sources. This process must be capable of:

Five key features of our referral processing solution:

1. *Real-time, near-real-time or batch options for exchange with IV-A, XIX and IV-E*
2. *Automated Case Creation to avoid duplicate entry*
3. *Integrated Referral Review screen for incomplete/pending referrals*
4. *Outgoing acknowledgments and error reports*
5. *Audit logs of exchanged information*

Protech's solution for referral processing information from IV-A, Title XIX, Child Welfare, Court and Intergovernmental sources has been successfully implemented in many states. Our metric calculations for % of support established and paternities established already include welfare and interstate referrals. Our solution addresses all the requirements that Nevada has specified in this section.

Our referral processing solution includes online and batch processing modes. To avoid creating duplicate cases or members, the member and case information is first screened against current case/member information through a case/member clearance process. The parameters of the match criteria within this process are determined by the CSEP's needs. Much of the information required to initiate a case is common to the requirements of IV-A, Title XIX, Interstate and Child Welfare agencies. Using information already available saves the worker a great deal of time. In those cases where the referrals have missing information, workers are automatically notified. The system can also notify staff members when specific pre-determined conditions associated with incoming referrals are identified.

Protech has also implemented automated referral processing from CSENet and real-time referrals of multiple docket types that involved child support reliefs for the Administrative Office of the Courts in New Jersey. We will bring this unique experience to the Nevada project to address these requirements effectively.

IV-A Referrals

Referral processing will be based on business rules specific to Nevada. A typical processing scenario is where Participants are received via automated referrals and matched against the members in the target system to identify whether they are new referrals or already known to our system. If none of the participants are known within our system, then member IDs are created for each of the participants and a new IV-D case ID is created. If any of the participants are an exact match with an existing member in the system, the members' prior IDs are used, and no new member IDs are created.

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Once member IDs are established for all case participants included with the referral, the system determines if the custodial parent (CST) and the non-custodial parent/putative father (NCP) from the referral already belong to a Case ID in the same roles as expected in this referral. If they do, then the existing case is used and no new Case ID is created – any newly referred participants are added to the existing Case ID. If the referred participants do not already belong to an existing Case ID in the same roles as expected in this referral, the system automatically generates a new Case ID, assigns the case to a worker based on the case-worker assignment rules, and alerts the worker.

If any of the referred participants partially match with an existing member in the system or if any of the participants match with more than one member in the system, the referral is placed in suspense (stored) for worker review and the appropriate worker is alerted.

Many IV-A, Title XIX, and Child Welfare cases are closed and reopened numerous times. As this occurs, the case initiation process reopens/changes the program type rather than creating new cases. If an exact case/member match is found and the IV-A or Title XIX ID differs from the one currently stored in the database, the system is updated with the new referral information. Both the new and old information are stored on the database and a history screen displays these to the caseworker. This allows the worker to see an accurate history of the case/member type change. Such information is also vital to the distribution process for assigning payments to the correct arrears buckets.

Proper interfaces and maintenance of data ensure accuracy of the member information and member status history. This information drives the case type, case status, arrearage allocation, distribution, and federal reporting. While it is understood that the system receives public assistance information from various systems, the information is mapped to the same place in our system so that an individual person has only one member record throughout the system.

The case type of a case (public assistance vs. non-public assistance) is determined based on the assistance record of the dependent/child member(s) on the case with one IV-D member ID that can be linked to different identifiers from other systems.

NOMADS currently has interfaces with FAME that includes the exchange of data as described in federal system requirement A-2 (d), Accept and Process Referral (CST, NCP, Child, Support Order) Information. During requirements validation and design, we will confirm this assumption and determine the need for any modifications or enhanced data exchange to ensure maximum efficiency for the ultimate objective of a 'real-time' interface.

Our extensive cross-referencing of identifiers from other systems with the IV-D systems, including the effective dates of such cross-referencing, allows for the successful implementation of the financial components of the solution. This conforms to Nevada's requirements that the history of a dependent child member's public assistance time frames is properly assigned arrearages according to PRWORA distribution regulations.

Title XIX Referrals

There is no indication within the RFP that a child support interview is required before approval for Title XIX benefits, as is required for Title IV-A payments. Assuming this is true, the creation of a Title XIX public assistance case in the target system will be based on the referral information as received from the Title XIX program. The system functionality as described in the previous IV-A Referrals section also works for Title XIX referrals. If a child support interview is required, we will work with the State to determine and create the necessary functionality.

Child Welfare (IV-E Referrals)

IV-E referrals are historically the most difficult to accommodate within IV-D systems for a variety of reasons including:

- *Data exchange challenges from the IV-E agency*
- *Additional confidentiality considerations surrounding child welfare cases*
- *Different distribution rules for IV-E assigned arrears*
- *The status of a foster care child could change quickly; by the time IV-D receives a referral from IV-E, the child is back in the home*

Having worked successfully with multiple states on this interface, we provide the State with the best options to implement the solution. The system functionality as previously described under IV-A referrals also functions for IV-E referrals. After implementation of the automated interface, the system makes this initial assessment through an automated case and member clearance process routine.

Design sessions for IV-E referrals and case processing are also used to validate Nevada's requirements regarding the creation of IV-E Foster Care cases as it relates to the members on the case. It is common in many states for the state IV-E agency to be the CST for this case type. One solution for the State's consideration is assigning the state IV-E agency a single IV-D system member ID to be used as the CST on all IV-D cases designated as an IV-E case. This solution is effective for ensuring that all payments distributed on IV-E cases are distributed to the IV-E agency according to federal IV-E assignment regulations and IV-D distribution regulations.

Interstate, Tribal, and International Referrals

Protech provides Nevada with a highly automated workflow, integrated with manual overrides for Interstate referrals. Our experience includes the development and implementation of full CSENet functionality for six states in implementing a more comprehensive system module for interstate, tribal, and international referrals. Having built iSupport, a new system for international referrals based on The Hague Convention, we are uniquely positioned to bring this knowledge to Nevada and implement efficient interstate, tribal and international referral systems.

Our proposed solution can accept referrals from other states, tribes or countries. Implementation of electronic referral acceptance and automated processing applies to other state's referrals more than Tribal IV-D and International referrals based on the other state's federally required use of UIFSA and CSENet, which standardize much of the data and processing. We also bring unique expertise in implementing Hague-compliant referral processing systems for international referrals.

REQUIREMENT: (#2) Screening participants and cases to link with existing participants and cases

Protech's referral processing component reviews incoming data and applies a variety of match algorithms to match participants and cases. When matched, cases and participants are automatically created, and the handoff to subsequent processes is initiated. In other instances, such referrals are displayed for easy access in a referral processing area for caseworker review.

Assignments to appropriate caseworkers are done using our Case Stratification process. The BPR to-be report refers to stratification as a parking-lot issue; we have implemented algorithms that readily stratify cases for efficient processing and handover.

According to the BPR, in the as-is process "The IV-D worker works with the IV-A 2906 paperwork, which provides additional information about the parties that the IV-A workers may have discovered during their interview process". During the requirements sessions, we will work with the State in determining the process for referring such information in an automated way, to facilitate the online screening of participants and link to existing participants and cases. This will apply to IV-A, foster care, and Medicaid, as required. We understand that the planning for the interface with IV-E is still in progress.

REQUIREMENT: (#3) Adding participants and cases to the database

Protech's solution adds participants and cases to the database using specific processing rules that are unique to each State. Matches are done based on demographic data, combined case data, addresses and other parameters. Working with Nevada, we will create business rules that are to be applied in the automated creation of IV-D cases. Re-opening existing closed cases will be aided by providing the caseworker with information on the status of various case conditions including reciprocity with foreign countries, good cause, etc. (based on information in the BPR to-be processes document).

REQUIREMENT: (#4) Transferring referral data from and to the IV-A, Title XIX, or IV-E systems

Our solution identifies appropriate data to be sent back to the referring agencies, including invalid referrals, acknowledgments, reminders, and requests for data. We will work with Nevada in planning for interfaces with IV-A and other DHHS agencies for the return of rejected referrals.

REQUIREMENT: (#5) Storing referrals that cannot be automatically added as cases

Under several conditions, a referral may need to be reviewed by a caseworker before creating a case. These conditions include incomplete referrals, partial matches, or related to a previously closed case among others. All these conditions are properly codified and stored on the database for online retrieval and examination by appropriate caseworkers.

REQUIREMENT: (#6) Alerting assigned staff regarding missing information

Information regarding incomplete referrals is sent to caseworkers through alerts and reports in the case of external agencies. Where information is missing and has been requested, the system reminds caseworkers periodically to review and complete the referral.

REQUIREMENT: (#7) Alerting staff regarding specific conditions associated with the incoming referrals

Actions that can be taken on incoming referrals, such as locate or establishment activities are automatically identified by our system and sent to the appropriate staff responsible for these actions. Where actions can be taken automatically, the system does so and informs caseworkers.

REQUIREMENT: (#8) Generating introductory (e.g., "hello" letter) and appointment letters, as well as petitions

Upon intake of referrals, Protech's solution generates acknowledgment letters, schedules appointments and can generate a notice to the court depending on the individual circumstance of the case. When the NCP and CST have confirmed addresses and paternity is not established, the system generates actions to start these based on business rules. A PIN # is generated and displayed on the form to be used for inquiry on the web portals and the IVR system.

Generating Appointment Letters and Notices

Our solution includes a comprehensive document generation component that is integrated with the case processor functionality and allows the generation of appointment letters, notices and other documents required for support and paternity establishment. Such documents are automatically generated where applicable from incoming referral information received from other agencies. A typical workflow in New

Jersey for a non-assistance case (which is also available for an assistance case) is shown below (Figure 4.3.2.1-3). At the point of reviewing support orders or looking for existing dockets, the system generates appointment letters and petitions as required, while establishing docket relationships to complete the paperwork required for the courts.

REQUIREMENT: (#9) Collecting born of a marriage and paternity status information for each of the children

Information such as born of marriage and the status of paternity establishment are important for the processing of the case into the next step of the IV-D lifecycle. Protech's solution reviews the case for completeness of this information and collects such information through alerts, reports, and interfaces with other agencies including the Department of Vital Statistics.

Paternity Affidavits and Referrals

The paternity status of a dependent is vital to the workflow direction of a child support case. Paternity affidavits are often discovered after a case has been created, so it is important to obtain this information as soon as possible and associate it with a referral and/or a case. In Delaware for example, an interface with the Division of Public Health allows the timely receipt of paternity information as soon as the case is initiated. The State determines the appropriate match criteria. In cases where a partial match is found, an online report is available to the user to compare the paternity affidavit information against existing system information to determine which is correct. We will work with Nevada to identify and implement such interfaces. In New Jersey, for example, we exchange information with the State-wide paternity program to obtain such information daily and automatically update our processes based on the information received.

Paternity affidavits may list other demographic information that the system is missing. Such information can be helpful in locate; therefore, it is important that key data elements are stored and available for the user to view. Paternity affidavits can be associated with referrals even before a case is created. Updates to a member's paternity status generate an alert to the appropriate case worker for informational purposes.

The following paragraphs address aspects of the BPR to-be reports, Sections 4.1.1 and 4.1.3

In the BPR report Section 4.1.1, six barriers to effectiveness and three suggestions for improvement have been identified. Our solution addresses these barriers and suggestions as provided in the tables below.

BPR Section 4.1.1 Barriers			
ID	Barrier to Efficiency or Effectiveness	Description and Disposition	Protech's Solution
B1	Have to wait for the system to "catch up" with responses back from interfaces.	Takes a day off the 20-day timeframe for completing opening the case. System automation removes the barrier.	Our solution provides automated matching of participants on referrals and sends back information to the referring agencies on missing data. Alerts are sent to the caseworkers for follow-up.
B2	IV-A starts clock instead of IV-D	The IV-A agency's "posting" of the referral starts their 20-day clock versus when IV-D verifies and accepts case, which is an issue when the referral is delayed in coming to child support.	Our solution allows for the immediate creation of a case when business rules are met. When manual review is required, the referral is stored in a database, and an alert is sent to the appropriate caseworker for review on the same day. Our policy experts

[redacted]

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BPR Section 4.1.1 Barriers			
ID	Barrier to Efficiency or Effectiveness	Description and Disposition	Protech's Solution
		Construction Decision – immediate and automatic opening of IV-D cases from TANF referrals meets the 20-day timeframe for activating a case. Open Issue – need consensus on policy interpretation of the start of the 20-day clock when a referral requires manual review.	will work with the State to interpret the start of the 20-days clock for referrals requiring review.
B3	Lack of case initiation functional area	The system does not allow a "case initiation" functional area to allow Case Initiation workers to complete the Case Initiation processes before it goes to the next appropriate functional area. System automation removes the barrier.	Our case initiation functional subsystem automates every aspect of initiation, including participant match, case match, scheduling appointments, e-signatures and generation of appropriate documents for locate and establishment.
B4	Caseload assignment business rules needed	The system needs to apply caseload assignment business rules. Some offices are using the "next man up" method for assigning Case Initiation caseloads. This approach could be applied to all functional areas or groups of functional areas. Open Issue – define caseload assignment rules for the new system so that the caseload assignment method accommodates Nevada's requirement for caseload stratification.	One key issue which we resolve here is the assignment of a referral to a caseworker when a case is not yet created due to the referral being in the review stage. Our solution features automated case assignment based on multiple business rules including caseload, alpha, and round-robin assignments. Further stratification is also available based on case parameters such as Good Cause, Interstate indicators, existing arrears or other aspects of the case.
B5	System refers cases inappropriately	The system accepts referrals of an open case or a case that was closed and not meant to be reopened. System automation removes the barrier.	Our automated match processes and referral review systems preclude this possibility.
B6	Keep case in current status when updating an address	NOMADS is too quick to judge the loss of the address in the middle of an update and pushes the case to closure or out of case initiation unnecessarily Design Note – do not move a case toward closure or out of case initiation if the address is just being changed. Allow the process to complete before next steps are initiated	We assess the case for closure only for approved reasons, and the valid change of address is not one of them. Additionally, addresses are verified and normalized before change, so that system integrity and data governance principles are met. If an interface contains addresses that are known to be outdated, the system will be programmed to maintain the CSE verified address.

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BPR Section 4.1.1 Suggestions			
ID	Suggestions for Improvement	Description and Disposition	Protech's Solution
SI1	Case initiation workflow	Set up a case initiation workflow's business rules and design the system to follow them. Open Issue – identify best practices among current case initiation models in the local offices and use them to create procedures for cases moving through the case initiation functional area.	Protech's solution features complete automation of the case initiation and workflow processes. When a referral is received, the system automatically creates a case when the business rules permit such creation. A caseworker can search for information on the Case participants, similar cases and other features to ensure that duplicate cases or participants are not created. Comprehensive matching algorithms are used to identify potential matches. Additionally, the system implements online address normalization and stores location coordinates for the addresses of the employers, CSTs and NCPs. Where these are unknown, locate processes are automatically started. And where these are known, based on the business rules the system coordinates with Court systems to auto-schedule hearings, paternity tests and mediation conferences as applicable. Missing information requests will be auto-sent to the source (for interstate referrals, and if applicable, welfare referrals). The system facilitates the entry of Notary signatures and the applicant signatures on the system and generates hard-copies of these or emails them as secure pdfs to the CST/NCP and other interested stakeholders.
SI2	Address hierarchy	Determine an address hierarchy for the system to use. Open Issue – sort through which sources of address location hits get automatic preference, which require manual review, and which are automatically rejected; dispose of the rejected hits appropriately.	Protech's solution includes a comprehensive address hierarchy for sending notices and application forms – these default parameters can be set ahead of time, and the method of delivery can also be customized at an individual level. Sources for an address have different levels of reliability, and the system allows for the prioritization of addresses based on the source. If the source's reliability changes by dropping below a level, addresses from this source are automatically rejected.

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BPR Section 4.1.1 Suggestions			
ID	Suggestions for Improvement	Description and Disposition	Protech's Solution
SI3	Employer hierarchy	Determine an employer hierarchy for the system to use. Open Issue – sort through which sources of employer address location hits get automatic preference, which require manual review, and which are automatically rejected; dispose of the rejected hits appropriately	Protech's solution features a process similar to the address hierarchy where employers from certain sources, such as NDNH are accepted while employers from other sources are subject to automated verification based on their reliability.

The improvements suggested by category (4.1.1, BPR report) are addressed by our solution as mentioned in the table below.

BPR Section 4.1.1 Improvements by Category	
Improvement Category	**Description of Improvement**
Automation	Automation improvements include the System: • Using additional and improved integration with all sources, either through interfaces or website interaction. • Rejecting referrals/applications that are not complete and/or correct. ***Protech: Use of integrated real-time/near-real-time/batch processes for accepting and rejecting referrals; Auto-creation of cases where applicable***
Process Adaptation/Streamlining	Process improvements include: • Having the System funnel all referrals into the same Automated Referral process. ***Protech: All referrals flow through the same case creation process***
Standardization	The System uses the same general referral processing approach regardless of source. ***Protech: Same approach for all referrals within Protech's solution***
Improved Quality	The System returns incomplete referrals to the agency that sent them. ***Protech: Referral Rejection Processes and Reports are included in our solution***

BPR Parking Lot Items and Open Issues

BPR ISSUE: In order to leverage the improvements in the To-Be process fully, the following parking lot items need to be addressed before or during the design of the System:

- Conduct advance planning with Nevada's IV-A and IV-E agencies to prepare for the design of the federally required interface with these agencies.

Protech's Solution: ***Protech has implemented batch, real-time and near-real-time interfaces in six states. Our policy experts and technical architects have worked closely with the states to design and develop these interfaces from the planning to the implementation stages.***

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BPR ISSUE: Define business rules that would allow IV-D to return incomplete or inappropriate referrals and to identify referrals that need IV-D review before accepting the referral. To leverage the improvements in the To-Be process fully, the following open issues need to be resolved before or during the design of the System:

- Ensure policy is consistent with the new interface. This would entail starting the 20-day clock when the interface pushed the referral to IV-D.
- Define caseload assignment rules for the new system so that the caseload assignment method accommodates Nevada's requirement for caseload stratification.

Protech's Solution: ***Our solution features comprehensive case assignment rules (State, regional, county, alpha, round-robin, load-balancing) for assigning cases and referral to designated caseworkers.***

BPR ISSUE: Ensure the new system meets federal requirement for an automated interface to receive electronic referrals from the Medicaid agency in addition to federal requirements for receiving electronic referrals from the IV-A and IV-E agencies.

Protech's Solution: ***We have built federally certifiable electronic referrals to the Medicaid agency in various states and bring our experience to Nevada.***

In the BPR report section 4.1.3 for interstate referrals, four barriers to effectiveness and two suggestions for improvement have been identified. Our solution addresses these barriers and suggestions as provided in the tables below.

BPR Section 4.1.3 Barriers			
ID	Barrier to Efficiency or Effectiveness	Description and Disposition	Protech's Solution
B1	Cannot create cases without SSN	Creates duplicates because the system can create cases without SSN. System automation removes the barrier.	Our solution provides comprehensive, customizable case match and member match components that implement well-managed procedures to disallow the creation of duplicate members and cases.
B2	Unable to correctly route information	Another state may be initiating a case, but the case is in Nevada as enforcement. Therefore, Case Initiation does not get the info because the info is going to enforcement. But Nevada has not loaded the order yet, so enforcement is not looking at it either. Open Issue –this issue would be dealt with through the system keeping the cases in Central Registry until it receives and processes the transmittal packet and by implementing a Case Initiation functional area.	Cases received manually or through CSENet are routed through our system from the central registry in a systematic manner by: 1. first creating an interstate case, ensuring that all information is available and 2. then routing the case to the appropriate caseworker for further action Protech will assess routing issues with the CSE program and make recommendations to overcome this barrier to efficiency.
B3	Inconsistent routing of information	For some counties, all CSENET referrals or applications go to Case Initiation while other counties will forward it to where the case is assigned, and the Case Initiation	Same as B2

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BPR Section 4.1.3 Barriers			
ID	Barrier to Efficiency or Effectiveness	Description and Disposition	Protech's Solution
		worker receives phone calls but doesn't know the facts about the case because they never got the alert. Open Issue –this issue would be dealt with through the system keeping the cases in Central Registry until it receives and processes the transmittal packet and by implementing a Case Initiation functional area.	
B4	Unable to know when information received	It is difficult for the assigned case worker in the local office to know if or when the accompanying hard copy transmittal has been received in Nevada. The worker has to wait and manually monitor for when the packet is forwarded from NIIC. Open Issue –this issue would be dealt with through the system keeping the cases in Central Registry until it receives and processes the transmittal packet and by implementing a Case Initiation functional area.	Same as B3

BPR Section 4.1.1 Improvements by Category	
Improvement Category	Description of Improvement
Automation	Automation improvements include the System: • Improving the processing of the interface with the intergovernmental transmittals. **Protech: Our solution provides the ability for a caseworker to see the CSENet/Manual interstate referral information in blocks of data and allows the automatic transfer of such information to the case create process, thus improving the processing of the interface.** • Holding a CSENet case in the Central Registry until it can be synchronized with the transmittal of additional non-electronic information from the intergovernmental jurisdiction. **Protech: CSENet and manual transactions are held with the central registry until all necessary information is received. This process is supplemented with alerts and timers to allow caseworkers to re-request necessary information promptly.** • Closing CSENet cases that are not complete and / or correct. **Protech: Case Closure processes in the Protech Solution automatically initiate the closure of incomplete/incorrect interstate cases.** • Notifying the intergovernmental jurisdiction regarding the problem(s) with, or rejection of, the

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BPR Section 4.1.1 Improvements by Category	
Improvement Category	Description of Improvement
	intergovernmental case transmittal. **Protech: Automated transactions or UIFSA forms are used to notify intergovernmental jurisdictions of problems with referrals.**
Process Adaptation/Streamlining	Process improvements include: • Potentially, directing CSENet transmittal cases to the Central Registry, and assigning case set up responsibilities for all responding intergovernmental cases to Central Registry workers. **Protech: Our solution supports the implementation of a central case registry that has the responsibility for ensuring that all information is made available before the routing of interstate cases into the case management system.**
Standardization	The System uses the same general transmittal processing approach regardless of the source. **Protech: Our interstate processes are standardized for paper referrals and CSENet referrals.**
Improved Quality	The System does not activate CSENet transmittal cases that are not accompanied by the required paper transmittal. **Protech: Comprehensive attachments management functionality ensures that only completed referrals are processed by the system.**

BPR Parking Lot Items and Open Issues

BPR ISSUE: In order to leverage the improvements in the To-Be process fully, the following parking lot items need to be addressed before or during the design of the system:

- Determine the protocols to monitor for the receipt of the transmittal paperwork for intergovernmental cases that are in a pending status.

*Protech's Solution: **Our interstate case work list management systems and integrated notification processes ensure close monitoring of necessary paperwork for intergovernmental cases.***

BPR ISSUE: In order to leverage the improvements in the To-Be process fully, the following open issues need to be resolved before or during the design of the system:

- ***Direct CSENet transmittal cases to the central registry, and assign case set up responsibilities for all responding intergovernmental cases to central registry workers.***

*Protech's Solution: **The implementation of a central registry and the management of all interstate processes through the registry is part of our solution.***

(2.1.2) Online Pending Referral Function

REQUIREMENT: (#10) The system must provide a pending referral or other function to support staff review for the referrals that cannot be automatically added to the system.

Protech's referral processing solution applies sophisticated business rules to match the participants in a referral to existing cases in the target system, and create cases and participants automatically where possible. In those instances where a referral cannot be processed due to incomplete data, partial matches and other reasons, we provide a pending referral function. When the system is unable to create a new case automatically, the information is stored in a table and available for user review of referred information along with the reasons the system was not able to process the referral.

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When the referral process results in either exact matches or not matched to existing members in the system, the system creates new member IDs for new members and uses existing member IDs for existing members. However, if any of the members are partially matched with existing members, or matched with more than one existing member, the referral is placed in suspense for the worker to view and work on the pending referrals.

When new information is received from referrals, the existing pending referral is updated with the new information and the case clearance, and member clearance processes are initiated to determine whether the case creation can be automated without worker intervention.

Once a worker determines a case should be created from the pending referral, the system automatically creates or updates the given information on the appropriate screens, thus immediately beginning the initiation workflow.

(2.1.3) Client Databases

REQUIREMENT: (#11) The system must use the client databases to screen case participants and for assigning a person number before registering a new participant.

All members added to cases are first filtered through a member clearance process to determine if the member already exists in the system. If not, a new ID is assigned by the target system, and the information is sent to a MDM (Master Data Management Process) that can be used by other programs in the Department of Welfare and Supportive Services (DWSS) through a master client index. The master client index information provides the target system with client information from other DWSS systems when such information is received through other DWSS systems. This facilitates the secure exchange of participant information across DWSS programs.

Automated search for participants being added to a case has traditionally been a manual process in child support systems, and where it has been done in batch, has employed methods based upon rudimentary heuristics, resulting in a single person linked to multiple participant IDs. We propose the use of IBM's MDM, a comprehensive and sophisticated participant and entity clearance solution, which also addresses data quality and related issues effectively. When the member clearance process finds partial matches, the caseworker reviews these matches online. The system displays matching members along with the relevant case and address information for these members. Our system also allows the worker to combine information from multiple client records into one consolidated record, to be stored into a new client record, or to update an existing record as required.

Protech's solution uses MDM for search and participant clearance and maintains master data that is used consistently across all components of the system, including locate matches, notice generation, address normalization, and maintaining data attribute currency, such as addresses. We use configurable business rules, sophisticated matching rules applied through the data quality matching Server, and an integration framework for interaction between MDM and operational applications. A history option provides traceability to data modifications made to arrive at the current best-version record. MDM also maintains a cross-reference of participant IDs across different systems and provides information when those systems are updated, based on workflow requirements.

For those instances where manual search and verification is required (for example, during walk-ins or when new information is posted on the customer service portal for worker review), our solution provides universal search user interfaces and technologies that search for a participant across multiple systems and display the search information in a common, usable format. Our technology also provides configuration options, where the user can selectively obtain parts of the information from different systems and merge them into

one common record, starting verification workflows and other relevant case management workflows in the process. Searches and matches are usually done using a combination of attributes such as the DOB, last name, first name, aliases, SSN, and gender. Other systems may use different attributes with differing priorities, and our solution allows for the configuration of these priorities while searching those systems and providing a list of potential matches along with reliability scores. Related case information from both systems is also presented along with auxiliary information, such as addresses and case types, to provide the caseworker with deep context while determining if the participant belongs to a case that is known to these systems.

An illustration of our member match and merge process is shown below.

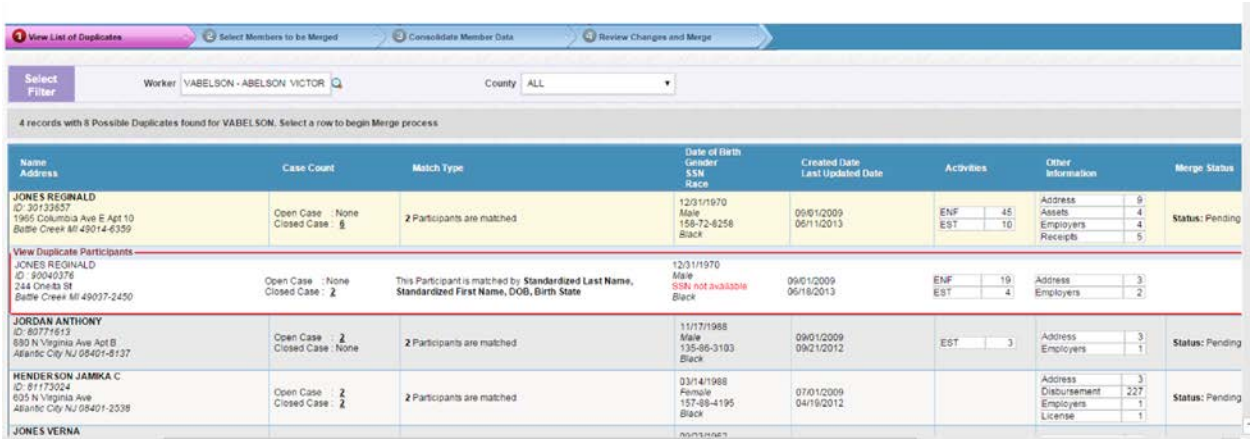

Figure 3.4 (2) - 1. Member Match and Merge Process

An illustration of our online search solution for the State of New Jersey is provided below as a representative example. Notice the search results are obtained online from within the NJKiDS child support system (based on Java & AIX) and from an external mainframe system, FACTS, the Automated System for Family Courts:

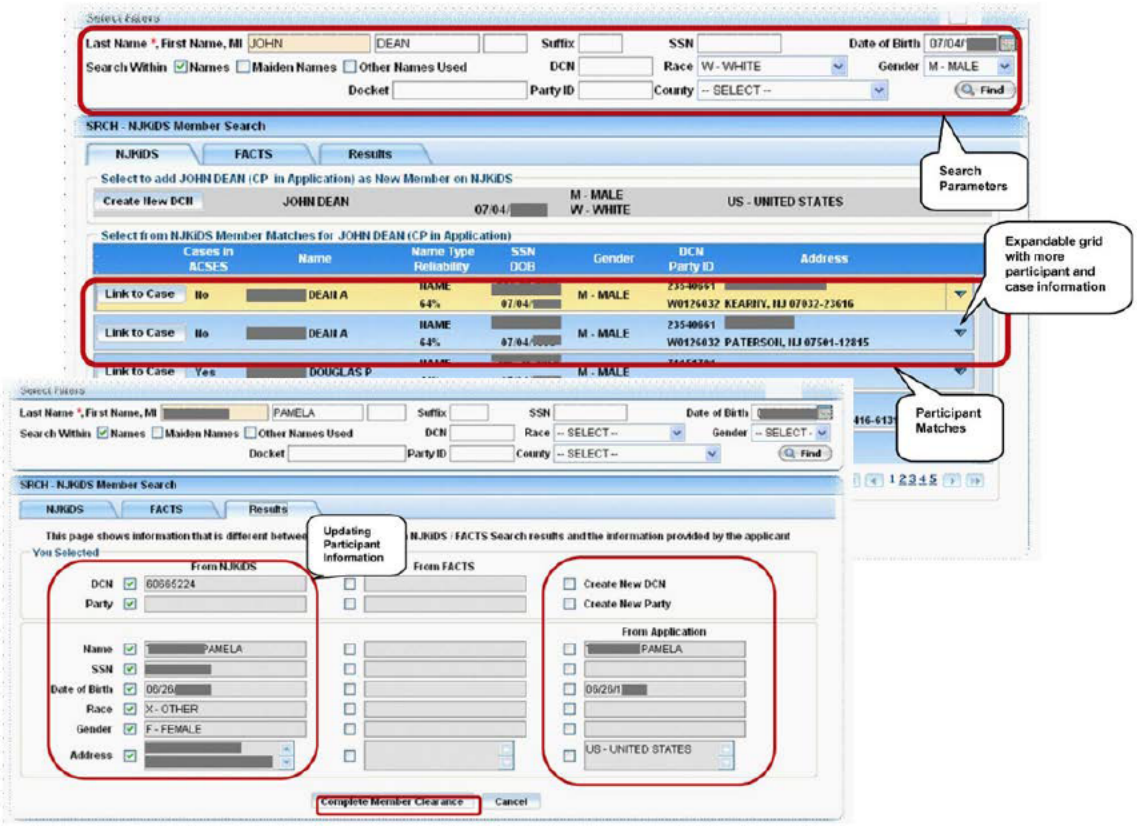

Figure 3.4 (2) - 2. Online Search Solution

(2.1.4) Automatic Case Setup

REQUIREMENT: (#12) For all referrals, the system must provide automatic case setup when case participants can be added or updated without staff intervention.

Cases are automatically setup in the system when (1) the referral includes the required case and participant information and (2) the participants are either exactly matched with the existing IV-D members, or there is no match with the existing members. These rules are customizable and can be changed for Nevada as required. If the roles of the participants match the case-member relationship of the matched IV-D members, the existing case is updated with the program status; otherwise, a new case is automatically created. Automatic case setup will not happen if any of the participants is partially matched with IV-D members, or matched with more than one IV-D member, or the participant role does not match the case-member relationship of the associated IV-D member.

Referrals which result in no automatic case setup display on a pending referrals screen until the worker researches and associate the member with an existing or a new IV-D case. A daily pending referrals report or a worker alert is created. The exact processes and requirements are determined by the requirements and design phases.

The workflows after automatic case setup consist of the following and are illustrated in the flow diagram below:

- ***Scheduling appointments & generating Call letters***

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- *Generating Questionnaires & locate forms to various agencies*
- *Updating member demographic data, locate/employer data and paternity information*

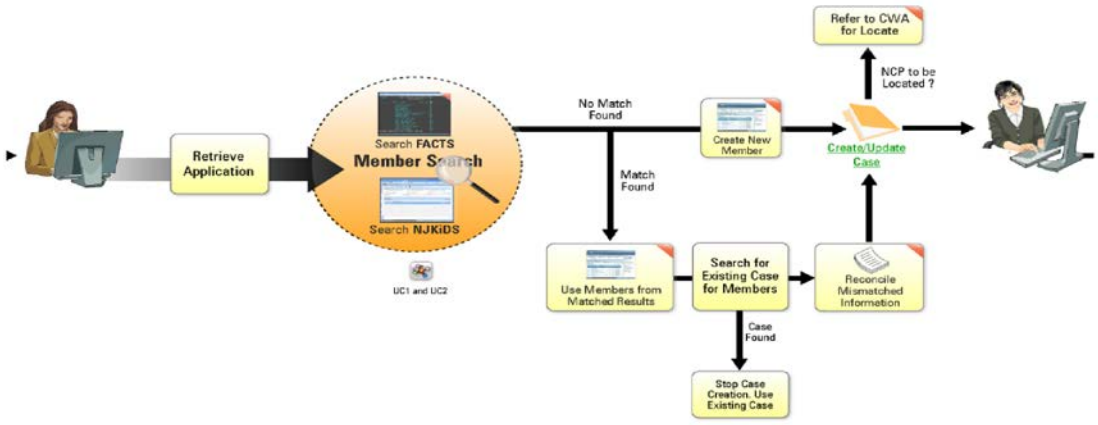

Figure 3.4 (2) - 3. Workflows after Automatic Case Setup

(2.1.5) Automatic Editing of Referral Data

REQUIREMENT: (#13) For all referrals, the system must validate the data and provide action-required and informational alert messages along with online access to the referral data.

The information contained in a referral automatically undergoes system edits and validations that result in either a case opening or put into a pending queue for worker review. Assigned workers are notified of Pending referrals through an alert or a report. From the Alert screen, the worker navigates to the case/member associated with the alert, then edits or adds additional information. Per federal certification guidelines, the system tracks the case chronology from the time of application receipt and then generates a report of this transaction.

During referral processing, the system identifies additional information required from other states to complete the referral and moves it to the next stage of the case lifecycle. This includes attachments, affidavits along with consent forms and signatures. The system will track these and notify appropriate caseworkers, and track obtaining the missing information through a system of timers, alerts and reports.

Once the information is received, the state of the referral is changed to 'Referral Accepted' and processed into the next step of the case cycle.

(2.1.6) Automated Case Record

REQUIREMENT: (#14) The system must check for duplicated cases.

Before creating a case automatically from referrals, or manually for NPA intake, Protech's solution provides extensive search capabilities to find duplicate cases and participants before creating these on the system. In our response to #11, client databases, we illustrate an online clearance function. The clearance software behind this online function is also used for offline clearance in the case of batched processing functions. When duplicated cases are identified, the system provides the caseworker with the opportunity to re-open and/or reuse the existing case for further processing.

REQUIREMENT: (#15) The system must establish an automated case record for each application / referral.

Protech's solution provides the ability to establish an automated case record for each application and referral. During the process of establishing the case record, our solution (1) associates an employer record with the CST and NCP, if applicable, with all key information available as master data; (2) standardizes the mailing address and residential address for participants; and (3) stores interstate information and external documents along with the case record.

In the process of creating the automated case record, our solution provides the capability to schedule a hearing automatically, request a schedule, generate documents and integrate e-signatures from the CST, NCP, Attorneys, and Notaries on the petition for support.

The following illustration provides a section of the information requested on the CST during the creation of the automated case record in the State of New Jersey. Similar illustrations are available from other states such as Maine, New Hampshire, Delaware, and Arkansas.

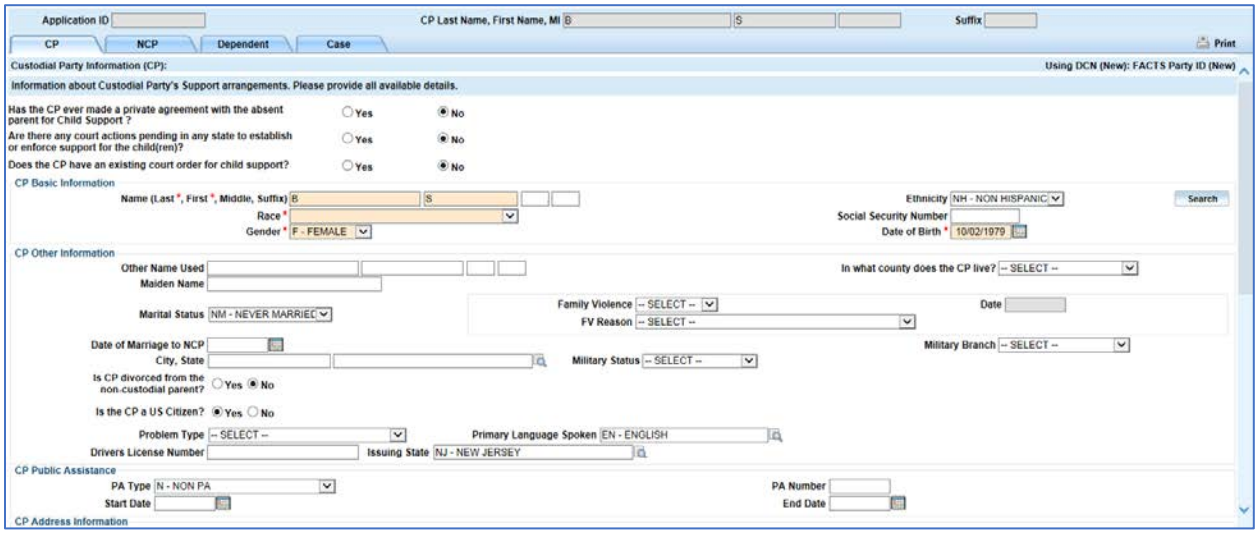

Figure 3.4 (2) - 4. Sample of Information Requested on the CST

REQUIREMENT: (#16) The automated case record must provide a comprehensive and chronological case history of all actions taken, including status changes, whether manual or automated.

As indicated earlier, in the process of creating the automated case record our solution provides the capability to schedule a hearing automatically, request a hearing, generate documents, create tracking notes and integrate e-signatures from the CST, NCP, attorneys, and notaries on the appropriate documents. Each of these actions results in a case history record that is time stamped and linked to the notices and scanned documents that relate to this record. Any status change to the case or the related participants is automatically recorded and a chronological history entry is created. Examples of such status changes include changes to assistance status, the status of hearings, location, establishment and other case-related actions.

REQUIREMENT: (#17) The system must maintain case history online.

Protech's solution provides an online case journal of the system and manually initiated activities for a case. It maintains a comprehensive case diary of all case events from case initiation up to and including case closure. All case activities are tracked within the system and include the date, time, and name of the worker

or system that acted. The system uses activity codes assigned to state and federal program standards for the tracking and compliance of the time frames.

REQUIREMENT: (#18) The automated case record must include data to allow the system to monitor program time standards effectively.

The case journal is a record of system and manually initiated activities for a case. Our system maintains a comprehensive case diary of all case events from case initiation up to and including case closure. All case activities are tracked within the system and include the date, time, and name of the worker or system that acted. The system uses activity codes assigned to program standards for the tracking of the time frames monitored for compliance with program time standards. In the default view, the case journal entries are listed chronologically according to date of occurrence. For the convenience of the user, the screen provides multiple search, filter, and sort options to enable efficient review of the case history. Below is an illustration of the case journal in the State of New Jersey, provided as a representative example of the functionality.

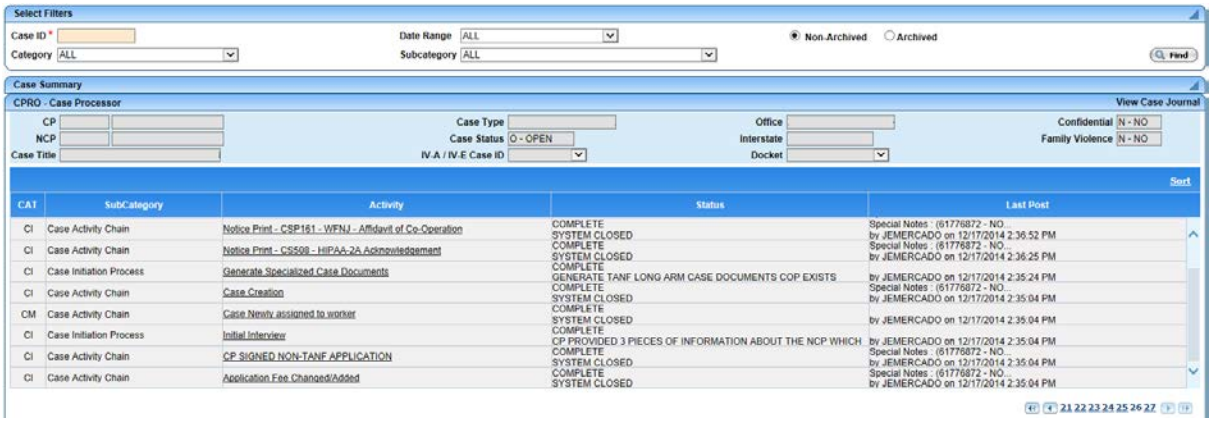

Figure 3.4 (2) - 5. Case Journal

Case Processor maintains comprehensive case event history, with options to search, filter, and sort the entries.

Each case event is displayed as a hyperlinked entry which provides information about the case event functional category; the name of the workflow or process which recorded the case event; a brief description of the case activity; the status of the case event; and the detailed log. Upon clicking the hyperlinked case event, the system displays detailed information about the case event. The detailed view displays information about documents and schedules associated with specific workflows.

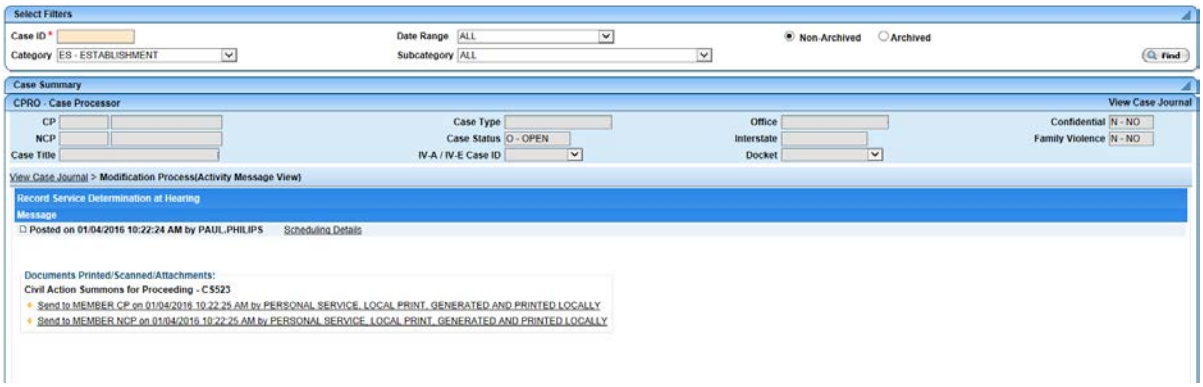

Figure 3.4 (2) - 6. Case Journal – Message View

Case Processor maintains comprehensive case event history with detail views that provide additional information.

Business rules that govern federal and state mandated time frames are integrated into the workflows and the monitoring batch processes. These processes use the case processor screen to exchange information with the interface agencies, initiate next actions, send alerts to workers for case review, and generate documents. All these activities are recorded in the case journal entries which could be used to generate reports and monitor compliance with the time frames.

BPR Improvements by Category	
Improvement Category	Description of Improvement
Automation	Automation improvements include the System: • Improving the interface with vital statistics to do a preliminary assessment of paternity. • Generating the requests for clarifying information from the custodial or noncustodial parent. • Attempting the initial Locate of the noncustodial parent. • If Locate is successful, generating a courtesy contact to the noncustodial parent. **Protech: Our Solution has built interfaces with Vital Statistics in seven states, and is used to inform the case on the status of paternity** **Our Case Processor generates requests and other information through customizable online notices at every step of the paternity workflow. This is controlled through customizable business rules.** **At any point in the case lifecycle, if the NCP is not locatable, the case immediately enters the Locate process. Even if the NCP is located, the system pro-actively seeks the latest information on NCPs from a variety of sources.** **Upon location, the NCP is contacted and a worklist item is created – to await a response.**
Process Adaptation/Streamlining	Process improvements include attempting locate automatically without prompting from a case worker. **Protech: At any point in the case lifecycle, if the NCP is not locatable, the case immediately enters the locate process automatically. Even if the NCP is located, the system pro-actively seeks the latest information on NCPs from a variety of sources.**
Standardization	The system has a clear boundary for passing cases to the next functional area (i.e., Locate of the alleged father or noncustodial parent has been successful.) **Protech: In our solution, movement along the case life cycle is completely automatic, and the eligibility to move to the next functional area is assessed in real time based on any event or change of data for the case.**
Improved Quality	The System will contain a new case in this new functional area until it is either rejected for lack of complete and / or correct information, or it has had a successful Locate performed. This keeps incomplete cases from causing delays further on in another IV-D process. **Protech: Cases in locate are not eligible to move to any other functional area. Even if the case is currently in enforcement, the locate functional area takes priority.**

(2.1.7) Limited Services

REQUIREMENT: (#19) The system must accommodate and identify cases for recovery of state debt only.

The implementation of our solution in Arkansas provides for 'Recovery Only' case types. One of these types is the "Recover State Debt Only" case type. Only specific enforcement remedies are applicable for these

[redacted]

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types. Upon reduction of the arrears and/or a settlement with the NCPs, these cases are addressed by the case closure process. Our case closure process identifies such cases and implements the process with specific coding so that these cases can be closed upon settlement with the NCP. The response provided in Section 2.4.13 details the case closure solution including automating the closure checklist.

(2.1.8) Case Tracking

REQUIREMENT: (#20) The system must be able to track families while allowing for the ever-changing circumstances of a child support case (e.g., a child that moves from mom to caretaker to father to state care and back again).

Protech solutions in various states implement child-based order processing with variations on ordered-on-arrears, instant debt, blanket orders and previously ordered judgments. When a child moves from mom to caretaker, our solution allows the custodian to change to the caretaker while the arrears are still recorded in the name of the children; thus, allowing the collections to be applied to the same set of obligations while ensuring money is disbursed to the correct recipient. Obligations are modified to decrease the periodic amounts for the period the child lives with the NCP. When the child is placed in Foster Care home, the support amount accrues under a separate bucket. Any amount distributed to the Foster Care bucket is disbursed to the Foster Care agency.

Three key aspects of order-follows-child business process that require sophisticated data structures are:

- *The child's custodianship can change, and the system needs to maintain a historical record of such changes.*
- *Apart from maintaining the historical record, distribution rules require that prior-month transactions such as allocations and reversals be based on the condition of the cases as of the prior-month. This means that the database should maintain a snapshot of the historical conditions of all aspects of the cases that affect such transactions.*
- *Disbursement back-outs and stale-date checks should be properly accounted for, from a historical perspective.*

Protech's solution maintains a comprehensive history of case-participant information, the programs that they were in, the time-frames and the ability to allocate and transfer arrears between PRWORA buckets across the span of the custodianship, between the State, parent, caretaker, and back. We maintain a cross reference of benefits, program assistance categories, and custodians within the same order and case construct, to minimize the impact on the complexity of the system and allow arrears to be a multi-dimensional object that is affected by the child, guardianship, State, interstate movement, and other relevant factors. If the child does not live with either parent, our data structures allow the creation of two NCPs for the child and receive payments separately from both NCPs. Such information is aggregated into a common view for easy access to the overall picture regarding monies owed and paid to the child.

A business process customized to meet Nevada's requirements will be implemented in our process server, to notify parties of the change of custody, generate paperwork for the custodian, and monitor the action. Once this is completed, the caseworker will be able to change the custody of the child online without having to create a new case and move arrears manually.

(2.1.9) Participant Entity Management Capability

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REQUIREMENT: (#21) The system must provide automated screening of new participant data to minimize duplicate participant entities.

All members added to cases are first filtered through a member clearance process to determine if the member already exists in the system. If not, a new ID is assigned by the target system, and the information is sent to a MDM (Master Data Management Process).

Our solution uses MDM for search and participant clearance and maintains master data that is used consistently across all components of the system, including locate matches, notice generation, address normalization, and maintaining data attribute currency, such as addresses. We use configurable business rules, sophisticated matching rules applied through the data quality matching server, and an integration framework for interaction between MDM and operational applications. A history option provides traceability to data modifications made to arrive at the current best-version record. MDM also maintains a cross-reference of participant IDs across different systems and provides information when those systems are updated, based on workflow requirements.

REQUIREMENT: (#22) The search criteria must allow for the following data to be used in combination or separately to obtain a list of potential matches:

- name
- date of birth
- gender
- Social Security number (SSN)
- English and / or Spanish surname Soundex
- phone number
- address or portions of an address
- child or children names

Protech's Solution provides CSEP a uniform process by which individuals are added to the NCSEAS target system. An automated routine in the system allows workers to enter demographic/descriptive information about the individual – such as name, English/Spanish surname Soundex, DOB, gender, SSN, addresses/partial addresses, phone numbers, and child(ren) names – and then search the system for potential matches. During the customization of the system, we work with CSEP to identify the specific parameters used to search and clear individuals, and in what combination they can be used. We use a variety of sophisticated matching algorithms to determine whether a potential match exists.

Our solution provides caseworkers with information on matching participants. Multiple search criteria as required by #22 are used for searching (Address and phone numbers are also available, as are children's names), and the results display a wealth of auxiliary information that allows for better recognition and reuse of existing participants.

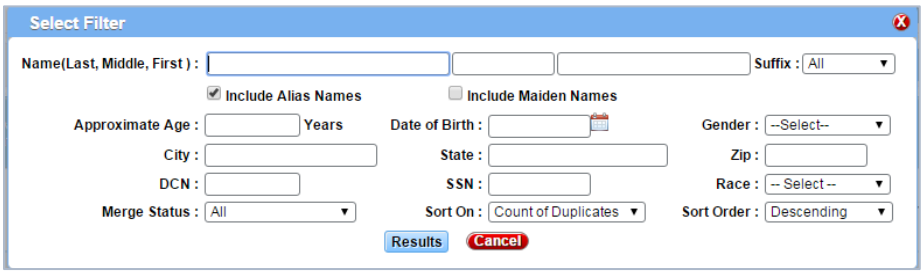

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Figure 3.4 (2) - 7. Search Criteria Used to Identify Potential Duplicates

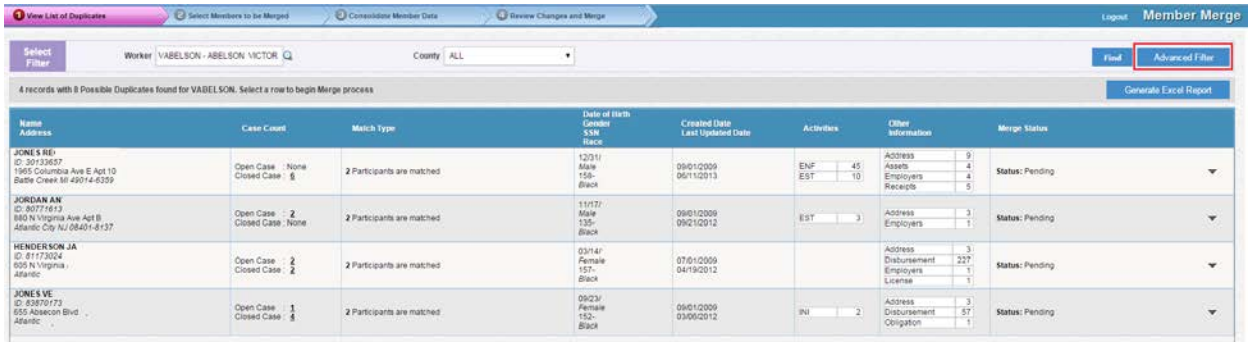

Figure 3.4 (2) - 8. Sample View of Results for Potential Duplicates

Participant data is obtained from multiple systems and collated for easy viewing. Related case information (if any) is also provided for each of these participants so that caseworkers can correlate participants to other cases in which they might be involved.

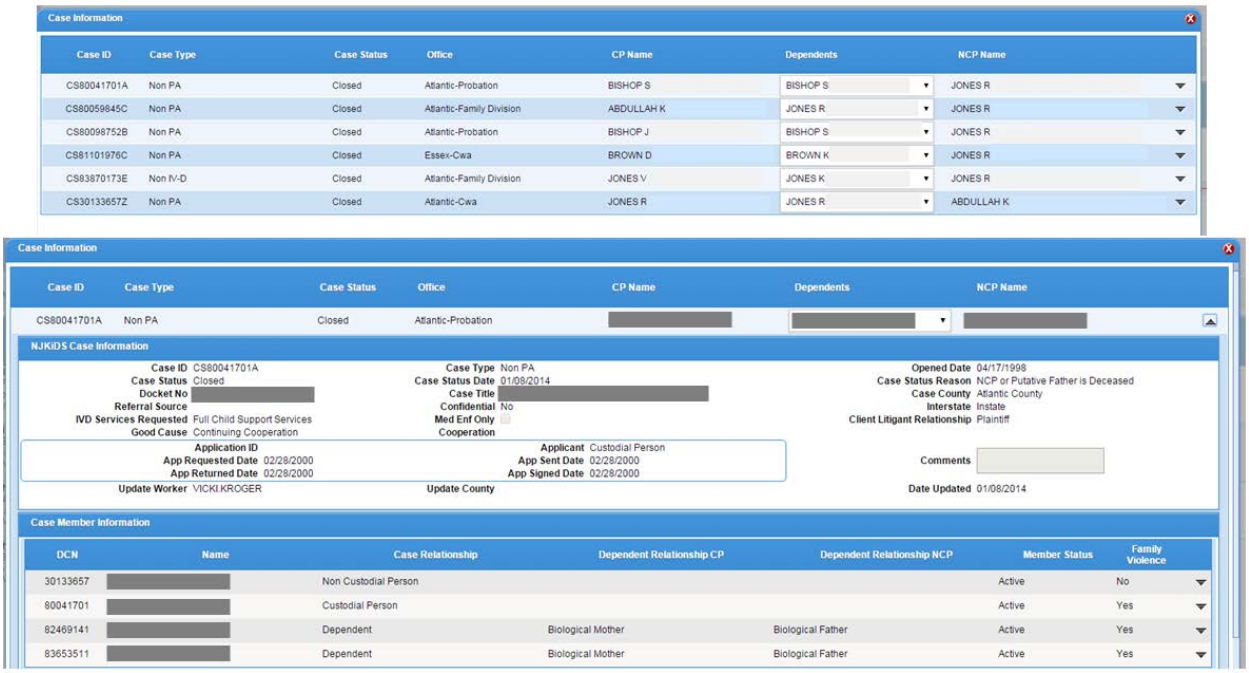

Figure 3.4 (2) - 9. Case Information

The system returns search results in which the worker can identify whether the individual is already known to the system and included in any open or closed case.

REQUIREMENT: (#23) The system must allow the user to select the appropriate match or matches or create a new member.

After reviewing the results of the search, the worker can then either create a new participant or select the appropriate match from the search results. Sometimes the caseworker may need to get the best data from

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two records, each having partial information on a single individual. Our solution allows the caseworker to "Merge" specific fields from different records and combine them while creating a new participant record.

REQUIREMENT: (#24) A search for potential matches must be performed before a new participant may be entered to the system.

For processes that allow participant creation, the system requires the caseworker to complete a search and select a checkbox that affirms that search has been done and no matching participants were found, before allowing the caseworker to add a new record. This is implemented for case initiation from all sources including walk-ins.

REQUIREMENT: (#25) The system must invoke the same screening process described in this section whenever users or interfaces change critical demographic data.

When critical demographic data is changed, the system warns the user of potential matches because of the change and facilitates similar search as update process as for a new participant. This is applicable for both online and batch processes where partial matches are found; such records are put into a suspense are for worker review.

REQUIREMENT: (#26) The system must support merging participant data when the system identifies duplicates.

When member demographic data is added or changed, our solution invokes the member clearance process to ensure that changing the data does not result in the creation of a duplicate member. An example from Arkansas' ARCSIS system is changing a member's DOB to that of another existing member does not indicate a duplicate member. However, if the DOB change results in two members having the same DOB, Gender, and Name, it is flagged as a potential match. In ARCSIS, a pop-up box immediately notifies the user of the potential match and allows him/her to continue or cancel the update. All potential matches must be resolved before a new member is added to the system. These potential matches often result in merge requests submitted to a central unit charged with managing the participant table and correcting duplicates that are identified during case/member merge. This same screening process is used when critical demographic data is changed as well with the system allowing for merging of data if duplicates are found. The specific demographic data to determine exact matches for Nevada is determined during the system design sessions.

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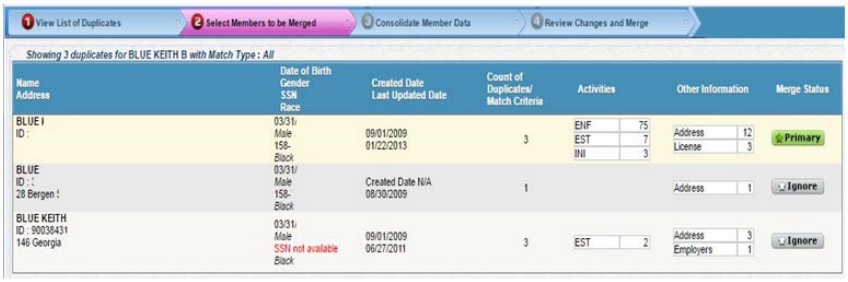
An illustration of the member-merge process is shown below:



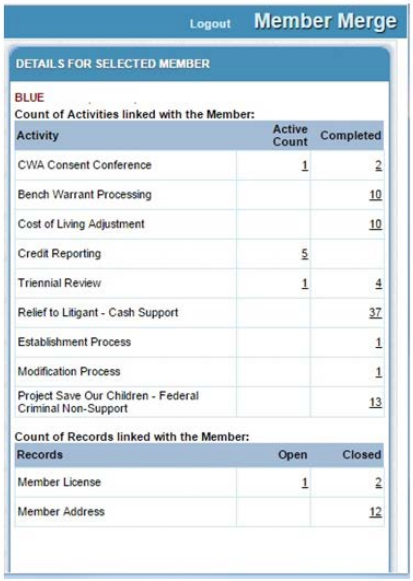


Figure 3.4 (2) - 10. Member Merge Dashboard

REQUIREMENT: (#27) The system must support separating participant data when reversing inappropriate merges.

To achieve this requirement, all data is stored in timeline-based snapshots. Merged member details are available on the merge screen. The central unit unmerge process reviews the unmerge-date from snapshot views carefully before the central user un-merges a record. It is important to consider the effect of a member/case merge and unmerge on public assistance, accrual, distribution, disbursement, workflow, scheduling, document generation, archiving, and reporting. These requirements are determined in requirements validation sessions.

REQUIREMENT: (#28) The system must support linking a single participant to multiple cases with the possibility that the participant may be a custodial parent, noncustodial parent, child, non-parent custodian, or foster care agency in any of the cases.

Our system supports linking a single participant to multiple cases with the possibility that the participant may be a custodial parent, noncustodial parent, child, nonparent custodian, or foster care agency in any of the cases.

REQUIREMENT: (#29) The system must allow for any gender as the custodial party or noncustodial parent.

Our solution allows the gender of the CST/NCP to be male or female or unknown. Additional values can be included as required.

REQUIREMENT: (#30) The system must be able to link two noncustodial parents to a child in the custody of the foster care agency or third party caretaker.

Our solution can link two NCPs to a child in the custody of a third-party caretaker or foster care agency. To link two NCPs to the same child, our solution allows the creation of a third party (Caretaker, State) with two cases for the same child, each with one NCP.

The system allows creating a single case with multiple putative fathers until paternity is established for the child. Some of the states prefer creating one case per putative father. When Paternity is established for the child, the other cases where the putative father is excluded are closed.

(2.1.10) Participant Demographic Data Management

REQUIREMENT: (#31) The system must accommodate detailed participant demographic data including, but not limited to:

- name
- ethnicity
- gender
- birth date
- death date
- SSN
- driver's license or identification card state and number
- height
- weight
- eye color
- hair color
- language
- mother's name
- father's name
- relatives' names and relationships
- current spouse's name
- place of birth (city, state, and country)
- date of marriage
- date of divorce
- marital birth status indicator
- paternity established date
- aliases
- maiden name
- mother's maiden name
- other SSN's used by this participant

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- Individual Taxpayer Identification Number (ITIN)
- scar description
- tattoo description
- health condition
- Immigration and Naturalization Service (INS) number
- education level

REQUIREMENT: (#32) The system must accommodate hyphenated surnames and names with other special characters.

REQUIREMENT: (#33) The system must accommodate home and work phone number, pager number, cell phone number, and e-mail addresses.

REQUIREMENT: (#34) The system must accommodate a photographic image.

REQUIREMENT: (#35) The system must maintain the same demographic data for all case participants, regardless of their gender or role on a case.

The transfer system's database contains columns to store more than 50 data elements on the Participant Table and more than 25 on the participant physical attributes table. Protech's solution for NCSEAS provides for those baseline data elements and more as required in #31. Two of our certified systems provide for hyphenated surnames, store a photographic image and feature over 100 data fields and multiple sets of data such as phone numbers, incarceration dates, and immigration statuses among others, providing the most versatile management process for participant data among modern child support systems.

A single set of demographics is maintained for each unique participant ID, regardless of the role in one or more cases, allows for the most efficient participant demographic data management system. Additionally, our solution provides a complete audit trail and history of changes to demographic data, allowing the user to review changes, their time frames and identify who made those changes.

Changes to key data elements result in the invocation of the member clearance process, to provide the caseworker a clear view of potential duplicates, and reduce the chances of creating duplicated records.
For example, when:

- *The DOB change results in two members having the same DOB, gender, and name; it will be flagged as a potential match for worker review*
- *An SSN is verified through an approved process such as Social Security Administration. If the modification is required, key information such as name, SSN or DOB can be programmed to allow change only by a specific security group.*

Business rules such as those above can be customized and configured for the NCSEAS implementation using the business rules engine.

(2.1.11) Participant Status Data Management

REQUIREMENT: (#36) The system must accommodate collecting detailed participant status data including, but not limited to:

- SSN verification status
- employment status
- incarceration status
- unemployment benefit status
- location status

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- workers compensation claim status
- rehabilitation status
- public assistance status
- military status
- military benefits status
- Social Security disability claim status
- medical support status
- family violence status

Participant statuses present unique challenges to a child support system as these statuses are dependent on the relationship of the participants to public assistance programs, IV-D case statuses, and independent statuses such as family violence and employment.

Participant status data is triggered during the case initiation process and subsequently managed via online updates and ongoing automated processes. In accord with DWSS CSEP specific business rules, batch processes are configured to update participant and case information received through interfaces with all agencies DWSS CSEP has established an exchange of information agreement. Also, information is also received from FCR/FPLS. Such updates include but are not limited to; public assistance status, Social Security disability claim status, military status, incarceration status, employer status, and location status.

This status matrix answers the following eight questions, for each status, as applicable:

- *What is the current status?*
- *How long has the participant been in the current status?*
- *What event or action moved the participant to this status?*
- *Who changed the status and why was it changed?*
- *What is the participant's history of this status (on/off, active/inactive)*
- *What additional information is available on this status? (for instance, if incarcerated, where incarcerated and for how long, why incarcerated)*
- *Which welfare program is associated with this status?*
- *How were the arrears re-computed for this status? (ex: Change of Assistance Status)*

Each time there is a change in one of the participant status data elements, an alert is triggered to the appropriate worker who will determine what if any action can be taken. Participant status can be a key element in triggering enforcement or referral actions. For example, a change in worker's compensation status could load a remedy to enforcement. Business rules such as those above can be customized and configured for the NCSEAS implementation using the business rules engine.

(2.1.12) Participant Occupation Data Management

REQUIREMENT: (#37) The system must accommodate collecting detailed occupation information including, but not limited to:

- trade skills
- union membership

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- union address
- self-employment business type
- address
- professional and / or occupational license number
- Employer Identification Number (EIN)
- Federal Employer Identification Number (FEIN)

The ability to keep detailed occupation information is critical to the collection of child support. Our solution features the ability to not only collect the details on the occupational status of the participant but, also maintain the history of the status and a process for verifying the occupational status.

Our solution uses this occupational status to invoke applicable enforcement remedies when the case conditions, as defined by the business rules specific to Nevada, call for such invocation. Featuring automatic updates based on data from external agencies or from online input, occupational status is managed and reported on exhaustively by our solution.

(2.1.13) Participant Interface Number Management

REQUIREMENT: (#38) The system must accommodate tracking the participant and / or case numbers assigned to a participant by other systems including the IV-A, Title XIX, Child Welfare (IV-E), Court, Corrections, and other states.

Our solution tracks the participant and/or case numbers assigned by other systems including the IV-A, Title XIX, IV-E, Courts, Corrections, and other states via interfaces. Other system identifying numbers are linked to the participant, along with the program ID of the other system. The start and end dates of the program are also recorded to facilitate proper case type classification and distribution of receipts. A history of changes to participant interface numbers and program statuses is also maintained for the various public assistance agencies that interface with NCSEAS.

(2.1.14) Participant Address Management

Data structures in the transfer system facilitate the integrated management of addresses for participants. Protech's solution adds robust participant address management features. The system allows participants to have multiple confirmed addresses and addresses pending verification. Address types are also provided to allow the selection of the correct address for legal correspondence, check disbursements, or service of process actions. The process for loading address data, received through interfaces, is based on configurable rules. Addresses are:

- *First, passed through IBM's MDM (Master Data Management) subsystem of the solution to validate, normalize, and deduplicate the data.*

- *Then, processed by DWSS CSEP specific pre-configured Locate action modules to address ongoing workflow requirements. Locate audit diary entries are created to indicate that data was received and processed. Subsequent actions taken by the system are also recorded in the diary.*

The address verification letters are bar coded and mailed to postmasters, resulting in incoming verification responses from the postmaster. These responses are scanned into the Data Capture ECM and address

records in the NCSEAS system are automatically updated. Those addresses unable to be updated are made available for user review and processing.

REQUIREMENT: (#39) The system must associate addresses with participants.

Each address has a unique ID and is associated with a participant, along with the history of changes to the address and an audit log of the changes.

REQUIREMENT: (#40) The system must accommodate parsing address information to establish geographic location data. The parsing of address information is to separate the address into its component parts (e.g., street number, street name, apartment number) to assist in matching addresses to those previously identified.

The solution includes database columns to store address data elements, with a column for each separate component part (such as address line 1, address line 2, city, state, zip. The address normalization software parses the address and provides each separate component.

REQUIREMENT: (#41) International addresses must be supported.

We record international addresses and apply relevant matching rules for de-duplication and standardization of these addresses.

REQUIREMENT: (#42) Address fields must be of sufficient size to avoid address truncation.

No part of any incoming address, online or in batch, is truncated.

REQUIREMENT: (#43) The system must be capable of interfacing with the United States Postal Service to verify addresses.

Our solution interfaces with the USPS to retrieve updates to address information for CSTs and NCPs through a subscription with the National Change of Address product from the USPS. The system validates address and zip code combinations and supports participant addresses according to the USPS postal and residential mailbox standards, APO and international address standard format from manual and electronic sources.

REQUIREMENT: (#44) The system must update the verification date and source upon receipt of a positive verification.

When an address is verified (either through OCR scanning, batch interface, or manual verification) the system documents the acquisition date and source of information.

REQUIREMENT: (#45) The system must identify the type of address (e.g., residence, work, mailing, legal, alternative payment, safety address, etc.) and the status of each address (e.g., confirmed good, confirmed bad, pending verification).

We provide the State with multiple address types depending on the State's business rules, and a well-defined hierarchy of address selection for specific use of the addresses, such as check-mailing, legal notification and regular correspondence. The address statuses include confirmed good, confirmed bad, verification pending and no action needed (when the participant is CP, some states do not verify the address received).

REQUIREMENT: (#46) The system must allow for multiple active addresses of different types concurrently.

Our solution allows for concurrent, active addresses of multiple types and provides an address hierarchy algorithm for the selection of these addresses for specific purposes.

REQUIREMENT: (#47) The system must assess and maintain the status of case participant addresses for all cases associated with the participant.

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The parameter table used in locate processing of locate source information includes a value to signify if the information provided is treated as verified upon receipt and, therefore, does not require third party verification or notice generation to verify the data.

REQUIREMENT: (#48) The system must include a field to capture the county in which the address is located.

The county code is automatically calculated by the address normalization software and stored in the database, to be displayed on the address screen.

REQUIREMENT: (#49) The system must maintain an address history of all reported addresses provided by the various locate interfaces along with the source and date that each address was last reported.

Our solution provides a comprehensive address history and source component, along with the timestamp.

REQUIREMENT: (#50) The system address interfaces must use the address history to avoid reporting the same information to staff repeatedly or initiating an action to an invalid address.

The MDM correlates and ranks source data based on the source and facilitates the inclusion of data age or decay to influence the match algorithms using configurable rules. It has components that allow the cleansing and de-duplication of data as it enters the NCSEAS data repositories, based on sophisticated, configurable algorithms.

(2.1.15) Participant License Data Management

REQUIREMENT: (#51) The system must accommodate maintenance of professional, occupational, driver's, and recreational license data associated with a participant, including:

- license type
- issuing state
- current status
- expiration and renewal data
- critical information regarding the license holder such as
  - date of birth
  - SSN
  - Address
  - phone number
  - gender
  - ethnicity
  - height
  - weight

REQUIREMENT: (#52) Participant license data management will include identification cards issued by any state's motor vehicle licensing agency to people ineligible for driver's licenses.

Accurate and up-to-date license information, including, drivers, recreational, professional and occupational license data is essential to locate, establishment, enforcement and to the review and modification of the case. License information is entered and updated online through auditable actions or interfaces with external agencies.

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The system can receive license and participant data through interfaces with various licensing agencies DWSS CSEP has established an exchange of information agreement.

- *License data includes license type, current status, expiration, issuance date, and renewal and expiration dates.*
- *Participant data includes DOB, SSN, address, phone number, gender, ethnicity, height, and weight.*
- *Protech's solution provides functionality to capture the license photograph and store the photograph as an attachment that displays for the case or cases in which the individual is a participant.*

Positive results returned from licensing agencies are recorded in the system and, once verified, may be used to alert the appropriate worker and/or direct the case to the next appropriate action based on DWSS CSEP specific business rules.

(2.1.16) Participant Asset Data Management

REQUIREMENT: (#53) The system must accommodate maintenance of real and personal property data associated with a participant including at a minimum

- real estate
- estates
- automobiles and recreational vehicles
- bank accounts
- stocks
- bonds
- civil suits settlements
- retirement account data

Protech's solution provides CSEP with the ability to store information on a wide, customizable range of assets including real estate, estates, automobiles and recreational vehicles, bank accounts, stocks, bonds, civil suits settlements, and retirement account data. Rules-driven intake and update processes ensure that duplicate information is not stored, while access to the latest information on assets is obtained from other government agencies or third-party providers. Our solution features automated parsing of data from these agencies and providers, and update into the Target system, with manual review if specified by business rules.

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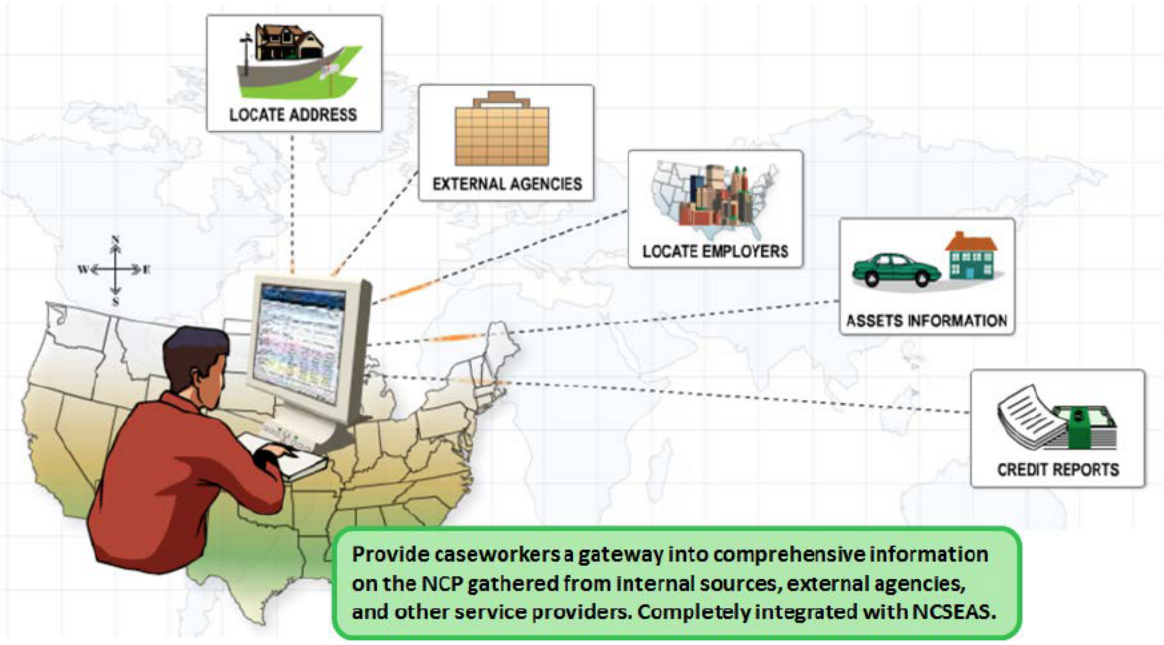

Figure 3.4 (2) - 11. Automated Updating of Asset Information

The addition and updating of asset information in our solution informs multiple processes that are automatically started or continued. These include:

- ***Locate: automated verification specified by business rules***
- ***Enforcement: Start or continue remedies including license suspension and reinstatement, FIDM, CSLN, and Liens.***

(2.1.17) Participant Employer Management

REQUIREMENT: (#54) The system must associate employers with participants and accommodate linking employment status information to all cases associated with the participant.

(#55) The system must store the type of employer (e.g., primary, secondary) and the status of each employer (e.g., confirmed good, confirmed bad, pending verification) and the status date.

(#56) The system must capture the availability of health insurance and the number of hours the participant is scheduled to work.

(#57) The system must allow for the association of multiple employers with a participant and maintain a history of the employers that have been identified.

(#58) The system must be capable of identifying the employment status as full-time, part-time, seasonal, or temporary.

(#59) Each association must identify the source of the employer information.

(#60) The system must provide employment start and end dates.

In a manner like address management, our solution provides comprehensive and sophisticated employer management capabilities. Featuring all relevant data on employers, the system:

- ***Associates participants to multiple employers. Each employer is identified by a unique ID after duplicate-checks and data-integrity checks are completed. A separate employer history table***

associates this unique ID to one or more participants, together with a period of employment as specified by a start and end date for the employment of the participant;

- *Records detailed information on insurance provided by the employer. Such information is recorded on a data structure that is customized for holding all relevant insurance details on policies held by NCPs and CPs; this information is also updated from a third-party-liability (TPL) interface that adds new insurance information and sends information to Medicaid on available insurances;*
- *Indicates full-time/part-time employment. Such information allows caseworkers to determine which employer is primary and which one is secondary;*
- *Allows recording the type as primary and secondary;*
- *Assigns various statuses (confirmed good, confirmed bad, pending verification) and the status date to each of the employers of the participant, and the source of the data. These statuses are assigned by the system at various stages of the employment verification web site;*
- *Stores corporate and work addresses of employers; and*
- *Links work addresses of an employer to the corporate address so that specific notices can be sent to relevant addresses, and income withholding requests are sent to the correct corporate address.*

Employment records received from some sources, such as NDNH, are used in some states to trigger income withholding notices automatically. We will implement this in Nevada as a customizable option.

Our solution will process employer information received manually or through an automated interface to determine whether the employer is known to the target system. Employers unknown to the target system will automatically be added as a new additional entity. New information received from employers known to the system will be added to the employer record as an update. Duplicate information received from an employer known to the system will be archived for historical purposes. Field staff may not directly modify the master employer data unless specifically authorized; this function will be centrally implemented in an Employment management unit or similar unit as identified by CSEP.

The ability to send/receive information from the employer is further enhanced when the employer chooses to sign up for the employer portal, to provide updates on termination, work location changes, changes in income, etc. Additionally, employers can, through the portal:

- *Contact Nevada's teams for employer maintenance*
- *Post child support payments withheld from their employees' pay*
- *Link to The New Hire Reporting Center*
- *Link to OCSE Insurance Match Program Information*
- *Print out forms specific to employers*
- *Report updates to their demographic information*
- *Report updates to their contact information*
- *Report employee status (new hires, terminations, layoffs)*
- *Respond/report re: National Medical Support Notices (NMSN)*
- *View payment history of all payments they've posted via the website*

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- *View payment history of payments they have made for employees*
- *Submit documentation to the Employer Maintenance Unit (EMU)*
- *View documentation submitted to the EMU or sent by the EMU*

(2.1.18) Participant Employment Income Management

REQUIREMENT: (#61) The system must associate employment income with a specific participant, employer, and period.

(#62) The system must provide linkage to all cases associated with the participant.

(#63) The system must record the source of the employment income information.

(#64) The system must maintain wage data as provided by the state employment department and by the Federal Case Registry (FCR).

(#65) The system must support staff update of employment status information.

The ability to maintain data on income from various sources including employers, self-employment, unemployment compensation, SSI and workers' compensation, is important to withholding income of the NCP for child support. Nationally, nearly 70% of all child support revenue comes from these sources, underscoring the importance of managing and tracking such income.

Our system design meets the following requirements and more:

- *Associates employment income, as well as other types of income, with a specific participant, employer and period.*
- *Provides linkage to all cases associated with the participant.*
- *Records the source of the employment income information as well as sources of other income (SSI, SSA, UIB, etc.).*
- *Maintains wage data as provided by the state employment department and by the Federal Case Registry (FCR).*
- *Supports staff updates of employment status information.*

Our solution takes into consideration a one-to-many relationship to participants, dockets, cases, and additional entities. For example, an Employer Non-compliance Notice is sent to employers who are not remitting payments in compliance with an Income Withholding Order (IWO). In this example, if the employer has multiple employees for whom they are not submitting payments, only one notice is generated to the employer but listing all of the NCP IWOs that they are not complying with – rather than sending the employer a separate notice for each NCP IWO.

To ensure continuity, our conversion team will convert data such as case and participant events and activities that have occurred in NOMADS "as is" into the target system to ensure that system actions are not duplicated and re-triggered upon going live, ensuring that the conversion of data will not create inappropriate or extra work tasks, notifications, documents, or establishment and enforcement actions in the target system, solely based on actions taken or not taken in NOMADS.

Income records from various sources mentioned in the requirements above are already implemented by us in other States, and we bring that knowledge to the implementation of the target system in Nevada. Bi-directional interfaces with Unemployment and Workers' comp, SSI result in automated intercept requests to

these agencies. Our solution also issues IWO transactions based upon employment information from various sources, based on customized business rules.

(2.1.19) Participant Self-Employment Income Management

REQUIREMENT: (#66) The system must associate self-employment income with a specific participant, type of business, and time period.

(#67) The system must provide linkage to all cases associated with the participant.

(#68) The system must record the source of the self-employment income information.

Like employment income, our system design meets the following self-employment income management requirements:

- *Associates self-employment income with a specific participant, type of business, and period.*
- *Provides linkage to all cases associated with the participant.*
- *Records the source of the self-employment income information.*

Self-employment information received from sources is maintained like any other Employer information, and also the self-employment indicator will be set. Batch processes consider the self-employment indicator value in determining eligibility for income withholding. Logic for the use of the self-employment indicator can be customized and configured for the NCSEAS implementation using the business rules engine.

(2.1.20) Participant Other Income Management

REQUIREMENT: (#69) The system must associate other income (e.g., dividends, veteran's pension, Social Security, retirement, unemployment compensation, worker's compensation, and medical benefits) with a specific participant, type of income, and period.

(#70) The system must provide linkage to all cases associated with the participant.

(#71) The system must record the source of the participant other income information.

Like employment income and self-employment, our system design meets the following other income management requirements:

- *Associates other income (e.g., dividends, veteran's pension, Social Security, retirement, unemployment compensation, worker's compensation, and medical benefits) with a specific participant, type of income, and period.*
- *Provides linkage to all cases associated with the participant.*
- *Records the source of the participant other income information.*

Other income is also maintained on the income and expense screen. Other income can be entered into the system under the income/expense tab at any time.

Other income includes but is not limited to:

- *Dividends*
- *Veteran's pension*
- *Social security*

- *Retirement*
- *Unemployment compensation*
- *Worker's compensation*
- *Medical benefits*
- *Military pay*

(2.1.21) Participant Expense Management

REQUIREMENT: (#72) The system must associate allowed expenses (e.g., child care costs, union dues, mandatory retirement account contributions, alimony, special needs expenses, health care costs, and medical support costs) with a specific participant, type of expense, and time period.

(#73) The system must provide linkage to all cases associated with the participant.

(#74) The system must record the source of the expense information.

Our solution maintains income and expense on the income and expense details screen, which is a member based screen that associates the information with all of the member's associated cases. The source field (SRC) and Source ID field on the screen specifies the type of the expense, the identifier for the source, and date. A source can be a variety of values as defined in the NCSEAS project from the RFP requirements and JAD sessions including child care costs, union dues, mandatory retirement account contributions, alimony, special needs expenses, health care costs, and medical support costs.

The New Jersey system (NJKiDS) version of functionality for participant expense management also includes an Income and Expense (INEX) screen that has multiple tabs to display income, expenses, state quarterly wages, and federal quarterly wage information and includes the ability to enter a date's range for each record added to INEX.

We offer this type of functionality for the NCSEAS, which can be customized to meet the business needs of the Nevada CSEP.

(2.1.22) Participant Medical Support Management

REQUIREMENT: (#75) The system must accommodate orders that require medical support coverage, regardless of whom is ordered to provide the support.

(#76) The system must associate medical support coverage with a specific participant (i.e., the participant providing coverage and the participant covered) for all order types including contingent medical orders.

(#77) The system must collect the:

- health insurance carrier
- coverage type
- group number
- policy number
- effective dates
- employer, if the insurance is provided through employment deduction
- policyholder

(#78) The system must allow for multiple policies to be in effect concurrently.

(#79) The system must maintain the history of prior policies.

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(#80) The system must provide linkage to all cases associated with the participant.

(#81) The system must record the source of the medical support information.

(#82) The system must record the policy information and costs.

Management of medical support information is as important to enforcement actions as it is for other person-specific information. The NCSEAS system will be designed to collect the health insurance carrier, the coverage type, the group number, the policy number, the employer if the insurance is provided through employment deduction, and the policyholder. It allows for multiple policies to be in effect concurrently. It also maintains the history of prior policies, provides linkage to all cases associated with the participant, records the source of information, and records the policy information and costs.

NCP Ordered Medical Support:

- *Monitoring for the response from the employer.*
- *Referring to employer location if the employer is removed and there is not another employer identified.*

Standardize program-wide response for employers who do not reply to the IV-D agency. The system automatically generates a second notice to the non-responsive employer.

The system determines whether the employer offers health insurance coverage to its employees before generating the National Medical Support Notice (NMSN). Once this information is gathered, the system will know whether to send the NMNS to the employer or not, saving resources when the employer does not offer any coverage.

CST Ordered Medical Support:

- *Identifying cases where the custodian is required to provide health care coverage for the child.*
- *Generating the notice to the custodian asking if the child is enrolled in health care coverage.*
- *Monitoring for a response from the custodian.*

Medical Cash:

- *Monitoring for payment of medical cash to the system.*
- *Generating the notice to the custodian to obtain the information necessary to determine the cash medical amount when based on a percentage of the premium.*
- *Referring to the income withholding process to collect the amount of medical cash.*

Below is a representative example of the member/dependent insurance screen that Protech developed for the New Jersey child support system. We offer similar screens for NCSEAS that will be customized to meet the business needs of the Nevada CSEP.

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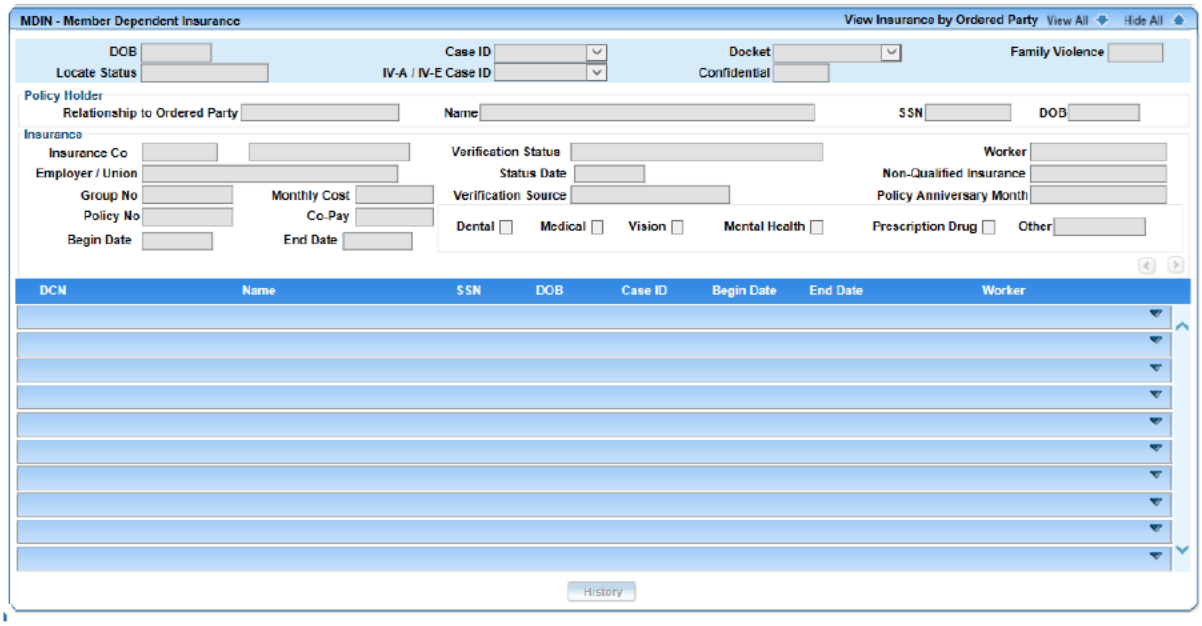

Figure 3.4 (2) - 12. NJKiDS Member/Dependent Insurance (MDIN) Screen

(2.1.23) Employer Management

REQUIREMENT: (#83) The system must interface with the state employment department to establish and maintain an employer table.

Our system features automated interfaces from a variety of sources for locate information, where a regular flow of data regarding employers, assets, addresses and other data is received by the system. Sources of this information include State Employment Department, FCR, SDNH, and DMV among others. Our employer portal is also implemented and used for this purpose in multiple States.

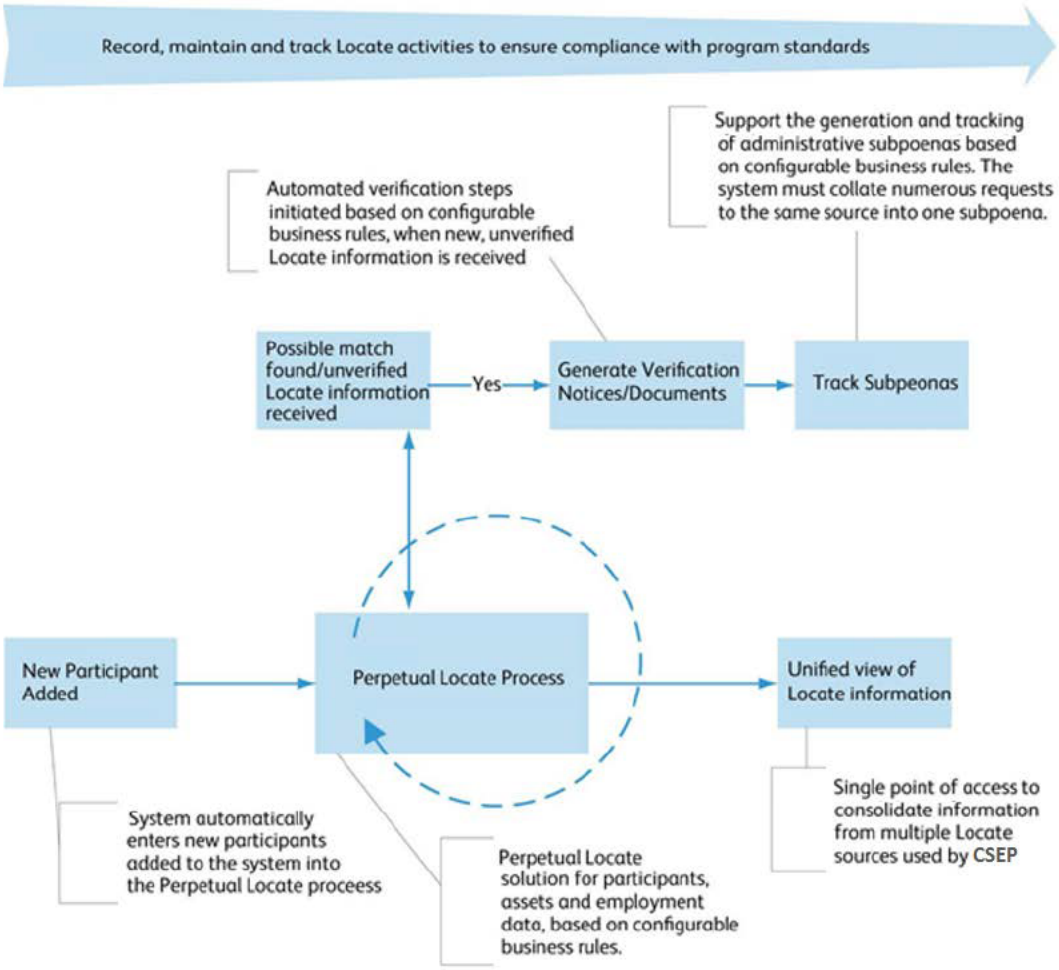

Figure 3.4 (2) - 13. Automated Interfaces

REQUIREMENT: (#84) The system must support merging employer data when a user or the system identifies duplicates.

REQUIREMENT: ***(#92) The system must accommodate managing employer status to accommodate mergers, acquisitions, and closures.***

The employer merge process in our solution is a user-friendly wizard-based process that provides users with a systematic way to merge employers.

The merge process starts with a set of employers that are assigned to a worker to review and merge. The caseworker will see the following dashboard for all potential matches:

Figure 3.4 (2) - 14. Employer Merge Dashboard

The user is shown similar employers who could be merged. Upon selection, our system merges the employers and related keys across the system.

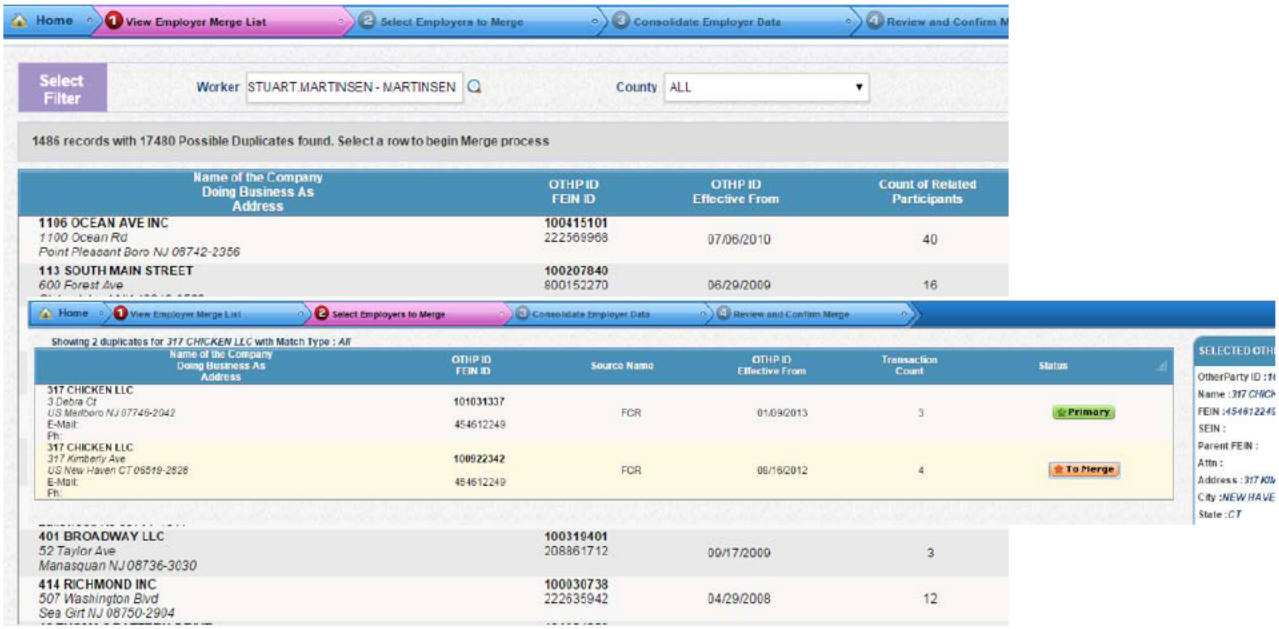

Figure 3.4 (2) - 15. View Employer Merge

REQUIREMENT: (#85) The system must interface with the FCR to maintain the employer table and record of employment for noncustodial parents and custodial parties.

The system uploads data received from the FCR in the following manner:

- *Employer information is updated to the member employment history screen with the source code of FCR.*
- *Address information is updated to the member address history screen with the source code of FCR.*
- *Member demographic information is updated to the member demographics screen with the source code of FCR.*
- *Insurance information is updated to the member/dependent insurance screen with the source code of FCR.*
- *Asset information is updated to the member asset screen with the source code of FCR.*

Our solution stores all systematic rejections and warning messages received from the FCR files on the view batch status logs screen. The system then alerts the worker to review and take appropriate corrective action. Systematic rejections are logged within the batch error results for each batch executed. Also, our solution includes functionality to export error file results to MS Excel as a report.

REQUIREMENT: (#86) The system must maintain the FEIN and State Employer Identification Number (SEIN) and use the employer's primary name and doing-business-as names for use in employer search.

Employers in our solution are provided with a unique internal id called employer id, as well as their FEIN and SEIN, as the key identifiers. Only authorized system users can add new employers to the system. Our employer management screen contains all pertinent information such as employer name, doing-business-as name and employer types such as worksite, administrative-offices, and health-plan-administrator. We include phone numbers, e-mail addresses and mailing address. Employers are added only after a search of existing employer information to reduce the possibility of adding duplicate employers (#84). Reviews for duplicate employer information are conducted for all manual, and automated employer information received. Occurrences of duplicate employers in the system are resolved through an employer merge process that is driven by the identification of primary employer id and secondary employer id. This process must be completed by an authorized worker first, and then a batch process completes the merge and updates all relevant tables on a regular basis. Duplicate employer information is retained in the table, and the duplicate employer id number is recorded on the merged employer record for linking purposes only. This process also manages employer status and/or merges employers as the result of mergers, acquisitions, and/or closures.

REQUIREMENT: (#87) The system must support searching the employer file, associating a selected employer with a noncustodial parent, and scheduling income withholding documents for any noncustodial parent cases with an income withholding provision at the direction of staff.

REQUIREMENT: (#88) The system must support searching the employer file, associating a selected employer with a custodial party, noncustodial parent, or both and scheduling National Medical Support Notice (NMSN) documents for any cases with a medical support provision at the direction of staff.

Our solution includes a "search-and-connect" reusable interface for associating an NCP or a CP with an employer. This interface shows a list of potential employers based on user search and allows the user to select an employer from the list. When the system identifies an employer who is not yet sent an IWO, the system will allow a user to generate the notice and start the income withholding process.

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A single employer can have multiple work addresses, health plan administrator address, and administrative office address. Members are linked to specific employers by using the employer id, which then displays the employer data on the member's employer history screen. Our solution allows to:

- *Search for employer data from within the system and from outside the system,*
- *Review potential employers in a consolidated interface,*
- *Select specific employers for review,*
- *Automatically link employers to NCPs and CPs*
- *Send Income withholding notices*
- *Send employment verification notices*

Our solution facilitates the generation of NMSN notices and starting the NMSN Processes for interfacing with Employers.

REQUIREMENT: (#89) The system must support multiple addresses per employer and accommodate identifying these addresses with labels such as work sites, administrative offices, and health plan administrators.

REQUIREMENT: (#90) The system must comply with U.S. Postal Service address specifications.

REQUIREMENT: (#91) The system must accommodate managing employer contact information including the name, phone number, and e-mail address for various contacts, such as a notification contact, a payroll contact, and a health plan administrator contact.

Our solution provides the ability to store multiple addresses per entity such as NCP, CST and employer and records the type of these addresses with custom labels. Various employer contacts are stored with contact types. We receive these addresses from various sources either as online input or batched input. In both instances, our address normalization component (application program interfaces to address normalization software such as QAS, Melissa Data) filters these addresses and attempts normalization prior to accepting these addresses into our system. After normalizing the address, the system warns of potential duplicates if the same address already exists in the system. Normalized and de-duplicated employer/address records and stored into our comprehensive employer record format, that allows the recording of employer status, relationships to other employer records (such as parent organizations) and various contact details.

REQUIREMENT: (#92) The system must accommodate managing employer status to accommodate mergers, acquisitions, and closures.

This is provided in our solution through the explicit use of statuses and the ability to merge intelligently (#84).

REQUIREMENT: (#93) The system must accommodate listing those noncustodial parents associated with a current income withholding order for a specified employer.

We provide this feature in our income withholding portal and other locations in our solution for online use by caseworkers. Our solution provides the ability to provide lists of employees with income withholding to caseworkers and provides the ability to also show the overall status of the income withholding remedy, to caseworkers. The following dashboard shows the overall status of income withholding remedies for a particular caseworker that can be used to drill down to provide the same details for every employer related to the cases of that caseworker.

Upon selecting the employers for a particular caseworker, the system displays the list of employers and the status of the income withholdings for each of these employers.

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The user can choose to send one communication to the employer that is related to all the income withholdings or any specific employee of the employer.

Screenshots that illustrate this are shown below:

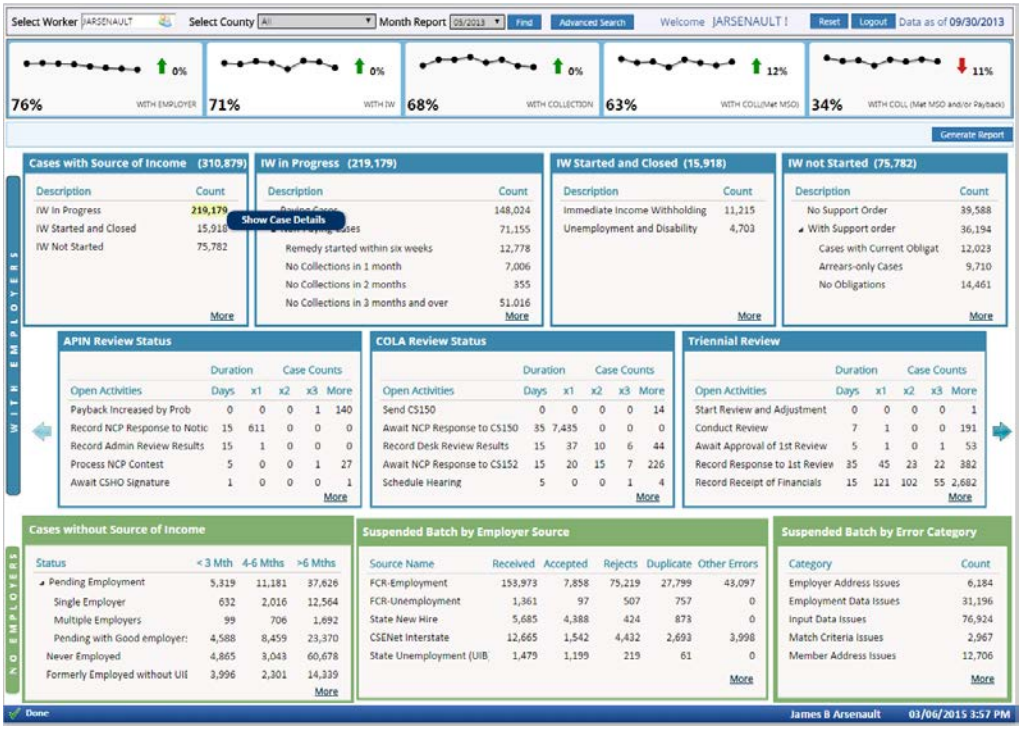
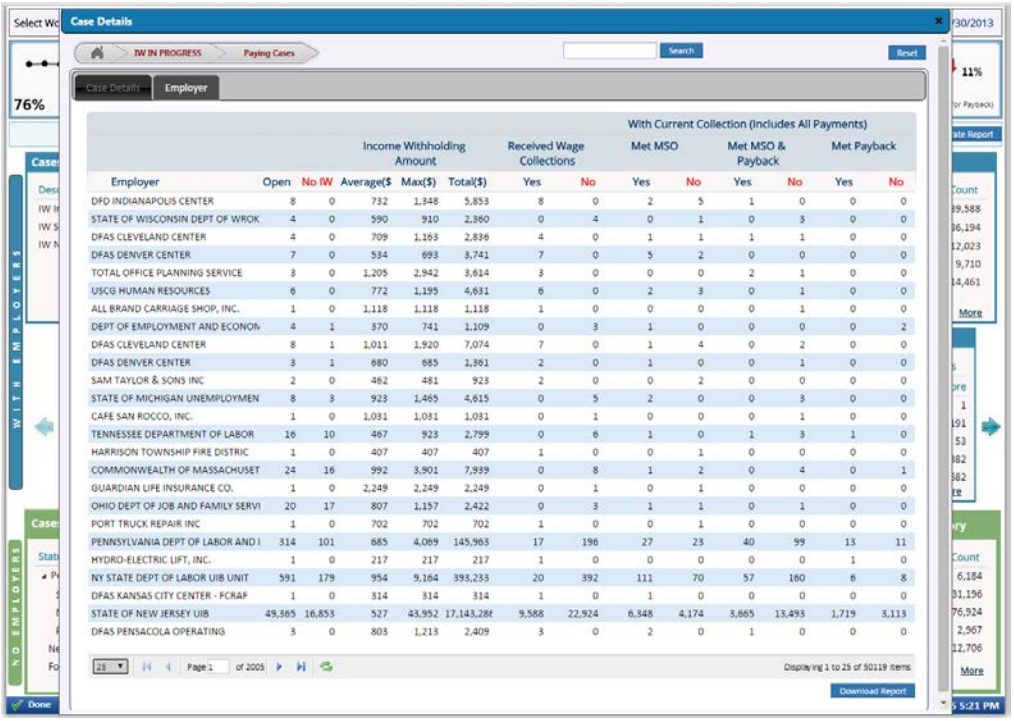


Figure 3.4 (2) - 16. Income Withholding Dashboard



Employer	Open	No IW	Income Withholding Amount Average($	Max($)	Total($)	Received Wage Collections Yes	No	With Current Collection (Includes All Payments) Met MSO Yes	No	Met MSO & Payback Yes	No	Met Payback Yes	No
DFD INDIANAPOLIS CENTER	8	0	732	1,348	5,853	8	0	2	5	1	0	0	0
STATE OF WISCONSIN DEPT OF WROK	4	0	590	910	2,360	0	4	0	1	0	3	0	0
DFAS CLEVELAND CENTER	4	0	709	1,163	2,836	4	0	1	1	1	1	0	0
DFAS DENVER CENTER	7	0	534	693	3,741	7	0	5	2	0	0	0	0
TOTAL OFFICE PLANNING SERVICE	3	0	1,205	2,942	3,614	3	0	0	0	2	1	0	0
USCG HUMAN RESOURCES	6	0	772	1,195	4,631	6	0	2	3	0	1	0	0
ALL BRAND CARRIAGE SHOP, INC.	1	0	1,118	1,118	1,118	1	0	0	0	0	1	0	0
DEPT OF EMPLOYMENT AND ECONOM	4	1	370	741	1,109	0	3	1	0	0	0	0	2
DFAS CLEVELAND CENTER	8	1	1,011	1,920	7,074	7	0	1	4	0	2	0	0
DFAS DENVER CENTER	3	1	680	685	1,361	2	0	1	0	0	1	0	0
SAM TAYLOR & SONS INC	2	0	462	481	923	2	0	0	2	0	0	0	0
STATE OF MICHIGAN UNEMPLOYMEN	8	3	923	1,465	4,615	0	5	2	0	0	3	0	0
CAFE SAN ROCCO, INC.	1	0	1,031	1,031	1,031	0	1	0	0	0	1	0	0
TENNESSEE DEPARTMENT OF LABOR	16	10	467	923	2,799	0	6	1	0	1	3	1	0
HARRISON TOWNSHIP FIRE DISTRIC	1	0	407	407	407	1	0	0	1	0	0	0	0
COMMONWEALTH OF MASSACHUSET	24	16	992	3,901	7,939	0	8	1	2	0	4	0	1
GUARDIAN LIFE INSURANCE CO.	1	0	2,249	2,249	2,249	0	1	0	1	0	0	0	0
OHIO DEPT OF JOB AND FAMILY SERVI	20	17	807	1,157	2,422	0	3	1	1	0	1	0	0
PORT TRUCK REPAIR INC	1	0	702	702	702	1	0	0	1	0	0	0	0
PENNSYLVANIA DEPT OF LABOR AND I	314	101	685	4,069	145,963	17	196	27	23	40	99	13	11
HYDRO-ELECTRIC LIFT, INC.	1	0	217	217	217	1	0	0	0	0	0	1	0
NY STATE DEPT OF LABOR UIB UNIT	591	179	954	9,164	393,233	20	392	111	70	57	160	6	8
DFAS KANSAS CITY CENTER - FCRAF	1	0	314	314	314	1	0	1	0	0	0	0	0
STATE OF NEW JERSEY UIB	49,365	16,853	527	43,952	17,143,28	9,588	22,924	6,348	4,174	3,665	13,493	1,719	3,113
DFAS PENSACOLA OPERATING	3	0	803	1,213	2,409	3	0	2	0	1	0	0	0

Figure 3.4 (2) - 17. Case Details Employer Tab

Upon clicking an individual employer, the cases corresponding to those employers are shown:

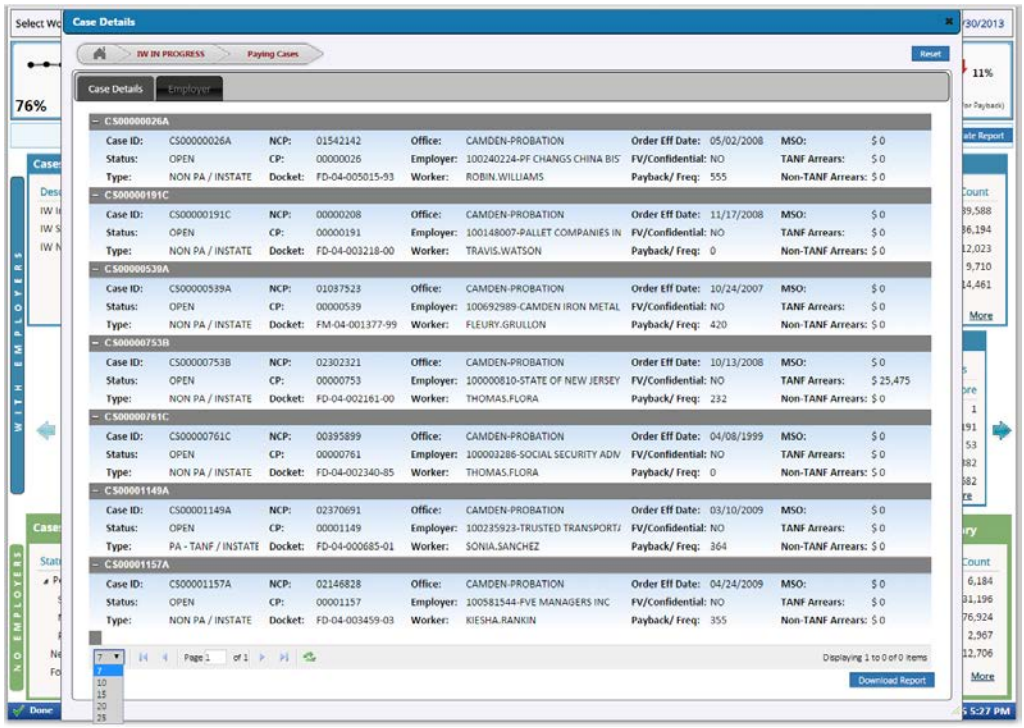


Figure 3.4 (2) - 18. Case Details Tab

(2.1.24) Non-Public Assistance (NPA) Applications

All these requirements are addressed at various points in our response. The requirement numbers may be repeated to show compliance.

REQUIREMENT: (#94) The system must capture Non-Public Assistance (NPA) application data.

REQUIREMENT: (#98) The system must accommodate accepting applications through a CSEP customer self-service web site.

REQUIREMENT: (#99) The system must collect and edit all NPA application information and electronically transmit the information to the modernized system as a pending referral.

Our solution provides a caseworker the ability to access non-public assistance (NPA) applications, which are created on the customer portal website. When applications are entered through the website, we leverage the portal solutions and implement a real-time enterprise application integration web-service interface with the customer service portal to receive application data from IV-D applicants. Thus, data from the application is automatically available on a referral screen for worker review and case creation.

The following schematic illustrates the flow of NPA application processing through the web and walk-in applications for the State of New Jersey. The web portal updates NJKiDS through a web service provided by the host system.

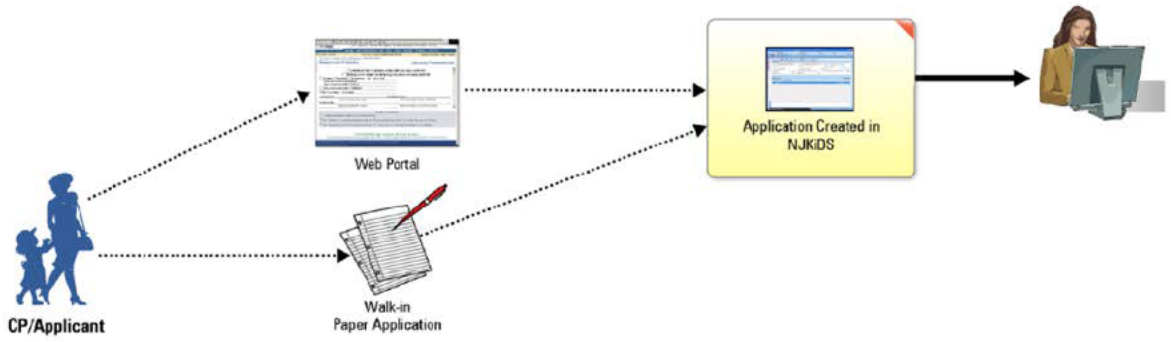


Figure 3.4 (2) - 19. NPA Application Processing

Applicants are encouraged to apply through an online application, but still may request and complete an application form in person at a local office, by mail, by telephone, or through a facsimile request. Our solution also allows faxes to be received and processed through a fax server. When applications are received as an hard copy, information is entered into the system by intake case worker entry. Walk-ins and mail applications use the same set of user interfaces, which reduces training needs.

REQUIREMENT: (#95) The system must identify whether the custodial or noncustodial parent requested the services.

REQUIREMENT: (#96) The system must track and document to the case chronology the request for an application, the provision of the application, and the date of application receipt.

REQUIREMENT: (#97) The system must accommodate documenting the application fee, the amount paid toward the fee and the date it was received.

The following table illustrates some of the tracked elements of the NPA applications.

Typical System Documentation		
Application Status	Online Applicant	Other than Online Applicant

Typical System Documentation		
Application Status	Online Applicant	Other than Online Applicant
Date application requested	This will depend on whether the State chooses to allow an applicant to start an application and save it to be completed at a later time. If the State decides to allow saving and retuning to a partially completed application, this date will be the date the applicant starts the application. If the State decides to only accept completed applications, this will be the date submitted by the applicant.	Date the request was received in person, by telephone, by mail or through facsimile.
Date application provided	This will depend on whether the State chooses to allow an applicant to start an application and save it to be completed at a later time. If the State decides to allow saving and retuning to a partially completed application, this date will be the date the applicant starts the application. If the State decides to only accept completed applications, this will be the date submitted by the applicant.	Date the application was provided.
Date application received	The date the applicant electronically submits completed application.	Date the application received
Date application signed	The date the applicant signed the application. This happens when the applicant goes to an IV-D office and signs the application.	Date the application is signed
Applicant	Whether the CST or the NCP or a third party is the applicant (such as a caretaker/custodian)	
Application fee status	Whether application fee is paid or waived	Whether application fee is paid or waived
Application Fee	The system records the payment of an application fee and generates a receipt for the applicant, then links the payment record to the case upon the completion of case creation. This includes the date of application and fee payment.	

The applicant is informed if the application lacks sufficient information or is ineligible for IV-D services according to defined federal and state requirements. Notification is made as an online message if the applicant was applying online or in an agency notification letter if the application was submitted in the hard-copy form. The source of the requested service (i.e., from a CP or NCP) is recorded in the system.

The system records the date and payment of an application fee and generates a receipt for the applicant, then links the payment record to the case upon the completion of case creation.

Data received from an application is advanced to a pending referral status viewed on a pending referral screen. All other application data is mapped to the appropriate location within the system to be populated upon acceptance of the case. This includes the appropriate case and person screens for the next appropriate action, as defined in the requirements. Every aspect of case creation is completely automated during case creation including the assignment of case numbers, address normalization, associating Employers to NCPs and CSTs, interstate information and support order information if any. In this process, the entire family information is entered into the system including dependent statuses, their relationships,

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and case member information that is vital to progressing the case life cycle. All these actions are recorded in a detailed case chronology with direct links to the application, and the case create screens for updates. The following schematic illustrates the life cycle items recorded in the chronology of an NPA application:

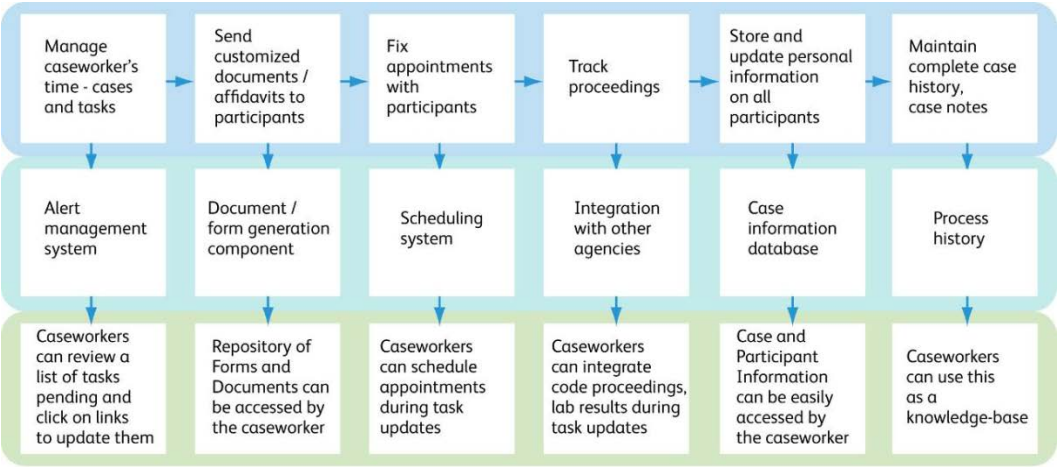

Figure 3.4 (2) - 20. Lifecycle of an NPA Application

This schematic illustrates the life cycle items recorded in the chronology of an NPA application

The following screen illustrates part of the data capture for an NPA application in NJKiDS, as a representative example. CST's information capture is illustrated here. CST details including employment and attorney information, a normalized address, and deduplication integration are all done in the same UI, allowing a seamless user experience while entering data. Please note that this UI allows the user to search for valid employer information and associates a master employer record to the CST, rather than creating duplicate employer records. Similarly, a mandatory search mechanism for participants with extensive supporting information prevents users from creating duplicate participants.

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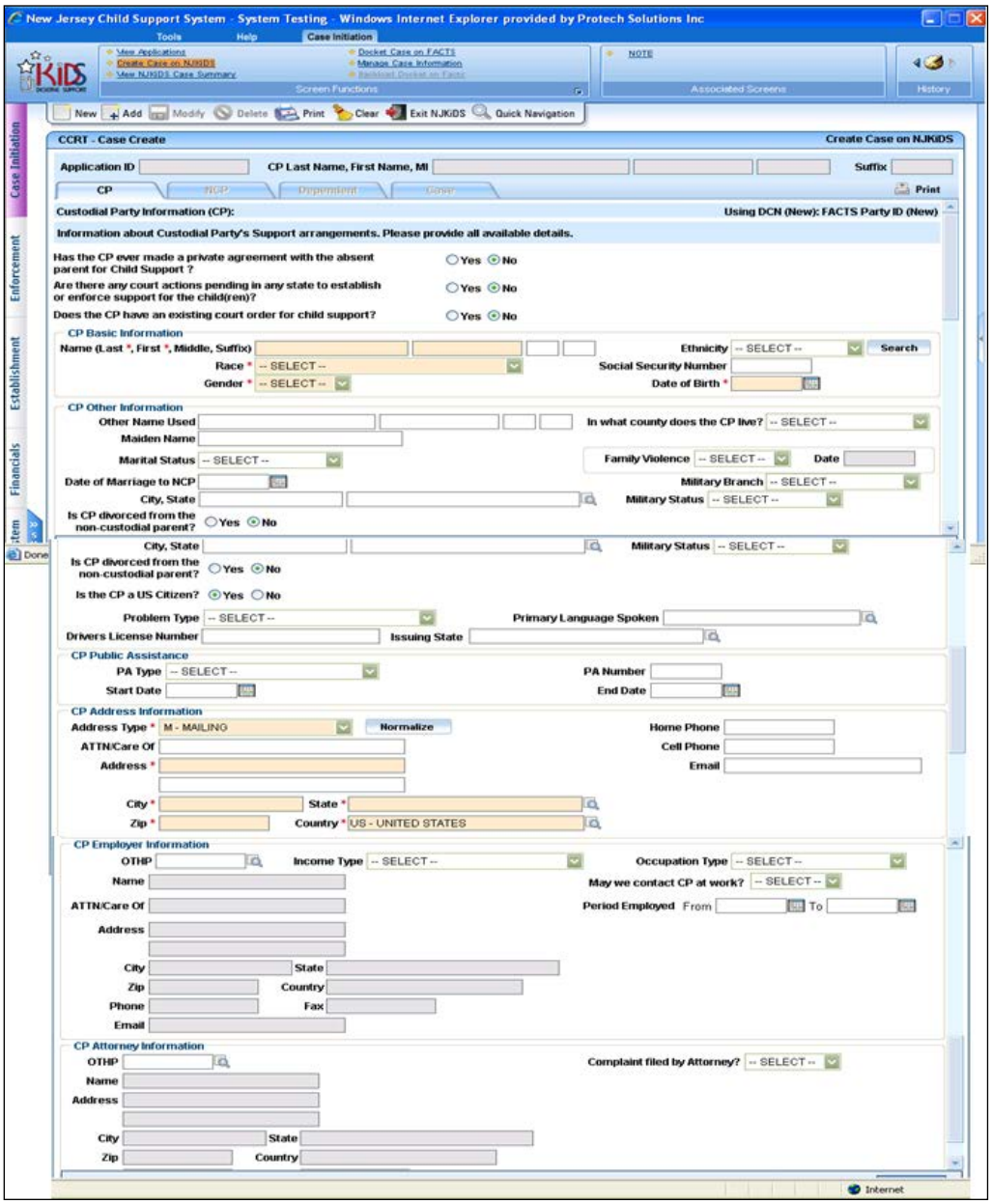


Figure 3.4 (2) - 21. Example of a Case Create Screen

Based on our successful experience in various states, we will help Nevada design a secure IV-D application process that includes the tracking of all requests received and applications provided, with subsequent linkage of this information to a specific case upon receipt of a valid application.

Maintaining the date the application is requested, and the date the application is sent to an applicant are two of the six requirements under the "Automated Systems for Child Support Enforcement: A Guide for States," Section A, Case Initiation, A-1 Non-IV-A Services. Most state child support systems cannot support the initial steps in the NPA application process. This can be attributed to these two federal sub-requirements and to the fact that because an applicant requested an application and the agency provided an application does not mean the agency received the application and created a case.

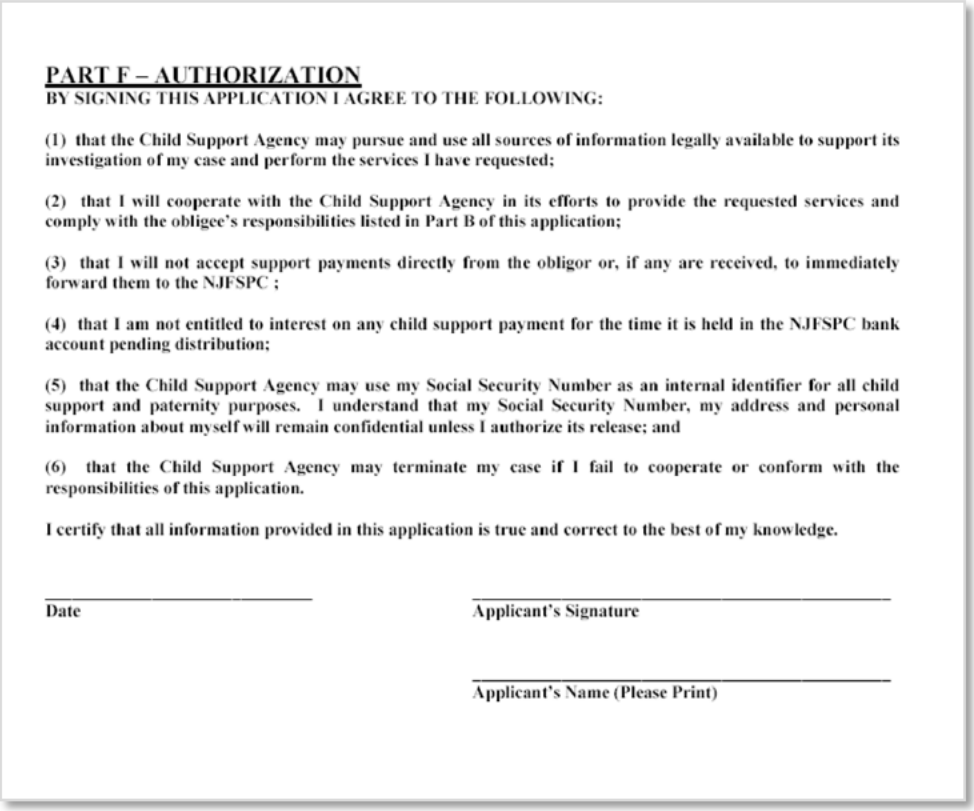
(2.1.25) Application Form Generation

REQUIREMENT: (#100) The system must provide NPA application form generation with data as entered into the system.

(#101) The system must capture a digital signature.

(#102) The system must be able to print the completed application with signature and store the document to the imaging system.

Our solution for securely submitting NPA applications online includes the ability for applicants and State staff to print the application populated with the data entered in each part of the application. The submittal process and the subsequent production of a printed application include the capture and display of a digital signature. Although we anticipate that the current application for services is subject to modifications before conversion to an online application, at a minimum, the digital signature functionality will be incorporated in appropriate sections of the application form. Upon the application being submitted, imaged applications will be stored in a digital repository within FileNet. An illustration is provided below.



PART F – AUTHORIZATION

BY SIGNING THIS APPLICATION I AGREE TO THE FOLLOWING:

(1) that the Child Support Agency may pursue and use all sources of information legally available to support its investigation of my case and perform the services I have requested;

(2) that I will cooperate with the Child Support Agency in its efforts to provide the requested services and comply with the obligee's responsibilities listed in Part B of this application;

(3) that I will not accept support payments directly from the obligor or, if any are received, to immediately forward them to the NJFSPC ;

(4) that I am not entitled to interest on any child support payment for the time it is held in the NJFSPC bank account pending distribution;

(5) that the Child Support Agency may use my Social Security Number as an internal identifier for all child support and paternity purposes. I understand that my Social Security Number, my address and personal information about myself will remain confidential unless I authorize its release; and

(6) that the Child Support Agency may terminate my case if I fail to cooperate or conform with the responsibilities of this application.

I certify that all information provided in this application is true and correct to the best of my knowledge.

Date

Applicant's Signature

Applicant's Name (Please Print)

Figure 3.4 (2) - 22. Imaged Applications Stored in a Digital Repository

These are also available for view online using an electronic signature pad.

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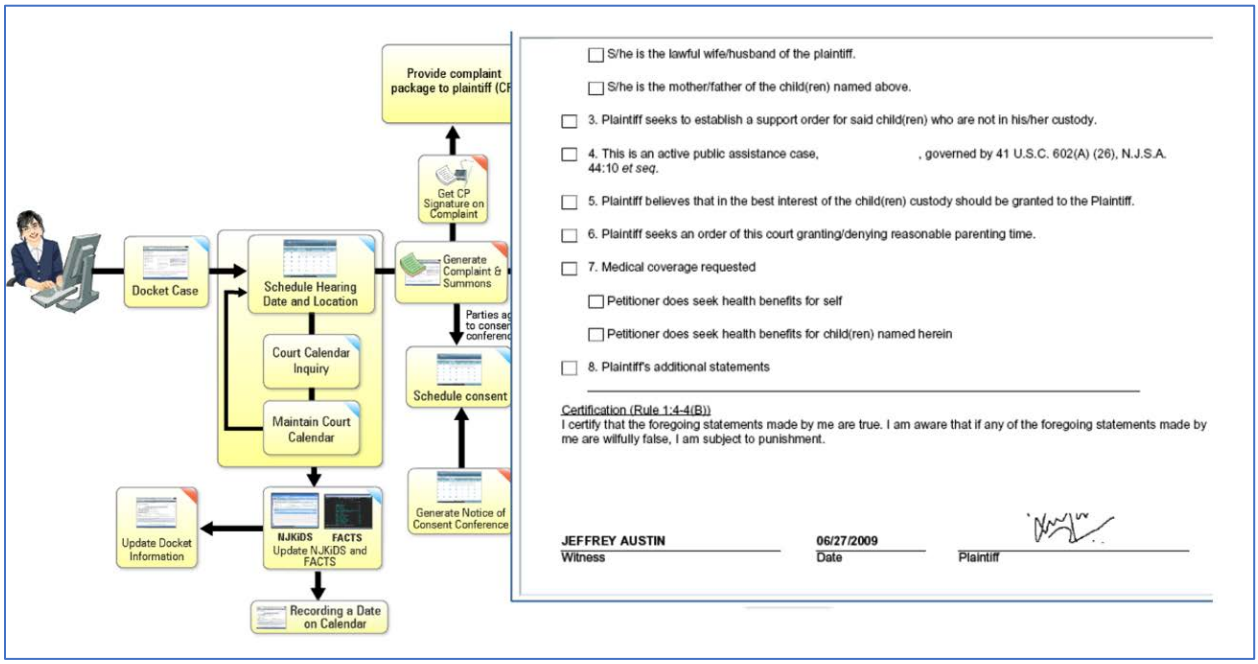

Figure 3.4 (2) - 23. Processing Complaint

Applications submitted online can be saved as a PDF or a Word document. This version of the completed online application is linked to a case upon case establishment in NCSEAS. Access to the document is available as part of the case history. The same information can be viewed via the screen that will contain the other application submittal information.

Our solution allows for hard-copy applications to be imaged and linked to the applicable case via an upload option located on the screen that contains the other application submittal information. Uploading the imaged version of an application through this attachment facility also results in an entry in the case history that includes single click access to the imaged application from the diary.

(2.1.26) IV-A Referrals

REQUIREMENT: (#103) The system must have the capability to process referrals received from the IV-A agency.

(#104) The system must accept immediate IV-D case establishment from IV-A when the system determines it to be a valid and complete referral.

(#105) The system must establish whether the referral requires a new case, case participant addition, or a change in case type or status for an existing case.

(#106) The system must update child data based on the household composition and parentage information provided by IV-A.

(#107) The system must establish the identifiers used to link the IV-A and child support cases for later updates.

(#108) The system must automatically record the date the referral was received.

(#109) The system must provide all the required address, employment, medical support, and obligation data as identified by the federal child support certification criteria defined in Chapter III Section A-2 of the Guide for States.

(#110) The system must assign child and medical support arrearages per federal distribution regulations.

(#113) The system must import the necessary data to manage Unreimbursed Assistance (URA) balances and a history of reimbursable Temporary Assistance to Needy Families (TANF) benefits at the participant and case level.

Information from IV-A, Title XIX, child welfare, and interstate sources are usually processed daily through a batch program. As it is critical to not create duplicate cases or members, the member, and case information is first screened against current case/member information through a case/member clearance process using IBM's MDM services. Much of the information required to initiate a case is common to the requirements of IV-A, Title XIX, and child welfare agencies. Using available information saves personnel a great deal of time. In those cases where the referrals have missing information, the staff is automatically notified. The system can notify staff members when specific pre-determined conditions associated with incoming referrals are identified.

Our solution can automatically accept case referrals from the IV-A system. Once the IV-A system communicates that the IV-A case has been authorized for payment, our solution creates a corresponding IV-D case or updates an existing case with the information received via the interface with the IV-A system. Upon receipt of this notification of the IV-A case receiving payment authorization, the IV-A information received via the interface is matched against the suspended referrals. This triggers immediate case establishment or the update of an existing case to a current IV-A assistance case.

Because of the IV-A referral, our solution can:

- *Understand whether the information from IV-A required a case update or a new case and make the appropriate modifications to the existing IV-D case or create a new IV-D case*
- *Update child data in the IV-D case based on the IV-A data related to household composition and parental information*
- *Establish linkages between the IV-D and IV-A case to monitor the status of ongoing updates in the interfacing system and make the changes to the IV-D as necessary. In instances where a new IV-D case is created, the system can create the identifier to link the cases between the systems.*
- *Maintain all the required information as specified in the certification guide, including date of referral, program IDs, address, employment, medical support, and obligation data. We also maintain historical data on these fields, including audit information.*
- *Assign child support and medical support arrearages as specified by federally acceptable distribution rules. Once the welfare status of the child is determined based on the referral, our solution reassigns arrears (using the six-bucket or three-bucket options) from the effective date of the referral, even if it is a retroactive referral. Arrears adjustments due to pending future referrals will be effected according to the business rules of Nevada.*
- *Track and report when there are parent non-cooperation and good cause*
- *Prevent the IV-A system from modifying a paternity code once paternity has been established and recorded in the IV-D system*
- *Import the necessary information from the IV-A system to manage the un-reimbursed public assistance balances and case-and participant-level history of participation in the state's TANF program. Our solution accepts and manages the URA balances for public assistance programs, including life-to-date and month-to-date balances. Categories of balances such as IV-A and IV-E are managed separately. Our solution also provides a comprehensive history of these balances and the ability to record reimbursements from collections against these balances. Details on these reimbursements are also stored in the financial log of a case.*

Participants received via automated referrals are matched against the members in the target system to identify whether they are new referrals or already known to the target system. If none of the participants are

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known within the system, then participant IDs are created for each of the participants, and a new IV-D Case ID is created. If any of the participants have an exact match with an existing member in the system, the participant's prior IDs are used, and no new IDs are created.

The business rules used for referral processing are configurable, and the rules described in this section are for illustrative purposes only. Once the IDs are established for all case participants included with the referral, the system determines if the custodial parent (CP) and the noncustodial parent/putative father (NCP) from the referral already belong to a case ID in the same roles as expected in this referral. If they do, then the existing case is used and no new case ID is created, and any newly referred participants are added to the existing case ID. If the referred participants do not already belong to an existing case ID in the same roles as expected in this referral, the system automatically generates a new case ID, assigns the case to a worker based on the caseworker assignment rules, and alerts the worker.

REQUIREMENT: (#114) The system must screen and reject inappropriate referrals from IV-A.

If any of the referred participants partially match with an existing member in the system or if any of the participants are matching with more than one member in the system, the referral is placed in suspense (stored) for worker review and the appropriate worker is alerted. Inappropriate referrals with missing data, incomplete case constructs or orphan records are rejected automatically and provided on an online report for user review.

IV-A, Title XIX, and child welfare cases can be closed and reopened numerous times. As this occurs, the case initiation process reopens or changes the program type rather than creating new cases. If an exact case or member match is found and the IV-A or Title XIX ID differs from the one currently stored in the database, the system is updated with the new referral information. Both the new and old information are stored in our system and displayed the user. This allows the worker to see an accurate history of the case/member type change that is vital in the distribution process.

A key consideration in the system's data reliability is the implementation of proper interfaces and maintenance of data to ensure the accuracy of the member information and member status history. This information drives the case type, case status, arrearage allocation, distribution, and federal reporting. While it is understood that the target system receives public assistance information from various systems, the information must be mapped to the same place in the target system so that a person has only one member record in the system.

The case type of a case (public assistance vs. non-public assistance) is normally based on the member history record of the dependent/child member(s) on the case. The key differentiator for these records is a distinct IV-D participant ID. The system should have one IV-D member number that can be linked to different identifiers from other systems.

We implement a nightly file transfer with the IV-A system, and it already includes the exchange of data as described in federal system requirement A-2 (d), Accept and Process Referral (CP, NCP, Child, Support Order) Information. During requirements validation and design, we can confirm this assumption and determine the need for any modifications or enhanced data exchange to ensure maximum efficiency for the ultimate objective of a real- time interface.

The functionality of member history establishes linkage of the identifiers from other public assistance programs to a specific IV-D case or cases for a specified period, under a single, distinct IV-D participant ID. Successful adaptation of the financial components of the target system requires a history of a dependent child member's public assistance time frames to properly assign arrearages according to PRWORA distribution regulations.

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REQUIREMENT: (#111) The system must track and report non-cooperation and good cause.

Processing information related to good cause, domestic violence non-cooperation, and assignments of rights/requirement to cooperate with the IV-D agency is done through workflow process management screens for case initiation workflows.

We present an example of a typical workflow process for cooperation. As part of case initiation workflows, when a case worker conducts an initial CP interview and is satisfied with the cooperation of the CP, a workflow trigger is created after a diary entry, indicating that initial cooperation was satisfactory. Notices (or XML messages as applicable) are generated to the IV-A agency from the target system, and a cooperation-reassessment flag is set for review in a couple of months. If the CP requests a good-cause exception due to family violence, an assessment can be made for the validity of this exception. Our solution can generate notices, such as a family violence risk assessment report and affidavits for family violence waivers and good cause for reasons of domestic violence, artificial insemination, rape, or incest. The IV-A agency sends information to IV-D on these affidavits or by direct access to our service portals, which display these affidavits securely on forms that can be updated by the IV-A worker. These updates result in the workflow moving to the next step to grant or deny good cause resulting in actions, such as case closure.

REQUIREMENT: (#112) The interface between IV-A and IV-D must also contain system functionality to prevent IV-A from changing a paternity code for a child once paternity has been established.

Paternity codes are set on NCPs based on workflows within our establishment subsystem. These codes are based on interfaces with IV-A, Vital Statistics, Paternity Testing Agencies, and the Courts. These codes are properly logged and changes are managed by configurable business rules. These will not be changed based on input from IV-A alone.

(2.1.27) Title XIX Referrals

REQUIREMENT: (#115) The system must have the capability to accept an immediate referral from the Title XIX Agency.

(#116) The system must establish whether the referral requires a new case, case participant addition, or a change in case type or status for an existing case.

(#117) The system must update child data based on the household composition provided by Title XIX.

(#118) The system must establish the identifiers used to link the Title XIX and child support cases for later updates.

(#119) The system must automatically record the date the referral was received.

(#120) The system must provide all the required address, employment, medical support, and obligation data as identified by the federal child support certification criteria defined in Chapter III Section A-4 of the Guide for States.

(#121) The system must assign medical support arrearages per federal distribution regulations.

(#122) The system must screen and reject inappropriate referrals from Title XIX.

Our solution for Title XIX referrals is based on the same software components and processes as other public assistance referrals. Please refer to our responses to "26. IV-A referrals" for more details on each of these requirements.

For Title XIX, we also provide the ability to record and store medical support obligation information on our system as 'Medical Support due to Medicaid,' 'Medical Support due to CP' and 'Cash Medical Support.' We also provide for the exchange of health insurance information between Medicaid and child support systems.

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(2.1.28) IV-E Referrals

REQUIREMENT: (#123) The system must have the capability to accept an immediate referral from the IV-E system.

(#124) The system must establish whether the referral requires a new case or cases, case participant addition, or a change in case type or status for an existing case. The system must accommodate more than one noncustodial parent.

(#125) The system must update child data.

(#126) The system must establish the identifiers used to link the IV-E and child support cases for later updates.

(#127) The system must automatically record the date the referral was received.

(#128) The system must provide all the required address, employment, medical support, and obligation data as identified by the federal child support certification criteria defined in Chapter III Section A-3 of the Guide for States.

(#129) The system must assign child and medical support arrearages per federal distribution regulations.

(#130) The system must screen and reject inappropriate referrals from IV-E.

Our solution handles Child Welfare (IV-E) referrals using the same processes and patterns as for IV-A and Title XIX, ensuring that the criterion for A-3(d) are met. Please refer to our responses to sections 26 and 27, for case initiation.

Further, our solution provides:

- *Additional confidentiality considerations surrounding child welfare cases*
- *The status of a foster care child could change quickly, and by the time IV-D receives referral from IV-E, the child is back in the home*
- *Specialized distribution rules for IV-E assigned arrears*

(2.1.29) Interstate, Tribal, and International Referrals

REQUIREMENT: (#131) The system must have the capability to accept a referral from another state's, tribe's, or country's child support agency.

(#132) The system must be capable of accepting an electronic referral from the federal Child Support Enforcement Network (CSENet) system or by Uniform Interstate Family Support Act (UIFSA) transmittal.

Case initiation, the first subsystem supporting the case life cycle in statewide child support systems, consists of several coarse-grained and fine-grained services to open a case in our solution, validate case data, and start appropriate workflows through an arrangement of human and service interactions. The four primary ways cases are created include referrals from public assistance agencies, Non-IV-D agency (courts), interstate agencies through CSENet/UIFSA referrals, and non- public assistance cases.

Our solution processes UIFSA referrals, CSENet referrals, and can process international referrals from the newly built iSupport system from The Hague Convention in the Netherlands. We are the implementation contractor for iSupport and its implementation for over 40 countries in the next two years.

Paper (UIFSA) referrals are entered into our solution using the same case creation screens as for other kinds of manual referrals. Once such a case is entered, our case processor automatically starts the next steps in the case life cycle process depending on the status of the case. This could be locate, establishment, or enforcement activities.

Initiation of a CSENet referral begins with a check to verify if a case record exists based on a UIFSA packet. The case and member match processes ensure these are identified. If such a match exists, the existing case

record is reused, and information from CSENet updated. Similarly, UIFSA referrals begin with a check for the existence of a prior CSENet referral.

CSENet referrals consist of several blocks of information, which need to be properly reviewed in the context of data present in the system, cases created based on this review, and those communicated back to the originating state. Our systems facilitate this review by providing a systematic presentation of CSENet information before creating a case. CSENet referrals are displayed in neatly tabbed blocks of information for user review. Upon review, the user can promote this information to the Case Create process without having to re-key the information.

Interstate referral requests are categorized by type, and specialized workflows are initiated for each type of referral. For each referral, a unique record is created, which stores multiple attributes of the referral. Participants on these referrals are cleared through the participant clearance process, and their source IDs are recorded along with temporary IDs created before case creation.

REQUIREMENT: (#133) The system must support the staff's ability to establish whether the referral requires case addition or a change in case type for an existing case.

REQUIREMENT: (#134) The system must update case data based on the household composition provided by CSENet.

Upon case creation, acknowledgments are sent to the sending state, and any follow-up requests are also sent through CSENet transactions.

The following schematic diagram shows how our solution processes CSENet referrals:

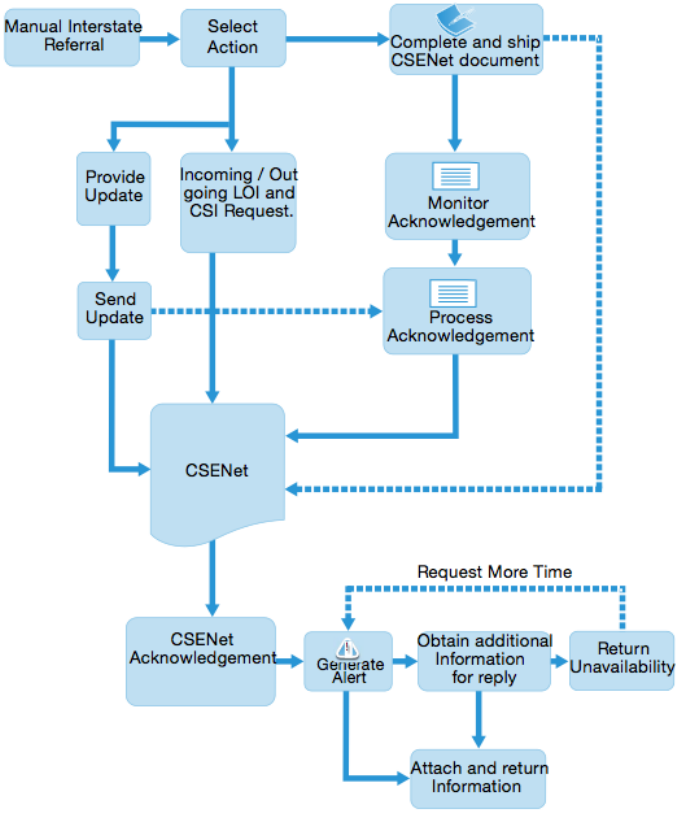

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Figure 3.4 (2) - 24. Processing CSENet Referrals

Once the case data is transferred to the case create process, our solution parses the data and assesses the family composition; it then automatically places the data within the correct data slots for the user to review, while creating or updating a case. Thus, CST information is moved to the CST slots on the screen as are the other participants on the case.

The standard case creation procedures used for regular case intake, such as participant search, associating employers and addresses with participants, and starting the case life cycle processes, such as locate, establishment, and enforcement are also applicable for UIFSA and CSENet referrals. The same components are used for such referrals, in addition to interstate-specific processes.

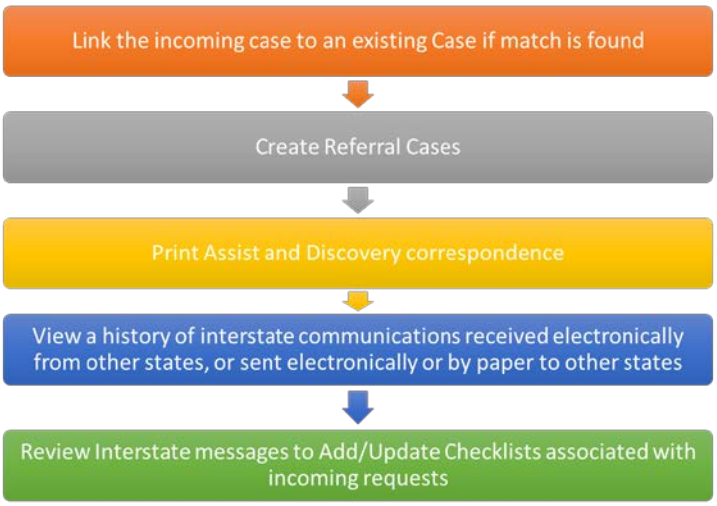

Figure 3.4 (2) - 25. Case Creation Procedures

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The following screen, from our New Jersey system used as a representative example, illustrates how the incoming (and outgoing) transactions are displayed to the user concisely and show the CSENet blocks in the lower half of the screen. The user can review the incoming information and promote the information to a new/existing case. The user can associate the transactions with existing cases or create a new case; either in this UI or the case create process to which this data is automatically transferred when the user chooses to do so.

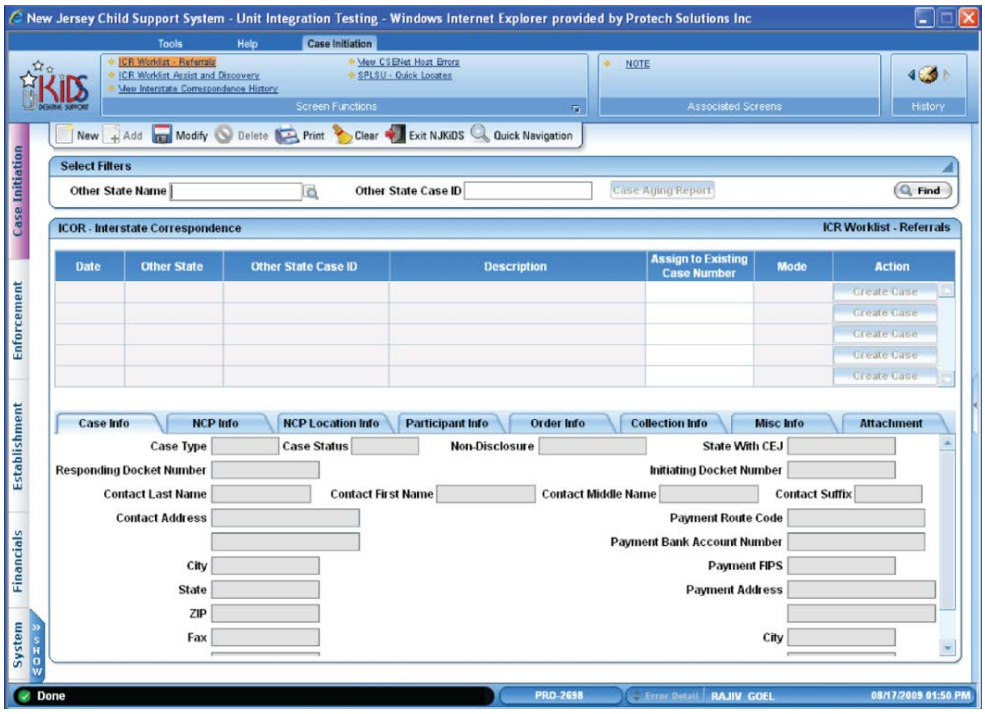

Figure 3.4 (2) - 26. Display of Incoming and Outgoing Transactions

REQUIREMENT: (#135) The system must establish the identifiers used to link the other jurisdiction and the Nevada child support cases for later updates.

The following illustration provides information on the various identifiers that are associated with a referral, including out-of-state identifiers, case types, statuses and related information. All identifiers related to an interstate case are recorded and stored in permanent data stores for review and audit.

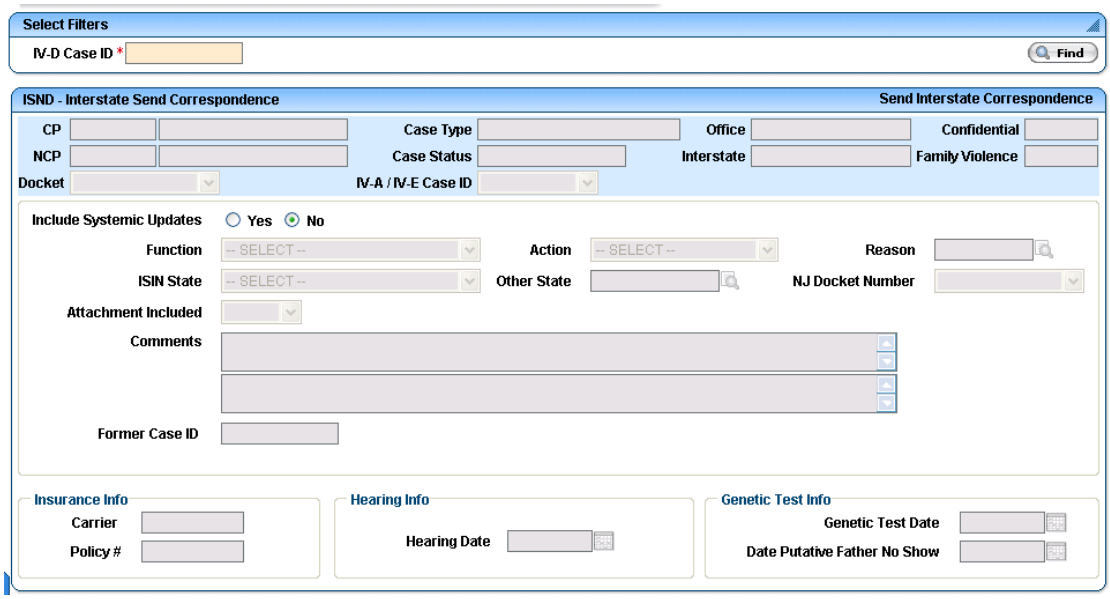

Figure 3.4 (2) - 27. Sample of Various Identifiers that are Associated with a Referral

REQUIREMENT: (#136) These identifiers must include the other jurisdiction's case number, the other jurisdiction's docket number, a contact Federal Information Processing Standard (FIPS), and a name and phone number.

REQUIREMENT: (#137) The system must provide a payment FIPS and Electronic Fund Transfer (EFT) control information for payment transfer.

All information related to a FIPS is recorded in our system from the ICR and updated through audited caseworker actions. Our solution includes a table of values that are associated to specific jurisdictions within states, tribal, and international geographical locations. These OCSE-approved identifiers are utilized throughout the system as the uniform reference for geographical location information that is relevant to various aspects of a case.

Our Solution also maintains multiple FIPS codes and related OCSE approved location identifier codes for all other IV-D agencies. This is a table of values that are associated to specific jurisdictions within States, tribal, and international geographical locations with name and address for the location. Documents that are designed to include interstate location address information use the relevant location code for the case to select the address information from the FIPS table.

For example, cases designated as interstate cases include the initiating or responding State's location identifier. Additional examples include utilizing these codes when identifying the location in which a court order is obtained and identifying the location for other state's disbursement remittance locations, and EFT setup instructions.

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Our solution uses FIPS codes from the IRG for correspondences and payments. Based on FIPS types and sub-types, we determine payment FIPS' and correspondence FIPS'. These are configurable as shown in the figure below.

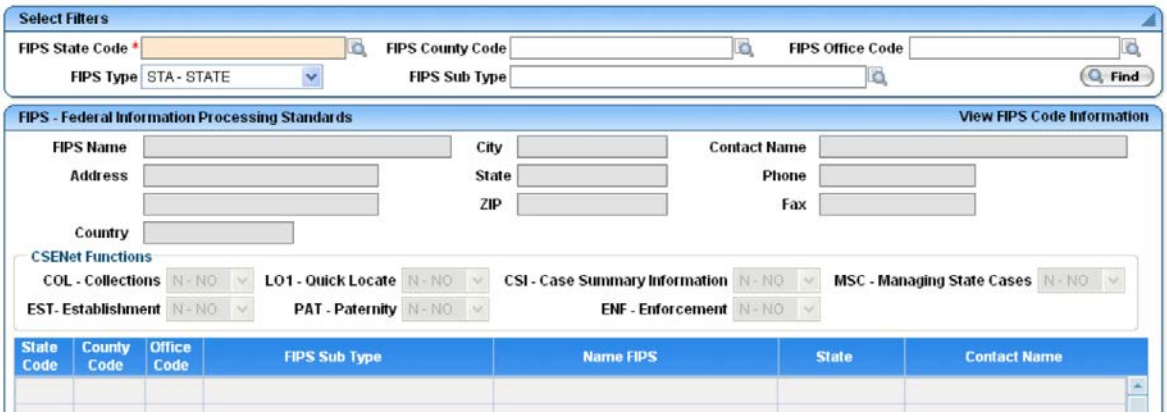

Figure 3.4 (2) - 28. Sample of FIPS Functionality

REQUIREMENT: (#138) The system must provide all the required address, employment, medical support, and obligation data as identified by the federal child support certification criteria defined in Chapter III Sections A and D of the Guide for States and CSENet transaction data set.

When our solution exchanges information with other States through UIFSA transmittals or CSENet, we use standard CSENet layouts and corresponding UIFSA layouts for the transfer of data. This includes all standard data elements as in the CSENet layouts, including the items in requirement #138. These are the elements that correspond to the CSENet data blocks in the CSENet Interface Guide. These include support order information including medical support, employment, address, and obligation data.

REQUIREMENT: (#139) The system must assign child and medical support arrearages per federal distribution regulations.

Our solution ensures that interstate child support debt is properly classified and linked to the corresponding FIPS code of the interstate entity that is owed money on behalf of the custodial parent. This information is stored at the obligation level, and a debt-type priority table allows the configuration of business rules for the assignment and distribution of arrearages according to the federal distribution regulations.

REQUIREMENT: (#140) The system must identify the state that has the controlling order.

Our case initiation processes and establishment processes allow the recording of the State that has the controlling order, the order id and other relevant information that facilitates the communication of information regarding that order and the distribution of money to that order.

REQUIREMENT: (#141) The system must have the capability to process a CSENet reconciliation file and to generate correcting transactions when two state systems have discrepant case data and status.

The system must have the capability to process a CSENet reconciliation file and to generate correcting transactions when two state systems have discrepant case data and status.

Our solution creates an ICR extract file containing basic case and participant data for interstate cases as specified for ICR, expecting a formatted response from OCSE containing:

- *Exact matches with cases in other states*
- *Matches with data discrepancies*

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- *Open cases matched with closed cases in another state*
- *Cases that are not interstate according to the other state*

The creation and transmission of this file to OCSE can be continued as an annual activity or can be scheduled for another frequency as determined by the State. We reproduced the ICR response handling table from the OCSE website for ICR and created the following table to indicate the process our solution uses to handle these responses in the action column.

ICR Response Handling		
Reason Code	Description	Action
00	All information matches	None required
01	The Case Number submitted as the Other State Case Number does not exist. The other state did not submit a case that matches the case in your state.	As Initiating State - Resend CSENet transaction, if necessary, to reinitiate case. As Responding State - Check with another state for possible case closure. If the state still wishes to have the other state open a case on their behalf, a CSENet transaction should be initiated. Our solution automatically generates CSENET transactions in either scenario or generates a worker alert to initiate the transactions, based on configurable business rules.
02	The Case Number submitted by the other state does not match the Other State Case Number in your state; however, a matching case was found by matching the participants. The case number submitted by the other state can be found in the New Case Number field. The number of participants that matched can be determined by interrogating the number of adults and children matched, and comparing them to the number of adults and children submitted.	As Initiating State - The state should update the Other State Case Number with the new information. As Responding State - The state should update the Other State Case Number with the new information. Our solution automatically updates the Other State Case number and generates a worker informational alert to the caseworker of the change. Based on configurable business rules, this change can also be affected by the Caseworker manually.
03	Positions 3 - 5 of the FIPS Code submitted by the other state do not match positions 3 - 5 of the Other State FIPS Code in your state's record. The FIPS County Code submitted by the other state can be found in the New FIPS Code field.	As Initiating State - The state should update the Other State FIPS County Code with the new information. As Responding State - The state should update the Other State FIPS County Code with the new information. Our solution automatically updates the Other State Case number and generates a worker informational alert to the caseworker of the change. Based on configurable business rules, this change can also be affected by the Caseworker manually.

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ICR Response Handling		
Reason Code	Description	Action
04	The SSN submitted by the other state does not match the SSN for the participant in your state; however, the case number and participant type are the same. The SSN submitted by the other state can be found in the Other State SSN field.	As Initiating State- The state should check for a verified SSN for the participant in its system. If the SSN is not verified or is missing, the state may want to consider using the other state's SSN. As Responding State - The state should check for a verified SSN for the participant in its system. If the SSN is not verified or, is missing the state may want to consider using the initiating state's SSN. Our solution automatically updates the SSN based on configurable business rules and generates a worker informational alert to the caseworker of the change. Based on configurable business rules, this change can also be affected by the Caseworker manually.
05	The Member ID submitted by the other state does not match the Member ID in your state for the participant. The Member ID submitted by the other state can be found in the New Member ID field. This reason code is conditional and based on whether the Other State Member ID was supplied.	As Initiating State - The state should update the Other State Member ID on its system. As Responding State - The state should update the Other State Member ID on its system. Our solution automatically updates the Other State Member ID based on configurable business rules and generates a worker informational alert to the caseworker of the change. Based on configurable business rules, this change can also be affected by the Caseworker manually.
06	The Participant Type submitted by the other state did not match the Participant Type in your state for the participant. The Participant Type submitted by the other state can be found in the new Participant Type field.	As Initiating State - The state should either update the Participant Type on its system or generate a request for more information. As Responding State - The state should update the Participant Type on its system, or generate a request for more information. Our solution automatically updates the Participant Type based on configurable business rules and generates a worker informational alert to the caseworker of the change. Based on configurable business rules, this change can also be affected by the Caseworker manually.

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ICR Response Handling		
Reason Code	Description	Action
07	The Case Status in your state indicates that the case is open; however, the matching case submitted by the other state is closed.	As Initiating State - If necessary, send a CSENet transaction to have the case re-initiated in the responding state. As Responding State - Send request for closure reason to the initiating state. Our solution automatically sends the CSENet transaction based on configurable business rules and generates a worker informational alert to the caseworker of this action. Based on configurable business rules, this action can also be affected by the Caseworker manually.
08	The Case Status in your state indicates that its case is closed; however, the matching case submitted by the other state is open.	As Initiating State - Resend closure reason to the responding state. As Responding State - Resend closure reason to the initiating state Our solution automatically sends the CSENet transaction based on configurable business rules and generates a worker informational alert to the caseworker of this action. Based on configurable business rules, this action can also be affected by the Caseworker manually.
09	The Last Name submitted by the other state does not match the Last Name in your state for the participant. The Last Name submitted by the other state can be found in the Other State Last Name field.	Based on state policy and depending on whether your state is the initiating or responding state, the Last Name should be updated with the Last Name provided by the other state. Our solution automatically updates the last name based on configurable business rules and generates a worker informational alert to the caseworker of this action. Based on configurable business rules, this action can also be affected by the Caseworker manually.
10	The Date of Birth submitted by the other state does not match the Date of Birth in your state for the participant. The Date of Birth submitted by the other state can be found in the Other State Date of Birth field.	Based on state policy and depending on whether your state is the initiating or responding state, the Date of Birth should be updated with the Date of Birth provided by the other state. Our solution automatically updates the DOB based on configurable business rules and generates a worker informational alert to the caseworker of this action. Based on configurable business rules, this action can also be affected by the Caseworker manually.

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ICR Response Handling		
Reason Code	Description	Action
11	The Sex Code submitted by the other state does not match the Sex Code in your state for the participant. The Sex Code submitted by the other state can be found in the Other State Sex Code field.	Based on state policy and depending on whether your state is the initiating or responding state the Sex Code should be updated with the Sex Code provided by the other state. Our solution automatically updates the Sex Code based on configurable business rules and generates a worker informational alert to the caseworker of this action. Based on configurable business rules, this action can also be affected by the Caseworker manually.
12	The Initiating/Responding indicator for the other state is different from what the other state has indicated on their file.	The other state should be contacted to determine what role each state plays in the case. Our solution automatically sends the CSENet transaction for case status based on configurable business rules and generates a worker informational alert to the caseworker of this action. Based on configurable business rules, this action can also be affected by the Caseworker manually.
13	The Participant was not found in the Other State Case. The case was found based on either the case number match or by matching at least one child participant on both cases. However, this participant was not found.	Contact the other state to determine if this participant should be added to your case. Our solution automatically sends the CSENet transaction for case status based on configurable business rules and generates a worker informational alert to the caseworker of this action. Based on configurable business rules, this action can also be affected by the Caseworker manually.

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(2.1.30) Case Data

REQUIREMENT: (#142) The system must support transferring all referral data into the automated case record.

REQUIREMENT: (#143) The case structure must identify the case participants as custodial party, noncustodial parent, or child. The term custodial party encompasses parents, non-parent custodians, and caretaker agencies such as Foster Care.

REQUIREMENT: (#144) The system must control and assign the case number.

Courts can refer Non-IV-D cases, request IV-D services in some instances, or communicate IV-D order information to NCSEAS. Our strategy for case initiation has mitigated the risks of incorrect data propagation due to manual data entry by creating communication processes between the courts and the child support systems to facilitate a two-way electronic transfer and update of data between the systems. This includes structured data on cases and orders, as well as images of orders, petitions, and other court documents.

CSENet referrals consist of several blocks of information, which need to be properly reviewed in the context of data present in the system, cases created based on this review, and those communicated back to the originating state. Our systems facilitate this review by providing a systematic presentation of CSENet information before creating a case and reduce user-training requirements by providing common case initiation processes for interstate and in state cases.

Nonpublic assistance (NPA) cases arrive from customer service websites, mail, and office walk-ins. When an application requests IV-D services on a portal, our solution retrieves this information and displays it to case workers who validate this information and start the process. Walk-ins and mail applications use the same set of user interfaces, which reduces training needs.

Processing public assistance (PA) referrals from IV-A into IV-D cases and the ongoing maintenance of assistance information is a complex endeavor in most child support systems. We address this complexity by providing configurable rules management processes for processing referrals or flagging them for manual review prior to creating IV-D cases. Several combinations of circumstances require special handling of IV-A cases. We have experience implementing these systems in several states and are aware of the complexities involved. We bring that knowledge to bear in building successful case initiation processes.

When creating cases, the case initiation process starts a range of workflows, depending on case conditions and participant information. These workflows typically involve choreographed location services and the establishment of paternity and support through a series of human and internal/external system interactions, such as with the courts. We have implemented comprehensive, robust workflows between child support systems, court systems, and service portals. This facilitates communication, data exchange, inter-agency workflows, including court scheduling, docketing, imaging, and related processes.

Referral requests are categorized by type, and specialized workflows are initiated for each type of referral. For each referral, a unique record is created, which stores multiple attributes of the referral in optimized data structures. Participants on these referrals are cleared through the participant clearance process, and their source IDs are recorded along with temporary IDs created before case creation. The workflows include communication with the referral source agencies for additional information and clarifications as required, these communications being electronic and real-time, batch files, faxes, e-mails, or paper documents. A comprehensive history of this communication and related documentation is available through our solution's user interfaces. Some of these documents may need electronic signatures or digital signatures. We provide the ability to update generated electronic correspondences and documents with rich text, electronic signatures, and digital signatures through the XML signature standards.

Referral requests are transferred to an automated case record according to configurable business rules, automatically identified by party roles and the system creates a unique case number to represent a family in the referral. Where a foster care referral has two non-custodial parents, two cases are created with the foster care agency as the custodian. Case numbers are automatically created and assigned to the cases.

(2.1.31) Court Interface

REQUIREMENT: (#145) The system must support interfacing with judicial district court case management database to manage synchronization of participant and order information and provide the initial entry of such information without dual data entry. Additionally, the system must be able to support e-filing requirements of each judicial district.

(#152) The system must be capable of capturing the data for non IV-D and direct pay court orders.

The Protech Team understands the importance of integrating the court with the system and has assisted numerous court systems in integration with child support systems. Our solution provides for comprehensive information sharing between CSEP and the courts, for e-filing, establishing and enforcing support orders. We successfully implemented the Comprehensive Courts Interface (FACTS) in New Jersey. The integration feature between the NJKiDS system and FACTS, the court's system addresses real time scenarios and synchronization of data between the two systems. We would bring this experience to the NCSEAS project to assist in meeting the system requirements for Nevada's court interface.

To eliminate duplicate data entry and improve process efficiency, we implemented over forty-five (45) cross system workflows between child support and court systems in New Jersey. These are bi-directional, real-time interfaces between the child support enforcement system in New Jersey, NJKiDS and FACTS, the system used by the administrative office of the courts in New Jersey. They cover a range of functions including the filing of complaints, synchronizing case and participant information, scheduling hearings and conferences, order creation-maintenance and modifications, locate and docketing.

These workflows process over 400,000 transactions a month and include e-filing of petitions among several other workflows. The following list is representative of the workflows built for New Jersey:

- *Search for Party*
- *Get list of cases involving a party*
- *Update Association of Docket on court system to CSES*
- *Enter and Correct Dispositions*
- *Inquire Court Calendar*
- *Schedule and Maintain Proceedings*
- *Add/Modify Party*
- *Add/Modify Relief*
- *Consolidate Parties on core CSE system*
- *Consolidate Parties on Court system*
- *Add or Edit Attorney*
- *Associate /Disassociate Attorney to Party*
- *Add or Edit an Order*
- *Add or Edit Counter Claim*
- *Add or Edit Motion or Cross Motion*

- *Processing Orders*
- *Manage Warrants*
- *Add or Modify Miscellaneous Documents*
- *Maintain Family Relationship*
- *Disassociate Party from Case*
- *Disassociate/ Associate Party to a Document*
- *Manage Notices*
- *Add Case Comments*
- *Add/Modify Aliases in CSES system*
- *Create IV-D Case in CSES - Family Worker*
- *Create IV-D Case in Court System - Cross Venue Transfer*
- *Create IV-D Case in CSES - FM and FV Dockets*

REQUIREMENT: (#146) The interface must be able to identify and record orders of modification or subsequent orders relating to child support for the same participants.

REQUIREMENT: (#147) The system must support docket number, department, and judicial officer assignment.

Upon creating a case, our solution identifies the next step in the case processing: locate, pat. establishment or order establishment. For paternity and order establishment, based on configurable business rules, our solution is designed to initiate the court docketing process in the court system by (1) creating a docket (or updating an existing docket) (2) Identifying a time slot and department on the court calendar for a hearing and (3) scheduling a hearing with a judicial officer and generating appropriate, signed documents.

The user or the system can initiate order modifications based on configurable business rules by invoking the order modification process, which also uses the court docketing process in the court system to schedule hearings for modifications.

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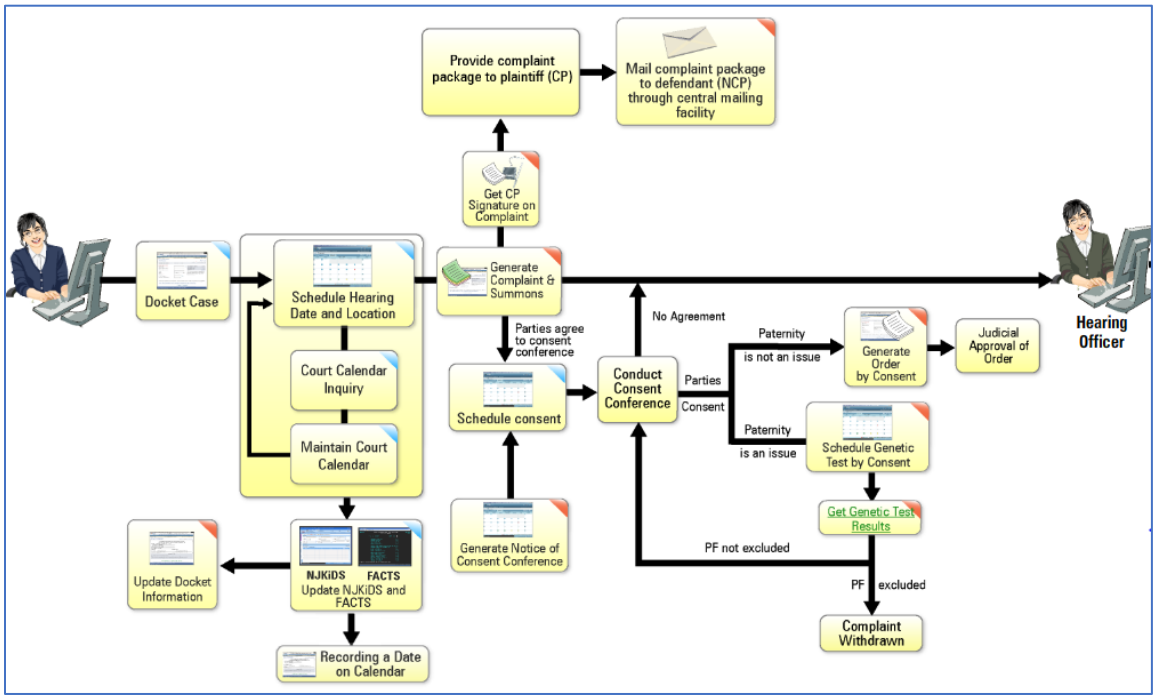

Figure 3.4 (2) - 29. Sample Process

REQUIREMENT: (#148) The system must support updating court calendars when hearings are scheduled and rescheduled and location information changes.

At the time of scheduling a hearing, our solution retrieves court calendars in real time and displays them to the user for review and update.

An example from one of our implemented solutions, as shown in the below illustration, facilitates the delivery and display of court calendar information from the court's system and allows users to select specific dates that are conveyed back to the court system for an update.

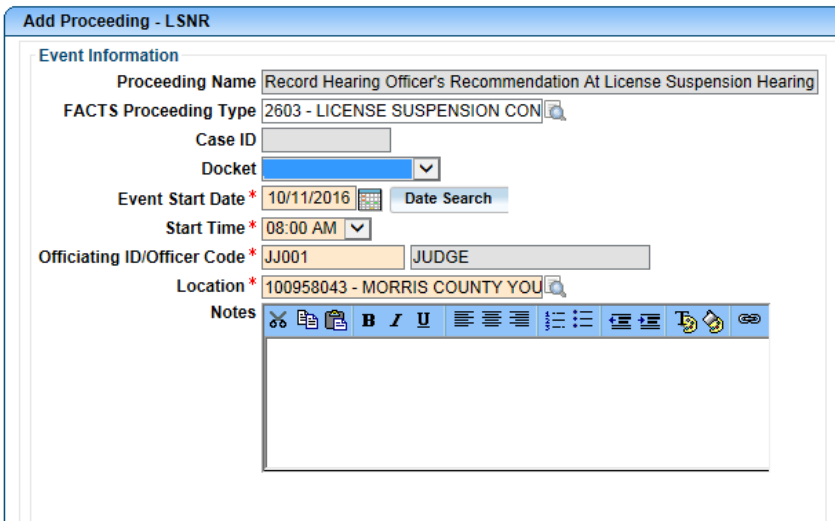

Figure 3.4 (2) - 30. Sample Scheduler

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If a hearing requires rescheduling or location changed, a similar online process is used to identify new slots. Notifications of cancellation and reschedules are automatically sent to the parties. Reschedules and changes can also be done automatically for bulk rescheduling purposes.

When the scheduled hearing is completed, the results of the hearing are recorded on the system and e-signatures are obtained from the concerned parties on the hearing document. This ensures the signed copy of the form is available online for viewing and reprinting. Additionally, a copy is also mailed to other parties named in the application.

If the parties agree to a consent conference, a schedule is fixed for it. As in the regular hearing, the consent conference hearing also interfaces with the court system to inquire availability and to update conference schedules.

If paternity is an issue, the application enables scheduling of a genetic test and also enables recording of results from the testing labs.

The selection of the proceeding types is dependent on the specific workflow that this schedule relates to. For example, a modification workflow can only accept certain proceeding types while a paternity establishment workflow would accept others. Similarly, the location of the hearing is dependent on the specific step of the workflow. Documents that are generated from this step in the workflow will be listed and displayed in conjunction with this window, and are specific to the steps in the workflow. If the user wishes to override the scheduling availability on the court calendar and schedule a hearing for a specific date, the 'accept scheduling' feature will allow for this functionality.

The scheduling component also allows for the 'e-listing' of Court dates, the cancellation of schedules, generation of cancellation notices and the rescheduling of the hearing. These events are comprehensively recorded on the workflow diary along with the notices. With the proposed imaging enhancements and the integration of an electronic case file, the diary will also provide scanned images of external documents used in the case workflow through access to the electronic case file.

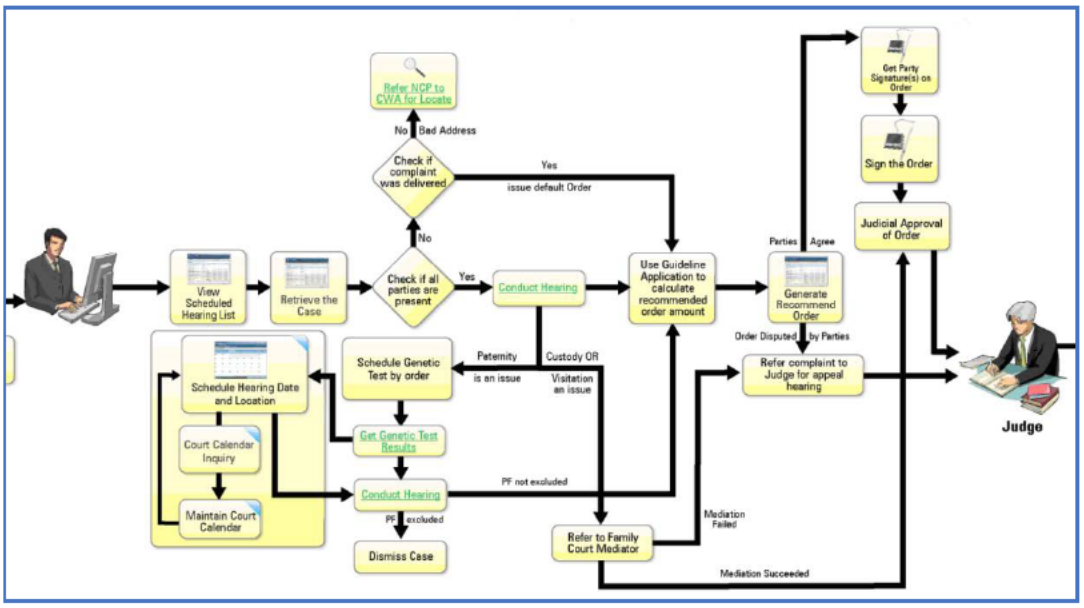

Figure 3.4 (2) - 31. Conducting Hearings

REQUIREMENT: (#149) The system must support recording hearing results.

REQUIREMENT: (#150) The system must support recording the terms of court orders.

Court hearing officers can view a list of scheduled hearings and retrieve the case details. The results of the hearing are recorded on a uniform support services order screen, signatures of the hearing officer is affixed and sent to a judge for approval if necessary, using the case management docketing workflow.

The judge or a designee can review these documents, deny or approve the recommendation, and reschedule hearings. All of these can be done through the workflow process after the judge provides a response and the judge's signature is recorded on the system.

The entry of the judge's signature sets in motion the updating of order and obligation information. This in turn starts workflow processes related to the entry of this information, such as automated income withholding and other potential enforcement actions.

REQUIREMENT: (#151) The child support system must be able to request and receive electronic copies of orders and documents from the state court systems.

REQUIREMENT: (#152) The system must be capable of capturing the data for non IV-D and direct pay court orders.

Following a review of order recommendations for cases heard by hearing officers or the hearing of orders under appeal, the judge can issue the order within the system, view the resulting order form filled in with all of the details, affix electronic signature and save it as a final order. The clauses, which include child support, medical support, etc. can be disposed of and any support order/obligations are automatically updated in the system based on the disposition information the judge entered on the electronic order. This includes direct-pay orders and other non-IV-D information. This disposal is synchronized with the court system to ensure that the order information is also updated in the court system.

Our solution allows the recording of dispositions and the automatic advancement of workflows to the next step in the activity chains. A scheduling option from within allows re-listing of hearings.

(2.1.32) Intake Case Monitoring

REQUIREMENT: (#153) The system must monitor pending referrals and new cases to generate needed forms, letters, and appointments.

REQUIREMENT: (#154) The system must ensure compliance with and documentation of the timeframes for case setup.

REQUIREMENT: (#155) The system must automatically refer the case to the appropriate functional unit at the conclusion of the intake process.

Pending referrals and new cases come from five sources: walk-ins, public assistance agencies, self-service portals, out-of-state agencies and court systems. Our solution assesses the nature of these referrals and cases automatically and continuously monitors the status of these cases to generate forms, letters, appointments, and workflows. An illustration of such a flow for manual case intake is shown below. The same processes are also used for automated referrals.

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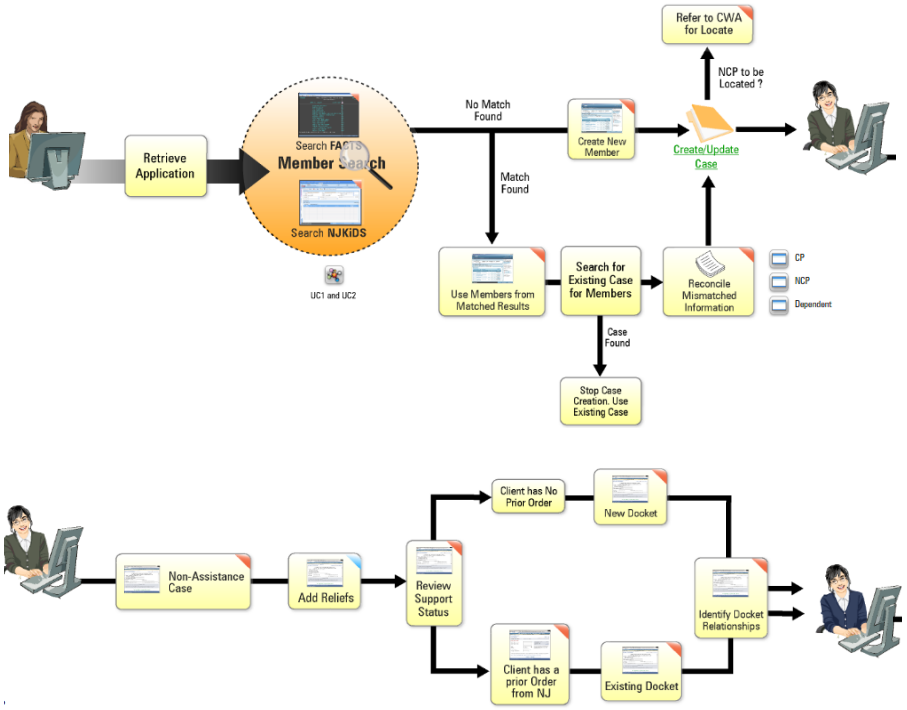

Figure 3.4 (2) - 32. Pending Referrals and New Case Process

Case initiation activities are associated with the case initiation subsystem and the chronological case action diaries. Our solution provides for the systematic monitoring and logging of case initiation activities, such as the 20 calendar days requirement for establishing a case record and referring it to the appropriate unit.

Establishment of a case record is satisfied automatically when a referral passes all mandatory system edits as defined for case creation or is done manually if the referral does not pass the defined edits. The assigned initiation user (according to the team and roles within the county of the referral) is notified to take the required action for processing referrals requiring manual review.

Once a referral is established as a new or existing case, the system automatically refers the case to the next appropriate processing unit.

Our case monitoring functionality supports automated next action in the referral process using highly intuitive, integrated case diaries and process maps. The monitoring component presents orchestrated workflows as a set of steps with look-ahead features, scheduling, notice generation, time frame management, and image processing. The case processor is completely integrated with the process maps that are used to choreograph services and human interactions. It provides six functions that integrate with process maps to provide a unified user experience while navigating complex process maps. These functions are:

- *Integrated document management and imaging systems*
- *Worker alert management system*
- *Scheduling system*
- *Integrated cross-system process handler*
- *Service consumption for production data retrieval, process initiation, and continuation*

- *Comprehensive process history*

These functions are illustrated in the following schematic diagrams:

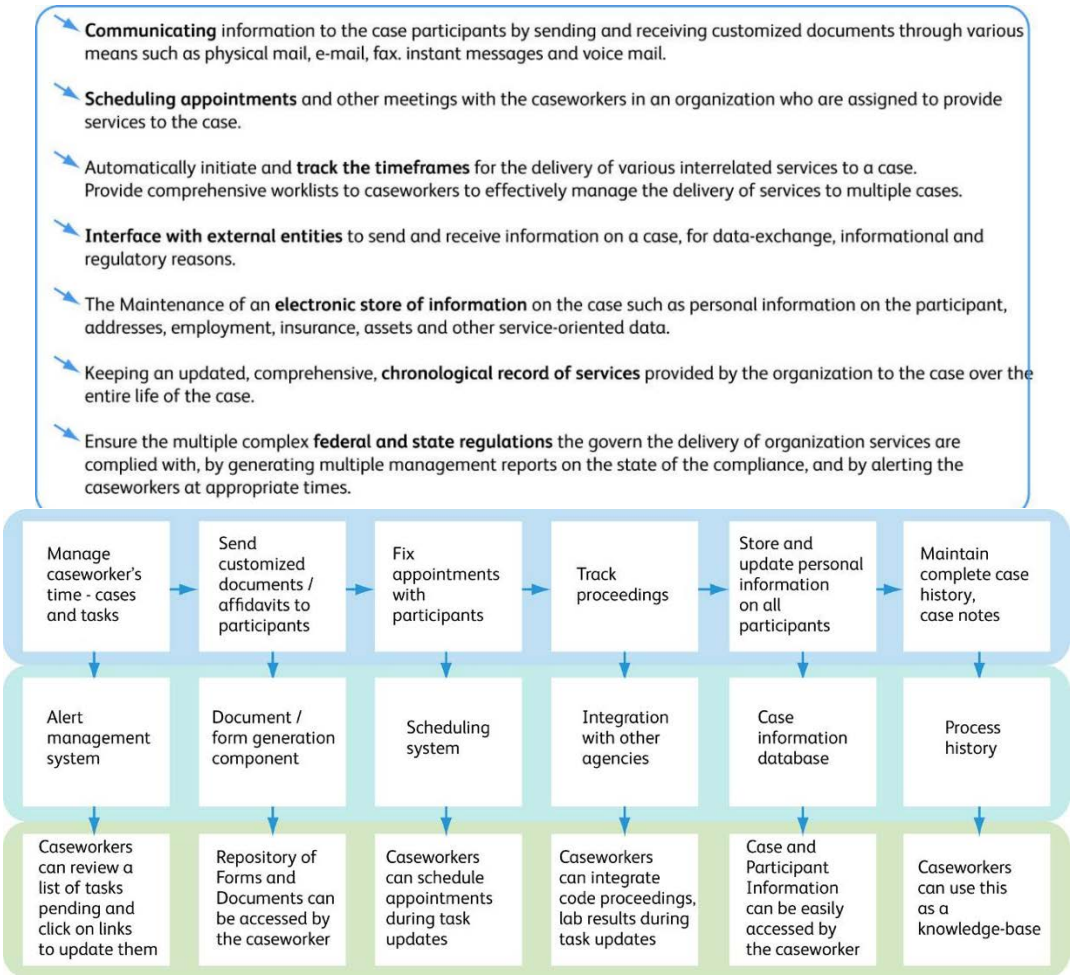

Figure 3.4 (2) - 33. Case Monitoring Process

Using the case processor function, federal and state time frames are tracked on work lists. The case processor generates documents for online display to users for further updates and document-oriented workflow continuations. Users can also scan documents through the case processor and have these integrated into the case record. Such integration allows the program to meet time frames with a comprehensive audit history of case actions that were executed to meet the time frames.

(2.1.33) Case Types

REQUIREMENT: (#156) The system must maintain and identify cases by type for purposes of reporting and collection distribution. The case types to be maintained include at a minimum:

- TANF IV-D
- IV-E Foster Care IV-D (i.e., federal foster care children entitled to IV-E foster care)
- Non-IV-E Foster Care (i.e., non-federal foster care)

- Former Assistance IV-D
- Never Assistance IV-D
- Medicaid Only IV-D
- Arrears Only IV-D
- State-Tribal IV-D
- International IV-D
- Non IV-D

REQUIREMENT: (#157) The system must identify intergovernmental cases.

REQUIREMENT: (#158) The system must identify non-IV-D cases requesting Federal Parent Locator Service (FPLS) only services (e.g., parental kidnapping cases).

REQUIREMENT: (#159) For Medicaid Only IV-D cases, the system must capture if the participant only wants services related to securing medical support.

REQUIREMENT: (#160) In cases where the applicant has indicated medical-only, the system must only initiate medical support services.

REQUIREMENT: (#161) In cases where the medical-only indicator is not present, the system must initiate all appropriate IV-D services.

Referral requests are categorized by type, and specialized workflows are initiated for each type of referral.

The types included are:

- *TANF IV-D*
- *IV-E Foster Care IV-D (i.e., federal foster care children entitled to IV-E foster care)*
- *Non-IV-E Foster Care (i.e., non-federal foster care)*
- *Former Assistance IV-D*
- *Never Assistance IV-D*
- *Medicaid Only IV-D*
- *Arrears Only IV-D*
- *State-Tribal IV-D*
- *International IV-D*
- *Non-IV-D*

When these referrals are processed, the system automatically identifies and categorizes the referral type. For example, a Non-IV-D referral received from the court is distinguished from a pending NPA case referral submitted via the customer service web. The pending referrals are classified based on the source of the case referral and the application type and are used to create cases with corresponding case types. When a case is created from these referral types, the system associates the referral type with the new case and validates the requested services.

Case types are based on federal definitions as in objective A-6 of the Federal Certification Guide and augmented with other attributes, such as service requested (Locate Only, Non-IV-D, full services, or medical enforcement only), to capture workflow specific values that define the subsequent workflow paths for these cases. For example, when a NPA referral from the customer service web is processed, the new case type is

set to NPA, and the service requested may be full services, or locate only. The case type and the service requested together further defines the case. These are also illustrated below with a red border.

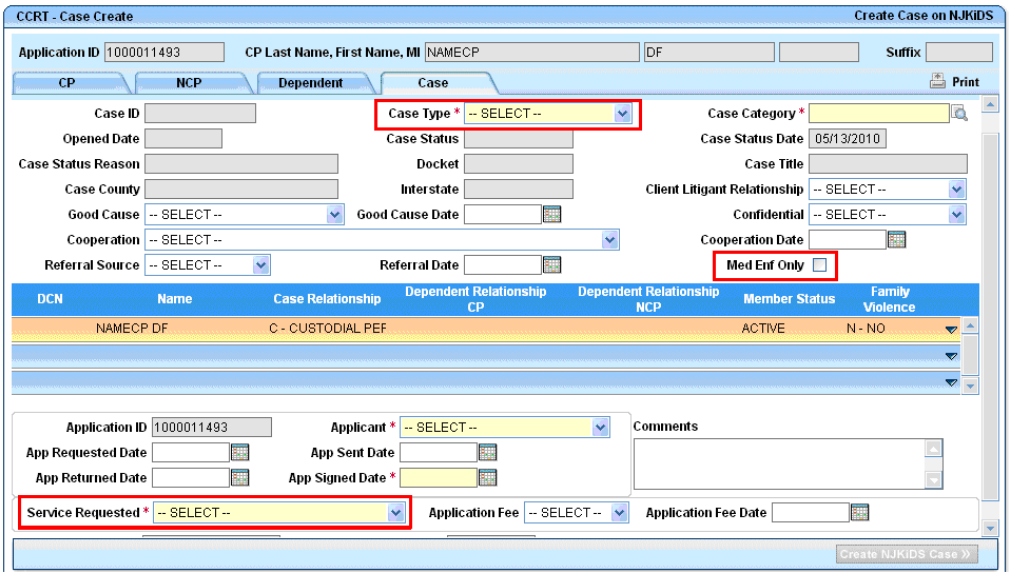

Figure 3.4 (2) - 34. Case Type and Service Requested

Upon receiving intergovernmental referrals through CSENet or as UIFSA referrals, our solution identifies the initiating nature and records this information on an interstate type. Additionally, the case type of the interstate case is also stored. The FIPS code of the referring State is also stored in our solution to ensure that any payments and arrears owed to that state are properly accounted for. This information is not overwritten if the CP moves to another State and another referral for the same case comes in; the new information is stored in addition to the prior referrals.

When a referral is initiated from Nevada, the interstate case type is set to initiating. When a response is received, the other state's case id is stored on our solution and not overwritten when the NCP moves to yet another state.

Limited action indicators such as medical support enforcement only, locate only, enforcement exemptions, are all stored in separate attributes along with historical changes. These fields, along with case type, determine the course of the workflows for these cases. Where there is no limitation, the system ensures that all appropriate services such as modifications and enforcement are implemented according to configurable business rules.

(2.1.34) Assistance Status

REQUIREMENT: (#162) The system must maintain and identify cases by assistance status for purposes of federal reporting. The assistance referenced is public assistance from the TANF or from Child Welfare IV-E assistance.

(#163) The assistance statuses to be maintained include:

- Current Assistance
- Never Assistance
- Former Assistance

Our solution provides information on the assistance status of a case by assessing the assistance status of the participants on the case and updating the assistance status attribute on the case. This is the status that is used to compute the values of the appropriate cells of the Federal 34 and 157 reports. When there is at least one child on the case currently on assistance, the system records the case as on current assistance. When none of the children have been on assistance, the system records the case as a never assistance case. When no child is on assistance, and one or more of these children were on assistance, the case is classified as former assistance.

These statuses are recalculated in real-time when referral information results in a change of status or when users change the assistance statuses online. When this happens, a background financial process recalculates arrear assignments to the PRWORA buckets, retroactively or for the current month, depending on the date of the status change.

(2.1.35) Order Status

REQUIREMENT: (#164) The system must maintain and identify cases by order status for purposes of reporting and collection distribution.

(#165) The system must maintain and identify cases by order status for purposes of reporting and collection distribution. The case statuses to be maintained are:

- Active – Case has or can have a current support obligation
- Arrears – Case no longer has an active current obligation but has an arrearage obligation
- Cases with no current support or judgment entered (The enforcement agency is in the process of establishing an order or is enforcing an order for medical coverage only.)
- Deactivated – Case is not subject to system processing
- Closed – Case action has been terminated
- Dismissal - Order has been dismissed

Order status is stored as a separate attribute and is assessed in real time based on the status of the obligations (active, ended, has an arrearage, has a judgment) related to the order, and actions related to the case (exempted, de-activated, terminated, order dismissed). Depending on the order status, our solution selects the order for accrual, enforcement, distribution, and reporting. Distributions of collections to orders are done through configurable business rules that assign priorities to debt types, arrears, and judgments.

(2.1.36) Functional Area Status

REQUIREMENT: (#166) The system must provide an indicator for each case as to the case's status within its assigned functional area to enable pulling and managing cases with specific status values.

As cases move through the life cycle, they change functional areas – through pending application, initiation, locate, establishment, enforcement, and collection. Our solution provides an indicator for the functional status that is prominently visible on a case-level header. Sometimes, a case may be in two statuses – in locate while an order is being enforced, or in collection while paternity is being established for a new child with the same custodian. We allow for both statuses to be visible to the user.

(2.1.37) Intergovernmental Status

REQUIREMENT: (#167) The system must maintain and identify cases by intergovernmental activity status.

(#168) The interstate statuses to be maintained are:

- Local (another state agency is not involved)

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- Initiating (the custodial party resides in Nevada and another state child support agency is assisting with establishment, enforcement and / or forwarding collections to Nevada)
- Responding (the noncustodial parent resides in Nevada and another state child support agency has requested CSEP assistance)

Our solution provides for three intergovernmental statuses at the case level:
L – Local (another State agency is not involved)
I – Initiating (the CST resides in Nevada, and another state's child support agency is assisting with establishment, enforcement, and/or forwarding collections to Nevada)
R – Responding (the NCP resides in Nevada, and another state's child support agency has requested Nevada for assistance in establishing and enforcing the case)

The following screen illustrates how a user can update the intergovernmental status online. When the State receives or sends intergovernmental referrals this status field is updated.

Cases can switch between these statuses when the NCPs and CSTs change locations over time. Our solution maintains a history of these statuses and correctly allocates arrears owed to different FIPS at the order/obligation level so that collections are properly applied even through all these changes.

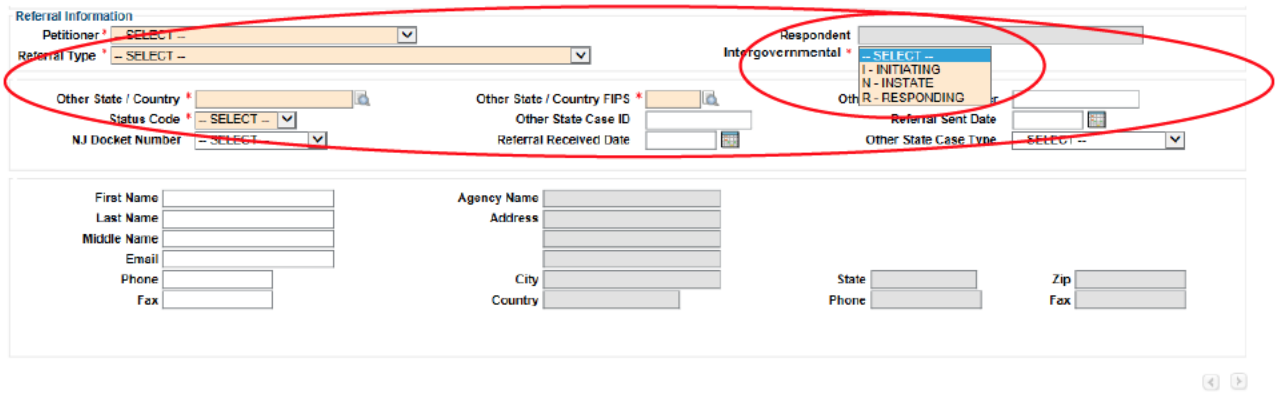

Figure 3.4 (2) - 35. Sample of Updates to Intergovernmental Status Online

(2.1.38) Child Welfare IV-E Status

REQUIREMENT: (#169) The system must maintain and identify Child Welfare IV-E status and store the history of open and close dates.

When the IV-E agency sends referrals for child support, our solution creates IV-D cases with a case type of IV-E and records the children's IV-E status on a participant status table. The status, program id, person id, any special program code, start date, end date and effective dates are stored on the table. Accruals and arrears are assigned to IV-E buckets in preparation for distribution. When the status of these children changes from IV-E, a history of these changes are maintained along with effective dates, to ensure that distribution based on receipt dates can correctly assess arrears. When the status is changed retroactively, arrear changes are also done retroactively.

(2.1.39) State Case Registry

REQUIREMENT: (#170) The system must accept and maintain information on non-IV-D orders established or modified in Nevada on or after October 1, 1998, for inclusion with IV-D cases in the State Case Registry for transmission to the FCR.

REQUIREMENT: (#171) State Case Registry information that must be maintained includes but may not be limited to:

- name
- SSN
- date of birth
- gender
- participant type
- and participant ID for all case participants
- family violence indicator
- state FIPS code
- case number
- issuing state of order
- case type

REQUIREMENT: (#172) The system must accept updates to the mandatory data elements for non-IV-D cases.

REQUIREMENT: (#173) The system must accept requests for deletion of non-IV-D orders on the State Case Registry.

Our solution implements a state case registry in compliance with Sec 234.001. This registry contains case records of services provided by the CSEP as well as each support order established or modified in Nevada. Deletions of non-IV-D orders are also received and updated in this registry. Using batch interfaces with the courts and FCR, this registry is updated, maintained, and regularly monitored. It includes information on administrative actions, administrative and judicial proceedings and orders relating to paternity establishment and support. It is also kept in sync with federal information through updates from FCR. Support collections and distribution data is included in the case record as are records on judicial proceedings and orders relating to paternity and support. Information is exchanged with FCR and the courts for reconciliation purposes. Information in the state case registry is available online for review by authorized personnel.

(2.1.40) Non IV-D Court Orders

REQUIREMENT: (#174) Non-IV-D and income withholding cases are subject to the monthly account management process (e.g., recording and passing the payments to the obligee or payee participant).

Our solution for the state case registry includes an interface with the courts that receives Non-IV-D and income withholding cases. These are recorded on our system as payment accounts and are used for passing payments from the NCP to the CST (payee participant or obligee). These payments are tracked in a case payment history record on our solution.

(2.1.41) Federal Case Registry Interface

REQUIREMENT: (#175) The system must interface with the FCR providing new and updated case and participant data.

When information is received through Federal Case Registry (FCR) or other agencies that the non-custodial parent now lives or works in another jurisdiction and when the worker determines that long-arm actions are not an option, our solution uses this information to initiate referrals to that jurisdiction. These activities either occur in an automated manner without user intervention or through a caseworker review process, based on configurable business rules. In either instance, the system records this information on the

automated case record and flags the case for user review on a worklist screen if the user is to take any action.

FPLS requests are returned to the State via the FCR process. Returned information includes locate data from any of the identified federal agencies searched including SSN verification. It should be noted that once the SSA has verified an SSN, it is no longer accessible to update. If multiple validated SSNs are identified for the same person, the system triggers a special report for research resolution.

Additional information received through the FCR processes through the locate subsystem logic similarly to other interface data received. Proactive information can be received by the State from FCR when employment information is sent to the NDNH from another state. The locate design allows for managing proactive information received for cases that are not in a locate status.

CSENet queries are automatically generated when information is received from FCR indicating parties on a case in the State are on a case in another state when exchange agreements are in place between the State and the other states involved in the case.

REQUIREMENT: (#176) The system must process all administrative information received from the FCR (e.g., rejections, warnings, SSN verification, or identification results).

REQUIREMENT: (#177) The system must have the capability to process an FCR reconciliation file.

When information is received from a Custodial Parent (CST)/Non-Custodial Parent (NCP) via the customer service portal or via other avenues such as agency interfaces or locate sources, it is validated and compared to existing case information before updating the case record to ensure the information does not already exist in the database. If it does, the system ensures no alerts are sent to the user to re-validate the information. If the information differs from information previously received from any source for the participant, the data is recorded in the system with a pending status, and the Locate verification process is initiated for the new information received. Mailing address information is verified by the postmaster; employment information is verified by the employer, and the SSN is verified from SSA through FCR. The new information is automatically included in the new updates to FCR or any locate requests. When all the information necessary for a member to be considered as located is received, the system automatically changes the locate status of the member from "In Locate" to "Located." Based on the State's business rules, the information received may be sent for verification automatically. This verification request is then recorded in the system, and the workers are alerted when the verification response is not received by the due date. Our solution also discerns when updated information is provided for previously reported data and does not treat updates as duplicated data.

To reconcile case and participant information between FCR and SCR, our solution can process a reconciliation file received from FCR on request. The mismatch transactions will be corrected in the state database so that the next file sent to FCR will have the expected transaction types and the number of errors will be minimized.

REQUIREMENT: (#178) The system must generate correcting transactions when the two databases in an FCR reconciliation have discrepant data.

REQUIREMENT: (#179) The system must notify the FCR of changes and deletions to the information provided to the FCR.

To reconcile case and participant information between FCR and SCR, our solution can process a reconciliation file received from FCR on request. The mismatch transactions will be corrected in the state database so that the next file sent to FCR will have the expected transaction types and the number of errors will be minimized.

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Our solution identifies discrepancies between FCR data and Nevada's records, identifies and documents the differences.

REQUIREMENT: (#180) The system must communicate with the FCR via the network provided by the FPLS for this purpose.

REQUIREMENT: (#181) The system must send referral information to the FCR to register cases and participants, including:

- participant name
- SSN
- date of birth
- gender
- participant type
- family violence indicator
- case number
- case type
- order indicator
- state FIPS code

REQUIREMENT: (#182) The system must automatically record data received from the FCR in the case record.

REQUIREMENT: (#183) The system must maintain an audit trail for tracking the FCR status.

The expanded Federal Parent Locator Service (FPLS), operated by OCSE, encompasses the Federal Case Registry (FCR), the Federal Offset Program, Multi-State Financial Institution Data Match (MSFIDM), the National Directory of New Hires (NDNH), and the Passport Denial Program. The FCR is the path used to match data against other federal agencies' data, such as with the Social Security Administration (SSA), the Department of Veteran Affairs (DVA), the Department of Defense (DOD), the Federal Bureau of Investigation (FBI), and the Internal Revenue Service (IRS). Specific guidance is provided to the State regarding the interface requirements including the file format, record layout, and mode of data transfer while data transmission is performed using CyberFusion protocol. The FCR Interface Guidance Document is available to assist the State in implementing the federal interfaces for the NCSEAS enhanced solutions locate program. FCR provides information based on either proactive match or Locate requests from the States. SSA identifies SSNs for the members with missing SSNs if additional details are provided in the file. IRS uses the spouse's SSN and the name of the member to identify the SSN of the member. SSA sends corrected SSNs, additional SSNs of members based on the current SSN sent by SCR. Each of the locate requests are recorded in the case diary with the date of the request, the member ID, data element requested, name of the locate source, the expected date of response, etc.

When the data is received from FCR, the information is stored in the database at the case and participant level. The source of the information and the date and time are recorded in the system as an audit trail.

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(2.2) Locate

(2.2.1) Basic Locate Functionality

REQUIREMENT: (#184) The system must routinely match all noncustodial parents and all custodial parties with address, asset, and employment sources.

Our solution features a perpetual locate process for participants, assets, and employment data that routinely matches all NCPs and CSTs with locate sources. Every automated source of locate is given a priority and a configurable number of days at which point another Locate request can be sent to that source. Data elements available with each locate source are also recorded on our system. For each source, Protech's solution provides the ability to enter initial reliability estimates, which are automatically adjusted based on the verification success rates from these sources.

For information that is not available in the system (such as address, employer, assets, DOB, SSN) our solution sends automatic locate requests to sources in order of priority of data elements that are not available for a participant. When information is received from these sources, generally through batch interfaces, the responses are de-duplicated, verification letters automatically generated, and tracking entries created in the case processor for the requests and responses. We provide for automated de-duplication using tools such as IBM's MDM to filter and eliminate duplicates.

Once the number of days for a specific source is reached and based on the business rules, a locate request on the participant can be re-sent to the sources to obtain any updated information. When this information is received, it is validated and de-duplicated to ensure the information does not already exist in the database. If it does, the system ensures no alerts are sent to the user to re-validate this information. If the information received differs from information previously received from any source for this participant, the standard locate verification processes are initiated for the new information received.

The advantage of our solution's perpetual locate process is that users do not have to sift through duplicate data and request verifications, as this is taken care of by the system. The system sends results of the new information to workers or initiates automated verification processes, depending on the rules for that locate source.

Based on configurable business rules, our solution automatically enters new participants (CSTs/NCPs) into the perpetual locate process. Locate requests are automatically sent to prioritized locate sources at configurable time intervals. The perpetual locate system requests locate information even on participants with confirmed addresses and employers to ensure the information is still current.

REQUIREMENT: (#185) The system must screen for information previously reported.

When information is received from a Custodial Parent (CST)/Non-Custodial Parent (NCP) via the customer service portal or via other avenues, such as agency interfaces or locate sources, it is validated and de-duplicated using address standardization, MDM, and other tools prior to updating the case record to ensure the information does not already exist in the database.

If it does, the system ensures no alerts are sent to the user to re-validate the information. If the information differs from information previously received from any source for the participant, the data is recorded in the system with a pending status and the locate verification process is initiated for the new information received.

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Mailing address information is verified by the postmaster; employment information is verified by the employer; and the SSN is verified from SSA through FCR. The new information is automatically included in the new updates to FCR or any locate requests. When all the information necessary for a member to be considered as located is received, the system automatically changes the locate status of the member from "In Locate" to "Located." Based on the State's business rules, the information received may be automatically sent for verification. This verification request is then recorded in the system, and the workers are alerted when the verification response is not received by the due date.
The system also discerns when updated information is provided for previously reported data and does not treat updates as duplicated data.

REQUIREMENT: (#186) The system must identify addresses, assets, and employment not previously reported and maintain them along with the source identifier.
Please refer to our response to requirements #184 and #185. We will work with the State of Nevada to identify sources for automated (perpetual) locate processes and build interfaces with these sources to request and receive locate information. The perpetual locate process automatically sends requests to these sources based on configurable business rules. Information received from these sources is processed through our de-duplication solutions before being assessed for automated verification of information and the initiation of related workflows. Business logic in the processing programs eliminates duplicate information from the same or different sources. The program also discerns when updated information is provided for previously reported data and does not treat updates as duplicated data. Such updates are identified, and a caseworker is alerted to review this information, along with a source identifier and the reliability of the source.

REQUIREMENT: (#187) The system must update previously reported asset information with new balances and / or addresses.

Please refer to our response to #186. Information on address, employer, and assets are automatically added by the system through our workflow which processes updates from various sources. These updates result in a notification to the worker. Alternatively, workers can manually update address information through online screens that accept information on demographics, addresses, assets and employment details. The source identifier, reliability, and date of receipt are also available.

Data received from various sources is classified as confirmed or unconfirmed based on configurable business rules. Unconfirmed data is distinguished from the confirmed data using defined indicators and is stored separately. The system is configured to update certain data from specific sources depending on the rank of the source and data attributes.

Using automated de-duplication, we ensure that duplicate information is not repopulated into the system and no workflows are started due to such information. The system also ensures that this de-duplication process uses previously rejected data and is viewable on a locate history screen accessible by participant and case. Our system uses a combination of indicators and time intervals to indicate that data is no longer current based on configurable business rules. Historical data is also available in easily accessible formats.

REQUIREMENT: (#188) The system must use federal and state sources to acquire and verify SSNs.

This locate component provides data transfer and matching capability with non-government entities through a secure interface. For example, VPN access provides stringent authentication protocols and precautions to protect the confidentiality of child support data. The locate portal also helps in controlling data access, and processing returned information. Issues of technical security, as well as administrative security, are thoroughly and stringently considered.

The expanded FPLS operated by OCSE encompasses the Federal Case Registry (FCR), the Federal Offset Program, Multi-State Financial Institution Data Match, the National Directory of New Hires, and the Passport Denial Program. The FCR is the path for matching against other federal agencies, including the Social Security Administration (SSA), the Department of Veteran Affairs (VA), the Department of Defense (DOD), the Federal Bureau of Investigation (FBI), and the Internal Revenue Service (IRS). Specific guidance is provided to the State regarding the interface requirements including the file format, record layout and mode of data transfer. Data transmission is performed using Cyber Fusion protocol. The Federal Case Registry Interface Guidance Document is available to assist the State in implementing the federal interfaces for the Nevada program.

Federal program regulations define time frames for the completion of locate activities. Specifically, the regulations state that "within 75 calendar days of determining that location is necessary, [the State must] access all appropriate location sources including transmitting appropriate cases to the Federal PLS." An exception is that the responding state for an interstate case is not required to access the FPLS for cases requiring location activities.

FPLS regulations also permit the use of the FPLS by attorneys and courts in matters involving child custody and visitation. The intent of this provision is directed at instances of parental kidnapping across jurisdictions. The procedures and mechanism for providing this access are typically controlled manually by central office personnel. Requests for the use of the FPLS sources are normally infrequent but are available when needed.

State IV-D agencies are required to annually submit a certification of compliance with safeguard and security requirements relating to locate information received from the FPLS. Data received from the FPLS/FCR is safeguarded in the data system.

FPLS requests are returned to the State via the FCR process. Information returned may include Locate data from any of the identified federal agencies searched including SSN verification. It should be noted that once the Social Security Administration has verified an SSN, it is no longer accessible to update. If multiple validated SSNs are identified for the same person, the system triggers a special report for research resolution.

Additional information received through the FCR processes through the Locate subsystem logic similarly to other interface data received. Proactive information can be received by Nevada from FCR when employment information is sent to the NDNH from another State. The locate design allows for managing proactive information received for cases that are not in a locate status.

CSENet queries are automatically generated when information is received from FCR indicating parties on a case in Nevada are on a case in another state when exchange agreements are in place between Nevada and the states involved in the case.

Our solution facilitates the implementation of an SCR as an integral part of NCSEAS, which is useful for including payment information on non-IV-D cases with income withholding. The SCR also contains information on IV-D cases and participants. All mandated information is sent to FCR on all new members and new cases. The members or cases with updates since the last submission to FCR are included in the file to be sent to FCR.

Each state IV-D agency is required to establish a State Parent Locator Service (reference 45 CFR Part 302.38). In the early years of the Title IV-D program, the SPLS was typically a manual process with minimal automation. With the progression of technology, the SPLS is primarily represented by the locate subsystem

of certified child support systems. Our solutions locate portal, batch interfaces, and perpetual locate services illustrate the level of technology and design that is available to support the locate function.

The SPLS has access to the same locate resources as all automated or manual users of the system. Any SPLS locate action taken in the system is recorded in the case diary; alerts are generated to the assigned locate resource when additional action or review is required.

REQUIREMENT: (#189) Once an SSN is verified by the Social Security Administration, the system must protect it from update without supervisory approval.

FPLS requests are returned to the state via the FCR process. Information returned may include locate data from any of the identified federal agencies searched including SSN verification. Once an SSN is verified, it is locked from further update. If multiple SSNs are provided, each is submitted to the FCR on a separate record.

REQUIREMENT: (#190) The system must maintain a parameter file of available locate sources.

The IV-D program has the legislative authority to access a wide range of information repositories. The volume of data returned from multiple sources is usually large, if not properly managed by automation. Matching logic is very important to the processing of locate data. To manage workloads and volumes, we provide a comprehensive locate table, with table-controlled parameters to rank sources, determine refresh frequencies, and define available data. Our solution applies business logic to protect data integrity in the system and ensure the data is accurate for the person for whom the search is performed. The system also uses table-controlled parameters so forms, letters, and appointments are sent correctly to the appropriate parties, and compliance with timeframes for location efforts is maintained and documented.

REQUIREMENT: (#191) The parameter file must be used by locate processes in order to regulate the use of received data according to the source's priority and trustworthiness for each type of data received in order to determine whether to update the current case / person information, notify the case owner, or generate an inquiry.

Our solution facilitates the processing of locate data without user involvement to the greatest extent possible. Timeframes for resubmitting cases to various sources as well as other parameters are defined in a table that is modified by an authorized user.

The parameter table used in locate processing of locate source information includes a value to signify if the information provided is treated as verified upon receipt and, therefore, does not require third party verification or notice generation to verify the data. For example, a verified SSN received from the Federal Case Registry (FCR) or new employment information received from the Directory of New Hires represents information that is treated as verified upon receipt.

REQUIREMENT: (#192) The parameter file must control the length of time before resubmission to the source.

When the system submits a participant to a specific locate source, the system waits for a pre-configured number of days (in our locate parameter table) before re-submittal to the same source. An expected response period is also available in this parameter file to generate a user action alert if there is no response from the locate source or verification source.

REQUIREMENT: (#193) Program management staff must have control of the parameter file.

Time frames and other parameters are table controlled and are updateable by staff with the program management role. When staff are no longer assigned this role, they will not be able to update this table. This is an illustration of our role-based security.

(2.2.2) Locate Case Monitoring

REQUIREMENT: (#194) The system must establish a case locate status and monitor cases in locate status.

We will work with the State of Nevada to identify sources for automated (perpetual) locate processes and build interfaces that are not included in the California CSE System, to request and receive locate information. The perpetual locate process automatically sends requests to these sources based on configurable business rules. Information received from these sources is processed for normalization and de-duplication prior to being assessed for automated verification of information and the initiation of related workflows. Each of these actions is visible on an automated case record to keep the caseworker informed of the locate status of the case participants. The locate status is managed and maintained at the NCP level and propagates to all cases of the NCP.

Our solution records the current and historical locate status of case participants for all locate elements. Based on user requirements, a summary of the locate statuses, and their historical values, are displayed for user reference. Our solution is also configured to provide the sources from which the Locate elements were updated and confirmed.

When all the information necessary for a member to be considered as located is received, our solution automatically changes the locate status of the member from "In Locate" to "Located".

The member is assigned the "In Locate" status when there is missing information and the "Located" status when required data elements are available in the system.

REQUIREMENT: (#195) The system must generate needed locate forms, letters, and appointments.

Our solution processes locate data by generating documents manually or automatically, based on configurable business rules. Address information and employer information is entered into the system:

- *Manually by the user on a screen*
- *Acquired through a search on the locate portal*
- *Entered through the contact channels specified in the customer service section*
- *Received through automated interfaces with other agencies*

In each of these instances verification notices are generated based on configurable business rules. When new, unverified information about a participant, such as current employer or current mailing address, is acquired; the system automatically generates the employer verification letter or the postal verification letter. Based on configurable business rules, bar-coded notices are sent to appropriate recipients; the return address configured on the system usually defaults to the user who generated the notice. The office of that user receives the postal verification back from the post office.

Our solution features a locate portal that enables the state to manually request and obtain address and employer information from a variety of pre-configured locate sources. These sources include external data providers such as LexisNexis. When a caseworker accesses a Locate portal page that obtains Locate data in real time, such as address or employer information, the results are de-duplicated using IBM's MDM services displayed in an easy-to-read grid. The user can select individual addresses and generate verification notices automatically from the screen.

On this portal, the user can also request information from specific agencies through manual notices.

REQUIREMENT: (#196) The system must ensure compliance with and documentation of the timeframes for locate efforts.

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Each locate request is managed as a workflow with the initial request as the first step, with specific, configurable timeframes for responses as configured in a locate table. Our system tracks these timeframes and alerts workers before and after the due date based on configurable business rules. Please refer to our responses to the workflow management and alert management requirements for more information on workflows and alerts.

REQUIREMENT: (#197) The system must consider a case is in locate status when the noncustodial parent does not have a valid address of any type and does not have a known employer.

Our solution considers a case in locate status when the NCP does not have a valid address or does not have a valid employer. When our monitoring process detects this condition, locate processes are automatically started and workers notified. Any enforcement remedies that depend on the availability of these information points are also notified and workers alerted.

REQUIREMENT: (#198) The system must be capable of utilizing the locate interfaces to locate custodial parties when the custodial party's whereabouts are unknown and collections cannot be distributed.

Our solution integrates this with the EDM system. Returned mail from CSTs (and NCPs) is scanned into the system, starting an address locate workflow; the address on the system that was printed on the envelope will be automatically end-dated and invalidated. This will trigger the locate processes for the participant, be it the CST or NCP. When information is received from a Custodial Parent (CST)/Non-Custodial Parent (NCP) via the customer service portal or via other avenues such as agency interfaces or locate sources, it is validated and de-duplicated prior to updating the case record to ensure the information does not already exist in the database. If it does, the system ensures no alerts are sent to the user to re-validate the information. If the information differs from information previously received from any source for the participant, the data is recorded in the system with a pending status and the locate verification process is initiated for the new information received. Mailing address information is verified by the postmaster; employment information is verified by the employer; and the SSN is verified from SSA through FCR. The new information is automatically included in the new updates to FCR or any locate requests. When all the information necessary for a member to be considered as located is received, the system automatically changes the locate status of the member from "In Locate" to "Located".

REQUIREMENT: (#199) The system must perform all locate activities while the case is assigned to any functional category (e.g., case initiation, establishment, enforcement).

The monitoring of locate activities, a key aspect of our locate solution, is tracked through the automated case record. Program standards for locate requests and responses are configured through tables in the database, accessed through the business rules engine that specifies the program standards. These are configurable standards that control the worker notification process to indicate when responses are due and which ones are overdue. By using uniform tracking processes for all case functions including initiation, locate, establishment, and enforcement, our solution provides a single source of information on case tracking and progress of activities.

Cases can enter and leave the locate workflow at any time during the case's lifecycle. This includes establishment (NCP absconded during paternity establishment process, or failed to appear for a hearing) or enforcement (NCP left the state to another location). The current processes will continue to the extent possible.

(2.2.3) Secure Exchange of Data

REQUIREMENT: (#200) On a daily basis, the system must have the capability to export all case participants' identification information for use by location service providers.

Our locate solution is intended to provide data transfer and matching capability with non-government entities through a secure interface. For example, VPN access provides stringent authentication protocols, and precautions are taken to protect the confidentiality of child support data. Again, the locate portal helps in controlling data access, and processing returned information. Issues of technical security, as well as administrative security, are considered.

All exchanges are secured using multiple layers of security: secure FTP, encrypted data protocols, source-authenticated exchange, and reverse-proxy based transmissions through secure servers behind web application firewalls.

REQUIREMENT: (#201) The transfer of locate search data must be compliant with data transmission standards defined in these requirements.

We will work with the State of Nevada to ensure that all transmissions meet state and federal requirements for secure data transfer. We will make the necessary modifications to the California CSE system code to meet this business requirement.

(2.2.4) Locate Interfaces

REQUIREMENT: (#202) The system must have automated interfaces with federal, state, intergovernmental, and intrastate sources. Interfaces must include but not be limited to the sources identified below.

Our solution provides automated interfaces with customizable interface types (real-time or batch), frequency, and the data elements exchanged. We use the standard layouts related to the credit bureau, CSENet, FCR, MSFIDM as well as the federal tax offset process, etc. The processing of the individual data elements received from various interfaces is standardized across the interfaces, and the subsequent workflows are also re-usable across interfaces. We will work with Nevada to parse new data layouts and refactor them into currently used locate data elements for further processing. While we have already implemented interfaces for most of the agencies listed in the requirement, the design enables easy introduction of any source which supports an automated locate. We will either modify the California CSE system or develop new software to meet each of the business requirements. The sections below outline our experience, approach and considerations in creating similar interfaces with some of the agencies listed:

- *Federal Parent Locator System (FPLS)*
- *Department of Motor Vehicles (driver's licenses and vehicle registration)*
- *Department of Employment, Training and Rehabilitation (DETR)*
- *Nevada Department of Wildlife-NDOW (fishing & hunting licenses)*
- *Vital Statistics*
- *Department of Corrections*
- *Credit Bureaus*
- *Postal Service*
- *Local/State Tax Administration*
- *State IV-A Agency*
- *State IV-E Agency*
- *State Medicaid Agency*
- *State IV-F Agency, either directly or through the IV- A interface*

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- *Nevada Utility Companies*

Federal Parent Locator System (FPLS)

The expanded FPLS operated by OCSE encompasses the FCR, the Federal Offset Program, Multi-State Financial Institution Data Match, the National Directory of New Hires, and the Passport Denial Program. The FCR provides the path to match against other federal agencies: the SSA, DVA, DOD, FBI, and IRS. Specific guidance is provided regarding the interface requirements including the file format, record layout and mode of data transfer. Data transmission is performed using Cyber-Fusion protocol. The Federal Case Registry Interface Guidance Document is available to assist in implementing the federal interfaces.

Federal program regulations define time frames for the completion of locate activities. Specifically, the regulations state that "within 75 calendar days of determining that location is necessary, [the State must] access all appropriate location sources including transmitting appropriate cases to the Federal PLS."

State IV-D agencies are required to annually submit a certification of compliance with safeguard and security requirements relating to locate information received from the FPLS. Data received from the FPLS/FCR must be safeguarded in local offices as well as in the data system. Based on the business rules, the information received from FCR is:

- *Updated in the permanent tables or;*
- *Placed in suspense, and the worker is alerted*
- *Displayed in reports for workers to view*

Determination of data elements which need to be directly updated or require worker intervention is finalized during requirement validation sessions.

National Directory of New Hires (NDNH)

We provide interfaces with NDNH in all states where our solution is implemented. New employment information transmitted by the new hire directories is required to be treated as verified and an income withholding notice for obligated cases is to be triggered within two days of receipt of the employment data.

Source descriptions differentiate between the National and the State Directory of New Hires. Since the same information may be sent to the State from both directories, the system applies stringent rules to discern duplicative data and to avoid redundant processing of information. Standard logic for screening interface data is also applied to New Hire. The system documents the acquisition source and date to provide a historical record of when and from what source the information was received.

The de-duplication component of the locate portal removes the duplication of data received from the provider and data existing in the child support system. For example, the same address may be represented in different forms. To prevent verification activities on each form of the address, it is first normalized, and duplicates are removed.

Federal Case Registry

FPLS requests are returned to the State via the FCR process. Returned information may include locate data from any of the identified federal agencies, including SSN verification. It should be noted that once the SSA has verified an SSN, it is no longer accessible to update. If multiple validated SSNs are identified for the same person, the system triggers a special report for research resolution.

Additional information received through the FCR is processed through the locate subsystem. Proactive information can be received by the State from FCR when employment information is sent to the NDNH from another State. The locate design allows for managing proactive information received for cases that are not in a locate status.

CSENet queries are automatically generated when information is received from FCR indicating parties on a case in the State are on a case in another state when exchange agreements are in place between the State and the other states involved in the case.

Division of Motor Vehicles (DMV)

Our solution provides users with the ability to perform data element searches that fully utilize the interface with the Division of Motor Vehicles (DMV). The interface gives users the ability to acquire information including address, driver's license number, next renewal date, SSN, and vehicle registration information. When this information is received into the system, the date and source of the acquisition is stored.

Typically, driver's license agencies are updated with additions and changes on a daily basis. The locate portal design lends itself to automated matching based on the frequency parameters set for this source of information.

Positive results returned from the DMV are recorded in the system and, once verified, may be used to alert the appropriate user and/or direct the case to the next appropriate action. Recorded information includes the date and the source of information. Match data is subjected to the authentication, reasonableness, and business value filters as defined appropriate for the DMV received information based on State requirements and JAD sessions.

Department of Employment, Training and Rehabilitation (DETR)

The interfaces with the DETR and Employment Security Division provide previous employer information, unemployment benefit details, workers' compensation, etc. The date the information is received and source of information is recorded in the system.

The system design includes income and expense screens to store data that passes processing edits. The date the case record is updated, the data source and status verification are also recorded in the system. The system updates case information with minimal user intervention and alerts users when direct intervention is needed.

Nevada Department of Wildlife (Fishing and Hunting Licenses)

The interface with the Nevada Department of Wildlife (NDOW) provides information such as fishing and hunting license (permit, name, and address) data. The information is stored in the system after running through the de-duplication process. The system automatically sends verification notices when new address information is received.

Vital Statistics

Our solution for vital statistics, which we have successfully implemented in other states, will be the baseline for our solution in Nevada. We receive data regarding birth, death, paternity, and marriage. The locate portal initiates the request to the Office of Vital Statistics and returns the matching data in a single comprehensive view for the user. The results are displayed based on reliability scores. The system uses logic to update case information when no user intervention is needed, alerts users when direct intervention in an update is

needed and generates additional inquiries when automatic updates and user alerts are not sufficient. The system documents the acquisition date of the information and the source of information.

Department of Corrections

Scheduled JAD sessions and subsequent design and review sessions validate the requirements for data exchange with the Department of Corrections (DOC) and determine the appropriate mapping of the data obtained. The system includes fields for the entry and tracking of incarceration data, potential release dates, and parole data as a part of a participant's demographics. The system documents the acquisition date of the information and the source of information.

Credit Reporting Agencies

The locate requests are sent in Metro Format II to the three credit agencies. This electronic file contains all eligible NCPs and updates the already reported NCPs. Our solution processes credit bureau locate information in batch and on-demand through the locate portal. Specifically, addresses received from the credit bureaus are loaded into tables. There, the information is subjected to the authentication, reasonableness, and business value, as defined appropriate for address information based on the normalization of the address and the comparison to the existing address information. The system then uses logic to update case information when no user intervention is needed. It also alerts users when direct intervention in an update is needed and generates additional inquiries when automatic updates and alerts to users are not sufficient. Mapping of the address information to a participant's address record includes the date and source of the address information. When completed, this functionality documents the acquisition date and the source of information.

The level of interaction with credit bureaus to receive personal and address information is dependent on the agreements between the State and the individual credit reporting agencies. Our solution can also be modified to receive batch files from the credit reporting agencies.

Postal Service

Our solution interfaces with the United States Postal Service (USPS) to retrieve updates to address information for CSTs and NCPs through a State subscription with the NCOALink product from the USPS. The system documents the acquisition date and source of information for any address update received.

This can be adapted to the requirements of the State, which can include interfaces to software such as QAs or Group-1. When changes of address are received through this source, cases are updated accordingly with the date of the update and the source. The system uses logic to update case information when no user intervention is needed, alert users when direct intervention in an update is needed, and generate additional inquiries when automatic updates and alerts to users are not sufficient.

Local/State Tax Administration

Our solution interfaces with the Department of Revenue (DOR) for tax information, address, and asset information.

Federal program regulations specify "the State agency responsible for processing the State Tax Refund Offset must notify the State IV–D agency of the NCP's home address and social security number or numbers." The address information supplied by the DOR should reflect the address reported for the most recent tax return filed by the person matched. The address information obtained from the tax agency is processed through data filter logic, identified by source, date, and verification indicator. The system uses logic to update case information when no user intervention is needed, alert users when direct intervention in an update is needed, and generate additional inquiries such as address verification when automatic case

updates and alerts to users are not sufficient. The system documents the acquisition date and source of information.

State IV-A Agency

The information exchange with the IV-A agency includes address information as data contained in the referral and updates records sent to the IV-D agency with the date the information is updated. It also records the batch process or user ID that accomplishes the action. The system updates case information when no user intervention is needed, alerts users when direct intervention in an update is needed and generates additional inquiries for address verification when automatic case/participant updates and alerts to users are not sufficient. The system documents the acquisition date and source of information.

Standard edit error processing is included in all data update/upload programs. The filtering of the data and applying data integrity rules is a step in the processing of IV-A data interface records.

Title XIX Agency

The Title XIX agency is required to provide address information as a data element to be passed to the child support agency. The system also documents the acquisition date and source of information.

The information exchange with the Title XIX agency includes address information as data contained in the referral and updates records sent to the IV-D agency with the date the information is updated. It also records the batch process or user ID that accomplishes the action. The system uses logic to update case information when no user intervention is needed, alert users when direct intervention in an update is needed, and generate additional inquiries for address verification when automatic case/participant updates and alerts to users are not sufficient.

Standard edit error processing is included in all data update/upload programs. Filtering of the data and applying data integrity rules is a step in the processing of Title XIX agency data interface records.

State (IV-E) Agency

The child welfare agency for IV-E and the non-federal foster care is required to provide address information as a data element to be passed to the child support agency. The system documents the acquisition date of the information and the source of information.

The information exchange with the foster care agency includes address information as data contained in the referral and updates records sent to the IV-D agency with the date the information is updated. It also records the batch process or user ID that accomplishes the action. The system updates case information when no user intervention is needed, alerts users when direct intervention in an update is needed and generates additional inquiries for address verification when automatic case/participant updates and alerts to users are not sufficient. Standard edit error processing is included in all data update/upload programs. Filtering of the data and applying data integrity rules is a step in the processing of foster care agency data interface records.

Nevada Utilities

The interface with public utilities requires different match processes dependent on the entity providing the information. Data obtained on new and changed service addresses is quite valuable to the IV-D program since maintaining an NCP's current address is a recurring activity. Public utilities, in general, are manual locate sources where a locate request notice is sent out, and the response received via the paper form is entered by the worker manually.

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The locate portal provides a workable solution to managing these interfaces. The portal accepts data from multiple sources and transforms it to update the receiving system. The system documents the acquisition date and source of information.

REQUIREMENT: (#203) If an automated interface cannot be established for a specific source or there is not an electronic means for the worker to access the source, the system must automatically prepare the documents required to submit the case to the source.

Our solution generates manual requests to sources where no interface is available to obtain locate data such as addresses, employers, assets and other elements. A generic notice is used for this purpose along the lines of the locate data sheet. This is generated online on-demand and includes generic letters such as Request for NCP Information, employment verification form, and the locate request letter. We will work with Nevada to identify and tabulate manual locate sources in the locate parameters table and to identify acceptable formats for communication with these sources.

REQUIREMENT: (#204) The system must document the acquisition date and source of the information and use logic in conjunction with the locate source parameter file to either update the current case information, alert the worker, or generate an inquiry as appropriate.

Please refer to our response to #203. The locate process dashboard includes both manual and automated locate sources. Locate results are automatically tagged with the date on which the results were reported and the source of the information. The count of requests and responses by case is also displayed here along with the reliability of each locate source.

REQUIREMENT: (#205) If an automated interface cannot be established for a specific source or there is not an electronic means for the worker to access the source, the system must provide an easily accessible means to record in the system all manual attempts to obtain information and the results.

Our Solution's continuous case monitoring process tracks each manual request. All locate requests and their results are summarized in a locate process history that shows the locate requests by source, attempts to send requests to the source, notices generated, and responses received. A drill-down option shows the details of each request and response. The details include the date, information received, scanned image of the input, locate information, verification status and source reliability.

REQUIREMENT: (#206) The system must facilitate the efficient inactivation of locate records that have been determined to be invalid.

Locate records that are found to be invalid are either automatically inactivated by the system (not visible to the worker) or are moved to a review area for suspended data. Locate workers can review this data and inactivate the records as necessary. This process is customizable per Nevada's business rules.

(2.2.5) Federal Parent Locator Service (FPLS)

REQUIREMENT: (#207) The system must support daily FPLS submissions and response processing.

The expanded FPLS operated by OCSE encompasses the FCR, the Federal Offset Program, Multi-State Financial Institution Data Match, the National Directory of New Hires, and the Passport Denial Program. Our solution provides automated interfaces with customizable interface types (real-time or batch), frequency, and data elements exchanged.

The processing of the individual data elements received from various interfaces is standardized across the interfaces, and the subsequent workflows are also re-usable across interfaces. We work with Nevada to parse new data layouts and refactor them into currently used locate data elements for further processing.

Please refer to our response to requirement #202. A description of our FPLS interface (and other interfaces) is provided in that response.

(2.2.6) Locate Workflow

REQUIREMENT: (#208) The system must interface with the FPLS for the purpose of monitoring cases.

Daily, our solution receives new hire information from the Federal Parent Locator Service (FPLS) and the National Directory of New Hires (NDNH). New employment information transmitted by the new hire directories is treated as verified and an income withholding notice for obligated cases is to be triggered within two days of receipt of the employment data. This can be customized per Nevada's business rules and Protech will ensure that the California CSE system code meets the business requirement.

REQUIREMENT: (#209) The system must prompt staff with the next action to be taken as appropriate.

Our locate solution integrates with child support business processes by automatically initiating workflows for locate requests and verification of locate information when data is missing. If there is no missing data the solution automatically initiates enforcement and establishment workflows where verification is not required.

Locate requests and verification processes result in workflows that create process log entries to the automated case record and result in the generation of worker notifications as appropriate. Locate processes typically integrate with case initiation and establishment by attempting to locate a Putative Father (PF) and, with Enforcement, when a NCP is no longer available and delinquent on payments. Locate during financial processing is required when a CST is not available to receive payments and CST Locate is required; our solution provides this information.

Our solution uses customizable business rules and workflow process automation to determine the next appropriate action on receipt of locate information. The next action is based on the source of the information. Verification requests are sent and received using configured communication channels established for external communications. Our locate dashboard solution keeps track of the reliability of the sources that provide locate information. The design for locate functionality allows a case to be in dual mode – active in locate searching for an address, employer, or assets, but continuing through the workflow process if sufficient information exists to proceed. The system logic identifies case remedies that can be pursued if employer information, for example, is available but a physical address for the participant is not present. The locate subsystem allows searches for both CSTs and NCPs.

Our solution processes locate responses from data sources in a customizable and configurable manner. All relevant locate data is processed through our de-duplication solution to ensure that duplicates are filtered and the data is cleaned and normalized. Once completed, our solution evaluates the data in the context of the current workflows for the case and automatically takes the next relevant step in these workflows. For instance, the availability of insurance settlement information would result in the continuation of an enforcement action for the intercept of such liens. Depending on the source of the data, certain workflow actions can be initiated. For example, automated income withholdings are started for eligible cases when employment information is received. When license information is received from the Department of Motor Vehicles and the case meets the criteria, license suspension processes are automatically started, resulting in the generation of appropriate notices.

REQUIREMENT: (#210) The system must monitor new hire, Financial Institution Data Match (FIDM), and other interface data for address leads.

Please refer to our response to requirement #202 for interface with sources for address leads. The expanded FPLS includes FCR, the Federal Offset Program, Multi-State Financial Institution Data Match, the National

Directory of New Hires, and the Passport Denial Program. The FCR is the path for matching against other federal agencies: the Social Security Administration (SSA), the Department of Veteran Affairs (VA), the Department of Defense (DOD), the Federal Bureau of Investigation (FBI), and the Internal Revenue Service (IRS). Specific guidance is provided to the states regarding the interface requirements including the file format, record layout and mode of data transfer.

REQUIREMENT: (#211) The system must alert the worker of address and asset leads, or generate an inquiry as appropriate.

Please refer to our response to #209.

When the requested employer information and asset information is received from the Locate source, the data is normalized, checked for duplicates, and finally, recorded in the system. For sources which require verification from the employer, the system automatically generates the employment verification notice. Employer specific information such as employer address, FEIN, health plan administrator, payroll administrator, etc. are maintained in a master table, and an employer id is created for the employer. This employer id is used to ensure the same employer address is not maintained multiple times as the number of members employed with this employer increases.

Financial, real estate, and registered vehicle asset information is maintained separately to accommodate asset specific details such as account type (checking/savings), lot number, purchase date, sold date, mortgage institution, vehicle registration number, lien information, etc.

Information on address, employer, and assets are automatically added by the system through batches which process updates from various sources. These updates result in a notification to the worker.

(2.2.7) Quick Locate

REQUIREMENT: (#212) The system must accommodate and record outgoing quick locate requests, solicit the recipient jurisdiction(s), and generate the form or route the request via CSENet.

Our solution provides a locate portal that manages the quick locate function for outgoing requests, using the California CSE system platform. This is one of the many functions of the locate portal. Since quick locate requests, by federal definition, do not constitute an interstate case, the CSENet request processes through the locate portal to initiate the search of automated sources and returns the matching data results to the other State via CSENet, in electronic form over the web or with the generation of the form.

REQUIREMENT: (#213) The system must automatically process and record incoming quick locate requests received from other jurisdictions by means of CSENet and return responses via CSENet without establishing a IV-D case.

Quick locate requests from another state do not require full interstate services. The intent of the quick locate is to process the request through the responding state's automated locate sources and return results to the initiating state.

CSENet provides for the automated exchange of quick locate requests, with the locate case monitoring transaction. However, provisions are also needed for the generation of the Locate Data Sheet, OMB No. 0970 – 0085, to request or return locate information or service of process from another state.

(2.2.8) National Directory of New Hires (NDNH)

REQUIREMENT: (#214) The system must process new hire reporting data daily as received from the FCR.

Please refer to our response to #202. Our solution provides for the receipt of new hire information from the National Directory of New Hires (NDNH). New employment information transmitted by the new hire

directories is required to be treated as verified and an income withholding notice for obligated cases is to be triggered within two days of receipt of the employment data.

Since the same information may be sent to the State from other directories, the system applies stringent rules to discern duplicative data (such as MDM and other processes) to avoid processing redundant information. Standard logic for screening interface data is also applied to New Hire. Employer relationships may be negatively impacted if income-withholding documents generated are erroneous or excessive. Our solution documents the acquisition source and date, to provide a historical record of when and from what system the information was received.

REQUIREMENT: (#215) The system must protect against redundant and erroneous responses from the NDNH.

Please refer to our response to #202.

Our solution applies stringent rules to discern duplicative data and to avoid processing this redundant information. Standard logic for screening interface data is also applied to New Hire. The system documents the acquisition source and date to provide an historical record of when and from what system the information was received. The de-duplication component of the locate portal removes the duplication of data wherever applicable. This is based on the data given by the provider and the data from the existing child support system.

If needed, Protech will modify the California CSE system code to meet Nevada's business requirement for protecting against redundant and erroneous responses.

(2.2.9) Federal Case Registry (FCR)

REQUIREMENT: (#216) The system must process other record types, such as wage data, unemployment data, and SSN verification, in addition to New Hire as received from the FCR.

FPLS requests are returned to the state via the FCR process. The FPLS group of systems provides a powerful source of locate information on case participants across state boundaries including any support or visitation orders in other states. It includes NDNH, FCR, FOP, FAOP, MSFIDM, SSA, VA, IRS, DoD, NSA, FBI, and PPD programs.

Our solution accepts unsolicited locate information from the FCR as proactive matches occur between state participants registered through the FCR including when state FCR participants are matched to a new hire, quarterly wage and unemployment insurance claim records on the National Directory of New Hire.

Our solution supports the proactive matching features of FPLS, based on configurable business rules, and receives notifications from FPLS related to employment or unemployment compensation, as well as information on other state cases related to the case participant.

The receipt and processing of unsolicited information from the proactive matching processes of FCR's FPLS process is key to the successful implementation of wage withholding processes for cases based on new hires and unemployment compensation claims. We can modify the California CSE system to use MDM services to filter out duplicate employers. Our solution using MDM Services ensures that the information received from the proactive matches of FCR's FPLS process is not duplicated in our system. When the proactive match process results in new employment information, our solution is configured to start the income withholding process automatically and can be configured to be reviewed by the user before generating income withholding notices.

Additional information received through the FCR is processed through the locate subsystem logic similarly to other interface data received. Proactive information can be received by Nevada from FCR when employment information is sent to the NDNH from another state. The locate design allows for managing proactive information received for cases that are not in a locate status.

REQUIREMENT: (#217) The system must automatically generate CSENet queries when receiving matching data from the FCR indicating that multiple parties are associated with a Nevada case from a jurisdiction not known to Nevada to be associated with the case.

CSENet queries are automatically generated when information is received from FCR indicating parties on a case in Nevada are on a case in another state when exchange agreements are in place between Nevada and the other states involved in the case. These queries are sent through the CSENet subsystem to the other states to establish and process these cases accordingly.

(2.2.10) Driver and Motor Vehicle Services Division (DMV)

REQUIREMENT: (#218) The system must match with the Nevada DMV database to acquire

- address
- driver's license or state identification number
- next renewal date
- vehicle registration information
- critical information regarding the license holder such as
  - date of birth
  - SSN
  - Address
  - phone number
  - gender
  - ethnicity
  - height
  - weight

For information received from automated sources such as the Department of Motor Vehicles (DMV), courts or other agencies, Protech's solution will enhance the California CSE system to provide the ability to match the incoming data with existing data using MDM, eliminate duplicates and automatically generate verification letters. Simultaneously, enforcement/establishment workflows are started based on configurable business rules. The verification letters have a return address that is set based on the case location and is configurable through database entries. The system places bar codes on verification letters so, when returned, they can be quickly and accurately associated with the correct case record.

Our enhancement to the California CSE system provides workers with the ability to perform data element searches that fully use the interface with the DMV. The interface enables users with the ability to acquire information including address, driver's license number, next renewal date, SSN, DOB, gender, weight, height, ethnicity, and vehicle registration information. When this information is received into the system, the date and source of the acquisition is stored.

Typically, driver's license agencies are updated with additions and changes on a daily basis.

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The Locate portal design lends itself to automated matching based on the frequency parameters set for this source of information

Positive results returned from the DMV are recorded in the system and, once verified, may be used to alert the appropriate user and/or direct the case to the next appropriate action. Information recorded includes the date and the source of information. Match data returned is subjected to the authentication, reasonableness, and business value filters as defined appropriate for the DMV received information based on Nevada's business requirements and JAD sessions.

An illustrative implementation of the DMV section of our locate portal is shown below.

Figure 3.4 (2) - 36. Sample DMV Screen on Locate Portal

(2.2.11) Department of Wildlife

REQUIREMENT: (#219) The system must match with the Nevada Department of Wildlife database to acquire address and fishing and hunting license and watercraft registration dates including, but not limited to, the license number and next renewal date.

If Nevada's Department of Wildlife provides an automated match capability, we will work with Nevada and implement an automated interface with this agency. If the interface is to be a manual one, we will provide the ability to generate manual documents from our locate portal, to be sent to this agency through preferred communication channels. Having implemented a Gaming and Fishing interface for the State of Maine, we bring this knowledge and expertise to Nevada for a successful implementation.

For information received from automated sources Protech's solution provides the ability to match the incoming data with existing data using MDM, eliminating duplicates and automatically generating verification

letters. Simultaneously, enforcement/establishment workflows are started based on configurable business rules. The verification letters have a return address that is set based on the case location and is configurable through database entries. The system places bar codes on verification letters so, when returned, they can be quickly and accurately associated with the correct case record.

(2.2.12) Department of Employment, Training and Rehabilitation (DETR)

REQUIREMENT: (#220) The system must match with the Nevada DETR to obtain employer information, quarterly wage data, and unemployment compensation data.

In the same way we interface with State-level employment agencies in our other certified systems, we will interface with the Nevada DETR to obtain employer information, wage and unemployment compensation data. We will work with the State of Nevada to meet this business requirement by either modifying the California CSE system or developing new software.

During the design phase, we will ensure that all available data is collected for employer information, unemployment compensation, workers' compensation, and quarterly wages from this source. The date the information is received and the source of information is recorded in the system.

Our locate process for handling information received from automated sources will also be used for data from DETR.

(2.2.13) Vital Statistics

REQUIREMENT: (#221) The system must interface with the Nevada vital statistics system to obtain birth, paternity, marriage, and data about deceased participants.

We will work with the State of Nevada to customize a locate portal akin to the one we have implemented in other states to interface with the Office of Vital Statistics. The locate portal will interface with the Automated Nevada Server-based Reference System (ANSRS) and initiate requests to the Office of Vital Statistics for birth, death, paternity, and marriage data. Whereas ANSRS currently only provides the initial status of birth and paternity, our system will give child support workers access to updated birth and paternity records. Any matching data will be received by the system and display based on reliability scores. Results are available in a single comprehensive view for the worker. The system uses logic to automatically update case information when no user intervention is needed or sends an alert to users when direct intervention is needed to complete an update. The system will also generate additional inquiries when automatic updates and user alerts are not sufficient. The system documents the date the information is received and the source of information.

(2.2.14) Department of Corrections

REQUIREMENT: (#222) The system must match with the Nevada department of corrections information system to obtain data including, but not limited to:

- incarceration data
- potential release dates
- parole data

Interfacing with the Department of Corrections (DOC) is critical for child support to inform the case worker of participant incarceration, release, and parole dates. Such exchange of information is used to ensure that enforcement steps are informed of the location of the NCP / CST and locate processes are not initiated for these participants. The system documents the acquisition date and source of information received. Debt forgiveness and suspension of accruals is also possible, subject to state policy. The California CSE system

code will be modified to meet this business requirement for Nevada. Our solution includes fields for the entry and tracking of incarceration data, potential release dates and parole data as part of a participant's demographics. As is the case with other locate system requirements, the final design for this interface is determined in JAD sessions for requirements definition and design the start of the project.

REQUIREMENT: (#223) The system must document release dates and generate notice of the release automatically to the worker.

Locate information received from the Department of Corrections (DOC) is available to caseworkers online to facilitate tracking. When the release date is recorded, the system creates an activity in the case journal with the due date as the date of release. Based on the number of days configured in the system, the worker receives an alert a specified number of days before the release date. On the day of release, the worker receives another alert reminding the worker of the next activity relating to the release of the participant.

REQUIREMENT: (#224) The system must be capable of interfacing with other existing corrections systems which use standard interfaces (e.g., National Information Exchange Model (NIEM)), such as county jails, federal correctional facilities, immigration and naturalization detention centers and juvenile facilities to obtain incarceration data, potential release dates, and parole data.

Using the California CSE system platform, our solution provides the ability to use NIEM-based data exchanges to implement authorized data sharing between the child support system and other agencies that accept such transactions.

(2.2.15) Credit Reporting Agencies

REQUIREMENT: (#225) The system must be capable of interfacing with credit reporting agencies to obtain address information.

Our solution interfaces with credit agencies in batch mode for credit reporting, and processes credit bureau locate information on demand through the locate portal. Specifically, addresses received from the credit bureaus are loaded into tables. There, the information is subjected to de-duplication process based on the address normalization and cleansing algorithms before updating the address. The system then uses logic to update case information when no user intervention is required, alert users when direct intervention in an update is needed and generates additional inquiries when automatic updates and alerts to users are not sufficient. Mapping of the address information to a participant's address record includes the date and source of the address information. When completed, this functionality documents the acquisition date and source of information. The level of interaction with credit bureaus to receive personal and address information is by the agreements between DWSS and the individual credit reporting agencies.

(2.2.16) Postal Service

REQUIREMENT: (#226) The system must be capable of interfacing with the National Change of Address (NCOA) database operated by the United States Postal Service to obtain address information.

REQUIREMENT: (#227) The system must be capable of interfacing with the United States Postal Service to verify addresses.

The California CSE system will either be modified, or new software will be developed to satisfy this business requirement. Our solution interfaces with the U.S. Postal Service (USPS) through a state subscription with the NCOALink product from the USPS. This link is used to retrieve address updates for CSTs and NCPs. When verified changes of address are received through this source, cases are updated accordingly with the date of the update and the source. The system uses logic to automatically update case information when no user intervention is needed or sends an alert to users when direct intervention is needed to complete an update. The system will also generate additional inquiries when automatic updates and user alerts are not sufficient.

REQUIREMENT: (#228) The system must update the verification date and source upon receipt of a positive verification.

Please refer to our response to #227.

(2.2.17) Nevada Department of Taxation

REQUIREMENT: (#229) The system must match with the Nevada Department of Taxation for address and asset information.

Our solution interfaces with the Department of Taxation for locate and tax offset purposes in all implementations of our other certified systems. We have implemented real-time exchanges as well as batched receipt of data. We will work with the State of Nevada to determine the optimal exchange mechanism and enhance the California CSE system code to meet this business requirement. Address information obtained from the tax agency will be identified by source and date, de-duplicated, and set to a verified status. Depending on Nevada's rules, the system can also automatically send the address for postmaster verification. The system uses logic to automatically update case information when no user intervention is needed or sends an alert to users when direct intervention is needed to complete an update. The system will also generate additional inquiries when automatic updates and user alerts are not sufficient.

(2.2.18) State IV-A Agency

REQUIREMENT: (#230) The system must interface with the IV-A database to obtain address information.

Our solution will enhance the California CSE system to exchange information with welfare agencies for assistance status, grants, board payments, and child support distributions to meet the business requirement. The IV-A agency includes NCP and CST address information in the initial referral and update records sent to the IV-D agency, along with the date the information is updated. Upon receiving and processing the data, our solution also creates an audit trail of the worker ID and process ID. Customizable business rules ensure that IV-A does not update the Child Support system in an invalid manner. The system uses specific rules to automatically update case information when no user intervention is needed or sends an alert to users when direct intervention is needed to complete an update. The system will also generate additional inquiries when automatic updates and user alerts are not sufficient.

Standard edit error processing is included in all data update/upload programs. Our solution filters the data and applies data integrity rules while processing locate updates from IV-A data interface records.

(2.2.19) Title XIX Agency

REQUIREMENT: (#231) The system must interface with the Title XIX database to obtain address information.

Please refer to our response to requirement #230 regarding interfacing with the IV-A agency. Our solution uses the same processes for processing locate information from Title XIX. Also, insurance information received from Title XIX is also processed and updated into our system.

(2.2.20) State Child Welfare (IV-E) Agency

REQUIREMENT: (#232) The system must interface with the IV-E database to obtain address information.

Please refer to our response to requirement #230 – interfacing with the IV-A agency. Our solution uses the same processes for locate information from the title IV-E agency. Also, any information sent from IV-E that CSEP is authorized to record on the system will also be processed and updated into our system.

(2.2.21) General Assistance System

REQUIREMENT: (#233) The system must support an interface with the General Assistance database to obtain address information.

Please refer to our response to #230. We will work with Nevada to meet the DWSS business requirements by modifying the California CSE system, or by developing a similar interface with the general assistance database to obtain information on participants who receive general assistance, based on the current data layouts available with the GA. These programs include individuals who are without dependents and not employable. In the case of Nevada, un-employability is not a criterion, and GA benefits are usually quite low (e.g., the maximum benefit is $400).

(2.2.22) State Directory of New Hires (SDNH)

REQUIREMENT: (#234) The system must process new hire data for addresses, employers, and terminations of employment as received from the State Directory of New Hires.

The system functionality designed to process NDNH data is also applicable to State Directory of New Hires (SDNH) data. The entire process cycle for NDNH including de-duplication of employer data, configurable business rules to auto-send income withholdings upon receipt of employer data, initiate IWO terminations when employment is terminated, and any updates to income information are processed similarly as from NDNH.

REQUIREMENT: (#235) The system must protect against redundant and erroneous responses from the SDNH.

Our solution provides the ability to rank automated interfaces based on configurable business rules including, but not limited to, the success of verifications, number of duplicates and quality of information such as the ability to standardize the information received. Our solution ranks source data, including SDNH, and facilitates the inclusion of data age or decay to influence the match algorithms using configurable rules. It has components that allow the cleansing and de-duplication of data as it enters the data repositories, based on sophisticated, configurable algorithms. In our other certified systems, we provide for de-duplication of data through address normalization and cleansing before updating the system. If needed, Protech will modify the California CSE system to meet Nevada's business requirement for protecting against redundant and erroneous responses.

(2.2.23) Public Utilities

REQUIREMENT: (#236) The system must be capable of sending electronic requests for information to, and receiving electronic responses from, public and private utilities such as telephone (including cellular) companies, cable franchises, gas companies and electric companies to obtain address information for case participants.

The interfaces with public utilities require differing match processes dependent on the entity providing the information. These differences relate to layout and the mode of data exchange. Data obtained on new and changed service addresses is updated into our solution as unverified as part of the continuous locate process.

We have implemented interfaces with many public utilities in every state where we have implemented our solution. These have included batched interfaces and online interfaces. The layouts and data exchanges are specific to the requirements of the utilities; we will work with the State of Nevada to implement interfaces with Nevada-specific utilities. Examples of utilities which we have interfaced with include electric companies, telephone/cell companies, and cable operators. Data received included the full name, address, telephone number, date of birth, employer name and address, and social security number of customers of the public utility, to the extent that this information was stored in the database of the public utility.

The locate portal provides a solution to managing interfaces with utilities. The portal accepts data from multiple sources including third party providers such as LexisNexis and transforms it to update the receiving system. We use the locate portal to interface with utilities in real time or through extracts similarly. The system documents the acquisition date of the information and the source of information.

(2.2.24) Financial Institutions

REQUIREMENT: (#237) The system must be capable of interfacing with financial institutions, or financial institution vendors, to obtain bank account and address information of noncustodial parents.

Our responses to requirement #500 and #501 provide information on the enforcement aspects of Financial Institution Data Match (FIDM).

In case of single State FIDM, Nevada interfaces with the single state financial institutions to compare child support debt records to the financial institutions' account records. Per the BPR, the Reno Office does the bulk of the FIDM enforcement statewide.

Our solution compiles a list of the NCPs that are eligible for State FIDM and electronically submits in a compatible format for financial institutions. The file is generated for each institution and contains either all NCPs or only matched NCPs as agreed with each bank. If Nevada is working with a FIDM vendor, our solution can be customized to use corresponding layouts.

Banks (or a vendor) return a bank match list which contains information for NCP matches found in their customer database. The information returned by the banks on the customer account is processed as a locate lead, and the system automatically initiates the lien process for matches found on the bank match list.

We provide encrypted data transfer and matching capabilities with non-government entities through a secure FTP interface. We work with various solutions including VPN, using stringent authentication protocols and precautions to protect the confidentiality of child support data. The locate portal also helps in controlling data access, and processing returned information.

In our solution for FIDM, the system identifies eligible cases for data matching with financial institutions based on the State and Federal criteria. The system automatically opens a FIDM activity chain, for each of the NCP's eligible cases, and triggers an alert to the assigned user when financial asset information is received and stored in the system.

In case of Multi-State FIDM (MSFIDM), our solution sends OCSE the Federal Offset File (used to intercept federal tax refunds and other federal payments), which includes the names, SSNs, and child support debt amounts owed by NCPs. The State also indicates whether the NCP should be submitted for MSFIDM based on the eligibility criteria. OCSE ensures the accuracy of the records and transmits the file to the multistate financial institutions.

Multi-state financial institutions compare the child support data to their open accounts and transmit to OCSE account information for the delinquent child support obligors. OCSE then transmits the data returned from the multistate financial institutions to the individual states.

Based on the information received from OCSE, the system identifies members by matching them against SSNs and stores the financial asset information in the system. The system issues liens/levies to attach and seize the assets of NCPs. The entire process of seizing assets is managed by a predefined set of activities. The next activity to be performed is dependent on the outcome of the previous activity. The activity chains (current activity, possible outcomes, and next activity for each of the outcomes) are created based on requirements specific to the State.

Our case workflow monitor progresses the MSFIDM enforcement remedy and generates appropriate notices along the steps of the flow.

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REQUIREMENT: (#238) The financial institution may interface directly or via a vendor.

Our solution compiles a list of the NCPs that are eligible for State FIDM and electronically submits in a compatible format for financial institutions. The file is generated for each institution and contains either all NCPs or only matched NCPs as agreed with each bank. If Nevada is working with a FIDM vendor, our solution can be customized to use corresponding layouts.

REQUIREMENT: (#239) In either case, the entire path of the transfer must be compliant with secure data transmission standards.

We provide encrypted data transfer and matching capabilities with non-government entities through a secure FTP interface. We work with various solutions including VPN, using stringent authentication protocols and precautions to protect the confidentiality of child support data. The locate portal also helps in controlling data access, and processing returned information.

(2.2.25) State Licensing Entities

REQUIREMENT: (#240) The system must be capable of interfacing with databases of state and local licensing entities such as the Gaming Control Board, Department of Wildlife, Secretary of State, and Board of Medical Examiners, to obtain professional, occupational, and recreational license information, including:

- licensing agency
- type of license
- present status of the license
- next renewal date
- critical information regarding the license holder such as
  - date of birth
  - SSN
  - address
  - phone number
  - gender
  - ethnicity
  - height
  - weight

Our solution provides automated interfaces with customizable interface types (real-time or batch), frequency, and the data elements exchanged. The processing of the individual data elements received from various interfaces is standardized across the interfaces, and the subsequent workflows are also re-usable across interfaces. We will work with Nevada to parse new data layouts and refactor them into currently used data elements for further processing. We will either modify the California CSE system or develop new software to meet the business requirements.

The interface with state licensing agencies is used to obtain information that may be useful for location or enforcement activities. Our solution updates all license information obtained for a participant and makes the information available to the case monitor. We request the licensing agency, either through a printed form or electronically to provide all possible information on the individual, including the data elements presented in the requirement. Such locate information received is processed through our workflow, and the relevant caseworkers are alerted.

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When eligibility conditions are met on delinquent NCPs, our solution automatically initiates the applicable license suspension remedies. We present this response to the enforcement requirements #490, #491, #492 and #493.

We will work with Nevada to implement these interfaces and matching processes regarding the available entities and the level of automation that is allowable per Nevada law with the various state licensing agencies, including data specifics required to deny, suspend, or reissue a suspended license for the various license entities. All licensing agency names and addresses are available in our master database of agencies, to ensure that contact information is consistently used in the system for verbal and written communications necessary for suspension activities.

The information exchanged with the agency includes license information, including licensing agency, renewal dates, etc. The system stores the information along with the date the information is acquired and also records the batch process or worker ID that accomplished the action. The system uses logic to update case information when no worker intervention is required, alert workers when manual intervention for an update is needed, and generate additional inquiries when automatic updates and alerts to workers are not sufficient.

(2.2.26) Real and Personal Property Ownership Agencies

REQUIREMENT: (#241) The system must be capable of interfacing with real and personal property agencies such as county assessors and the Secretary of State to obtain noncustodial parent property ownership information.

System certification objective OCSE B-1(a)(20) documents the requirement for interfacing with agencies that maintain data on real and personal property. Our solution provides the capability to interface with agencies that maintain data on real and personal property. We will work with the State of Nevada to identify the interface mechanisms and modes of communication during the design sessions.

Enforcement remedies based on liens of property are described in our response to requirements #464 through #466.

As with other case events, the specific locate actions that trigger case updates are recorded in the case diaries and workers are notified of needed action or system initiated actions.

Asset information for a member, such as real estate, estates, automobiles and recreational vehicles, bank accounts, stocks, bonds, civil suits settlements, and retirement account data, provides important information used for locate, establishment, enforcement, and review and modification. We store all such information in our system and make it available for user review and update. Additionally, when the case monitor identifies that cases are eligible for liens, the solution starts lien workflows on these assets based on configurable business rules.

(2.2.27) Tribal IV-D Programs

REQUIREMENT: (#242) The system must be capable of interfacing with any Nevada tribal IV-D system that may be developed to obtain case information such as court orders, payment histories, and case participant demographics (e.g., address information, employment information, age, physical description, etc.).

Our intergovernmental request and response process is built to request and send information to intergovernmental agencies including tribal systems, other jurisdictions, and countries. Our solution is capable of interfacing with iSupport, which uses e-Codex for secure exchange. Upon review of state and federal policy we can implement this locate interface for Nevada's tribal IV-D systems.

(2.2.28) Food Stamps

REQUIREMENT: (#243) The system must be capable of interfacing with the Food Assistance Program to obtain locate information.

Our solution provides a locate portal that displays location information from various agencies that exchange data with CSEP. This includes information on identification, addresses, assets, licenses, and employment data. Based on an interface with NOMADS and like IV-A, we will obtain and update information from the Food Assistance Program of Nevada. (Please refer to our response to #230.)

(2.2.29) Additional Locate Information

REQUIREMENT: (#244) For all automated interfaces, the system must automatically follow up when the system solicits information but does not receive a response within a reasonable amount of time as determined by the CSEP.

Based on our solution for the perpetual locate process, when the system submits a participant to a specific locate source, the system waits for a preconfigured number of days (in a parameter file) before re-submittal to the same source. An expected response period is also available in this parameter file to generate a user action alert if there is no response from the locate source or verification source.

For example:

- *If a postal verification response is not received within 45 days, the system issues an action alert.*
- *If an employer verification response is not received after ten days, the system issues an action alert.*

If information is not provided within a specified number of days, the solution can be configured to close the locate request or resubmit a new request automatically. For the locate sources that do not have an automated interface, the system generates the documents online for further processing.

REQUIREMENT: (#245) The system must accept unsolicited locate information from the FPLS as proactive matches occur.

Additional information received through the FCR processes through the locate subsystem logic similarly to other interface data received. Proactive information can be received by Nevada from FCR when employment information is sent to the NDNH from another state. The locate design allows for managing proactive information received for cases that are not in a locate status.

REQUIREMENT: (#246) The system must automatically record data received from automated interfaces in the case record.

The monitoring of locate activities, a key aspect of our locate solution, is tracked through the automated case record. Program standards for locate requests and responses are configured through tables in the database, accessed through the business rules engine that specifies the program standards. These are configurable standards that control the worker notification process to indicate when responses are due and which ones are overdue. By using uniform tracking processes for all case functions including initiation, locate, establishment, and enforcement, our solution provides a single source of information on case tracking and progress of activities.

REQUIREMENT: (#247) Whenever key data elements are added or changed due to the receipt of new information, the system must immediately resubmit the case to all appropriate automated and manual locate sources, with the exception of FPLS.

REQUIREMENT: (#248) The system must automatically resubmit all cases in locate functional category to all automated locate sources, with the exception of FPLS, at least quarterly.

If new information modifies any locate data element, our case monitoring process triggers a resubmission to automatic and manual locate sources. All cases are submitted to the Employment Security Division (DETR/ESD) and other automated sources every quarter. FPLS is excluded from the list of sources used to validate data by resubmission.

All locate requests are tracked for audit and reporting purposes. The system monitors for gain of information and based on the information received, establishment activities, or enforcement activities or income withholding processes or further locate requests for additional information are conducted.

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(2.3) Establishment

(2.3.1) Paternity Establishment

REQUIREMENT: (#249) The system must automatically track, monitor, and report on the status of paternity establishment (recording the necessary dates to the beneficiary level) and support federal regulations and state laws and procedures for establishing paternity.

The system monitors case, participant, and order data on the entire caseload using event- driven processing to evaluate establishment needs and other case conditions relevant to paternity status, child support obligations and medical support obligations. When our solution initiates applicable remedies, the first step in the automated workflow is usually the generation of notices to custodial parents, putative fathers, and noncustodial parents related to the paternity status of the children on the case. Each workflow identifies discrete procedures in a defined sequence for paternity and order establishment, beginning with a workflow model defined using configurable process maps and business rules. Each step in the workflow has a set of end-points or "reasons" for completing the step and taking the next step.

An illustration of our paternity establishment process workflow implemented in New Jersey is provided in the following diagram as a representative example:

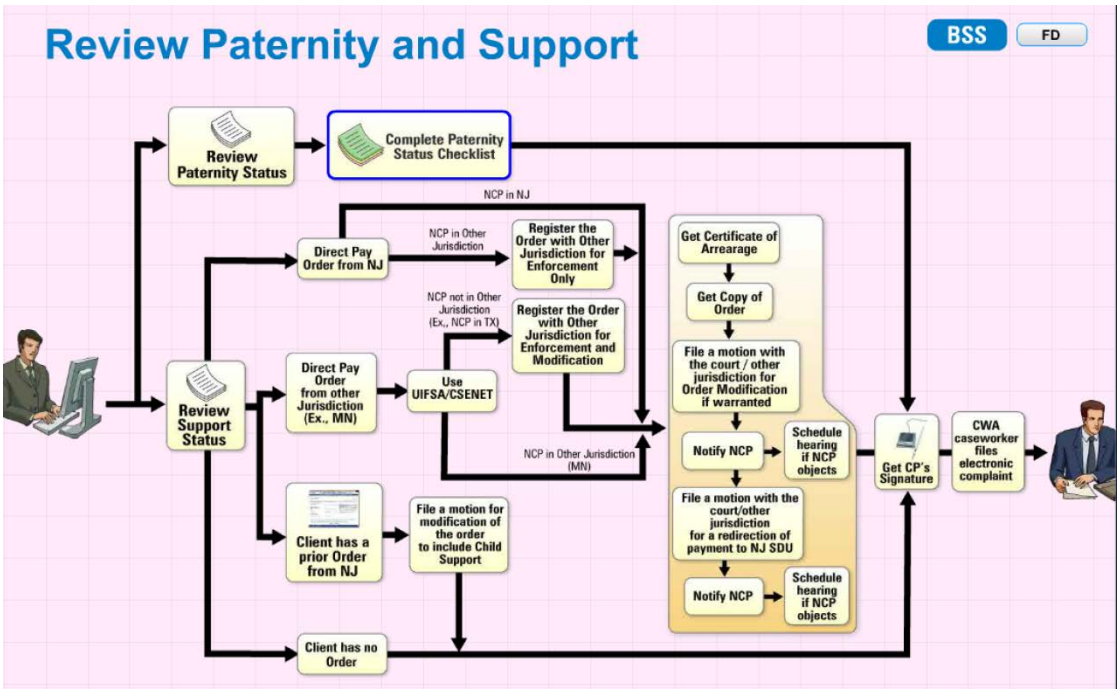

Figure 3.4 (2) - 37. New Jersey Paternity Establishment Process Workflow

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(2.3.2) Support Establishment

REQUIREMENT: (#250) The system must automatically record, track, and monitor information on obligations, and generate documents to establish support including medical support.

Our solution maintains financial and medical support order information for all order related case processing activities. This includes, but is not limited to order information, CEJ FIPS and CEJ status, insurance ordered, medical coverage and income withholding information, guidelines deviation information, parenting time, and cost of living adjustment dates.

Our solution allows for the creation of an automated process for order establishment. This includes steps such as mediation and/or conferences as an option. This process is created based on configurable business rules resulting from Nevada's requirements and the cooperative validation of detailed process flows. The design of this automated process would include the identification and integration of any associated documents, appointments, and alerts related to the selections made throughout the process.

A typical process flow for order establishment is provided below:

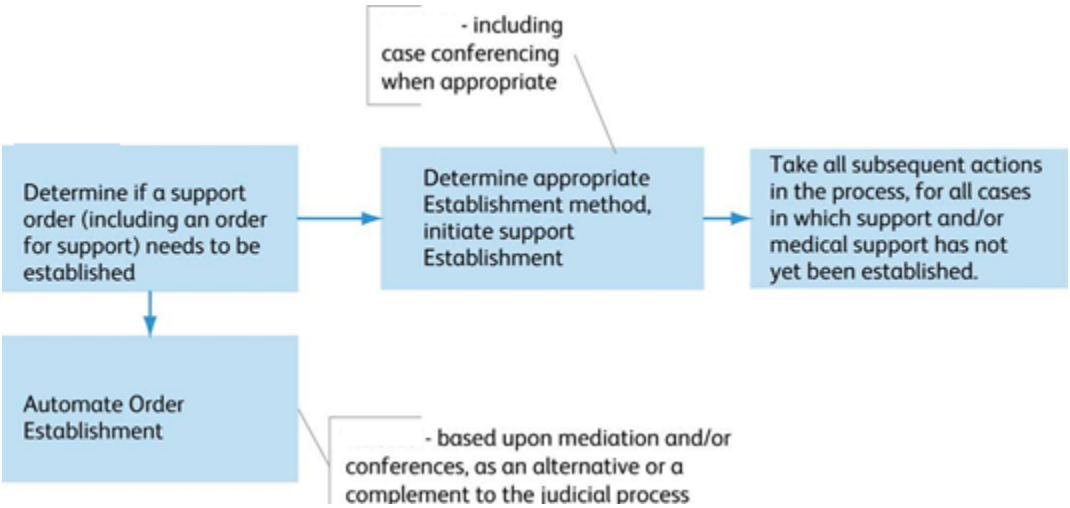

Figure 3.4 (2) - 38. Sample Order Establishment Flow

Online order screens are designed to provide users with the most commonly viewed order information as well as the information used in automated case processing activities related to support orders. Our solution for Nevada will be customized to the State's support order data requirements and will include the ability to view historical data.

The resulting terms of an order/judgment include obligation details, which are key to the accrual and allocation of arrears, distribution of payments, and disbursements to CSTs for those order/judgments resulting in an obligation.

Our system presents the appropriate canvas based upon the screen function selected by the worker. The screen allows users to view obligations by case, CST, and NCP. This includes all court orders, debt type summary, and obligation details associated with a specific case id, CST, or NCP.

The user can also view, add and modify new obligations associated with a specific case id and docket. This option is also selected by the worker to verify and confirm that obligations have been pre-populated by the

system correctly when an initial court order is generated through our solution, using an online guidelines calculator. The worker commits the new obligations to the database.

(2.3.3) Medical Support Services

REQUIREMENT: (#251) The system must accept, maintain, and process information concerning medical support services.

Management of medical support information is a key aspect of our solution's establishment subsystem. Our order entry processes include substantially flexible provisions to include aspects of medical support stipulations. Caseworkers can record detailed terms of medical support orders, insurance requirements at the child level and whether insurance is available at reasonable cost (which is to be reported on OCSE-157).

Along with support information, we maintain insurance-ordered indicators and the available insurance on children separately. The ordered insurance information on our support order screen includes:

- *Insurance ordered from NCP, CST or both*
- *Percentage ordered*
- *Responsibility for unreimbursed medical claims*
- *Enforcement*

The system uses this information to monitor the need for establishment or enforcement of a medical support obligation for an order on the case. Additionally, the system can automatically initiate establishment or enforcement remedies specific to medical support obligations based on the medical support information maintained.

REQUIREMENT: (#252) The system must automatically identify cases requiring medical support services where there is a high potential for obtaining medical support and automatically generate documents required to petition for the inclusion of medical support provisions in new or modified support orders.

The system identifies cases eligible for inclusion of medical support provisions in new or modified support orders using business rules customized for the NCSEAS implementation. Establishment and modification process workflows are automated to a level that is defined by the State. The system initiates actions, including document generation, to secure an order which includes the medical support provisions.

REQUIREMENT: (#253) The system must automatically generate notices to custodial parties providing information about insurance policies secured for dependent children.

We collect information on health insurance including the insurance carrier, the coverage type, the group number, the policy number, and the employer if the insurance is provided through employment deduction, and the policyholder. It allows for multiple policies to be in effect concurrently, maintains the history of prior policies, provides linkage to all cases associated with the participant, records the source of the information, and records the policy information and costs. We track policy information for multiple types of health-related insurance including: dental, medical, vision, mental health, and prescription.

Our solution leverages the customer service portal solution to allow participants to self-report their enrollment in health care, lack of insurance, address and employment information. Our solution also allows participants to confirm or update information on their case and participant records, or related case and participant records.

When medical coverage is obtained for the dependent and given other case conditions, case monitoring automatically triggers generation of the appropriate notices to the custodial parent. Notice generation is

based on configurable business rules. During the design phase, we will work with the State of Nevada to identify conditions for notice generation, establish or modify notice templates, and define form attributes such as document recipient, print method, and method of delivery/service.

REQUIREMENT: (#254) The system must interface with the state's Title XIX system to transfer medical support information, including notifying the Title XIX agency when a medical support provision is included in a support order.

Title XIX (Medicaid) interface is implemented through the IV-A/IV-D interface. Whether the data exchange for the State is a separate process or blended with the IV-A interface, much of the same data must be exchanged daily, and our solution facilitates the exchanges of this information.

The system can exchange electronic match data with the Title XIX agency to determine if insurance coverage has lapsed or is no longer available. A batch process prepares and transmits a file, at a defined frequency, to the state's Title XIX agency for all open obligated cases with or without health insurance information recorded in NCSEAS. Insurance data is automatically loaded into the system and is viewable online. A dependent participant health insurance record is automatically created for each new policy number/group number combination. Additionally, we have the capability receive Title XIX agency's monthly match of Third Party Liability (TPL) resources. We match this against the NCSEAS database.

If the effective dates of the matched insurance records from Title XIX are more recent, NCSEAS insurance records can be updated accordingly for the policy number/group number combination. The NCSEAS solution can also include the processing of an additional file, at a defined frequency, from the state's Title XIX agency that includes general insurance carrier data.

(2.3.4) Legal Process Monitoring

REQUIREMENT: (#255) The system must initiate and monitor the judicial establishment processes to ensure that at each step the case is moved forward efficiently.

REQUIREMENT: (#256) At each step, automatic document generation must occur where appropriate.

REQUIREMENT: (#257) Monitoring must continue after the referral is forwarded to another state child support agency for action.

REQUIREMENT: (#258) The system must initiate actions and record and track the timeframes for process steps, ensuring service of process completion within the established regulatory timeframes.

Our response addresses these as a group. Processes 4.3.6, 4.3.7 and 4.3.8 of the BPR address the three major scenarios for paternity and support establishment: a mediation/consent/stipulation workflow, paternity and order establishment with court involvement, and the default paternity and support process. Each of these workflows are addressed in our solution through customizable workflow configurations and business rules.

Mediation Path:

- *Determining paternity by stipulation or, barring that, through genetic testing that leads to stipulating paternity*
- *Gaining the parties' agreement to a periodic support amount*
- *Finalizing the support order*

Judicial Path and Default Judgment and Order Path:

- *Meeting with key parties before a hearing master in court to gather information pertinent to the development of a child support order*
- *Preparing and / or distributing a findings and recommendations decision based on information presented in court*
- *Finalizing the judgment and order after the parties' notice if there are no objections to the terms of the order*

Upon locating the NCP, if order establishment is needed, our solution automatically refers the case to the Establishment subsystem for establishment. Based on the case conditions and business rules, the system will initiate the appropriate activity including automatic document generation and record and track the time frames for process steps, ensuring service of process is completed within the established regulatory time frames. Our case monitor starts establishment workflows with steps for legal process monitoring. These include system-driven steps and manually-driven steps including:

- *The system interfaces with the online guideline calculator to determine the support recommended.*
- *Document generation activities that tell the system which forms or documents to generate automatically, or prompt users to review for manual generation of a form if applicable. For instance, an establishment notice will include a periodic support amount and a guideline percentage and the paternity provision if applicable. The document will be automatically generated. Caseworker intervention for a manual review will be determined by the business rules.*
- *The system continually monitors the case to meet federal and state time frames.*
- *Referral activities that are used to denote a case/order has been referred for processing or service to another department, unit, or agency. For instance, if paternity is determined by stipulation, then the workflow navigates to a mediation conference. If paternity is contested, the workflow navigates to a genetic testing scheduler.*
- *Scheduling activities that are systematic or manual.*
- *Report activities that facilitate judicial review of the establishment process as well as assist supervisors in monitoring the effectiveness of establishment remedies and employee performance.*

Our solution continuously monitors the establishment process to ensure that at each step the case moves forward efficiently. The timeframes for process steps must ensure service of process completion within the regulatory timeframes. At each step, automatic document generation and printing occur at selected locations. Case monitoring continues seamlessly even when the referral is forwarded to another state child support agency for action.

The following illustration shows the steps followed for legal process monitoring in another state. We bring this expertise to Nevada and customize the flow to adhere to NCSEAS requirements.

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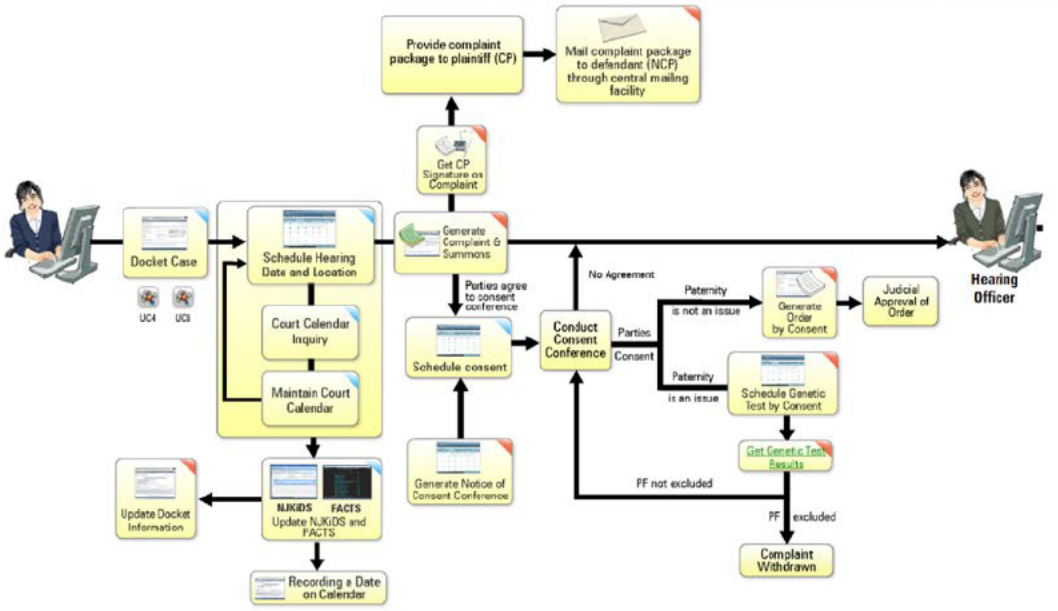

Figure 3.4 (2) - 39. Sample Legal Process Monitoring Flow

REQUIREMENT: (#259) The system must initiate actions, record, and track the time from successful service-of-process to obligation establishment or another case outcome, regardless of whether paternity needs to be established, to ensure that the federal expedited process timeframes are met.

The Protech workflow automation solution features monitoring capabilities to ensure specified timeframes are met. The timeframe monitoring system is integrated with the service of process and support order functions to ensure that these processes are completed within the specified time frames. Please refer to our responses to the requirements in Section 2.4.9 regarding workflow management for time frame management techniques.

Following the successful service of process, the time frames continue to be monitored until obligation establishment or alternative disposition of the case. The business intelligence features of the solution enable administrators to monitor the service level agreements specified.

REQUIREMENT: (#260) The system must generate a report showing for at least a year state compliance with the federal expedited process timeframes.

Our reporting solution provides for the online generation of this report by office and case type through our reporting portal. Online expedited process reports contain relevant data, including but not limited to, monthly totals and percentage of cases reaching a disposition within specified periods/time frames.

REQUIREMENT: (#261) The system must support the examination of the case for long-arm or interstate action when one of the parties resides out of state.

Based on the business rules established on the other state case initiation processes, if the application information provided by the applicant names an NCP who currently resides outside the State, the system identifies the case as a potential long arm case and the caseworker is alerted.

Once the worker determines the case to be a long arm case, the case is processed as any other instate case. The system maintains a case journal entry for all documents generated on the case, including actions initiated by the worker and information received from the other states.

For the NCSEAS solution, we will configure the process further to integrate the documents, business rules, and the alerts as per the Nevada long arm process.

(2.3.5) Paternity Acknowledgement Access

REQUIREMENT: (#262) The system must support the access to paternity acknowledgment document images.

REQUIREMENT: (#263) The system must identify paternities established as the result of an acknowledgment.

REQUIREMENT: (#264) The system must support matching with the Nevada vital statistics system for paternity acknowledgment information.

Declaration of paternity documents is often discovered after a case is created and it is important to obtain this information as soon as possible and associate it with a referral and/or a case. An interface with the Nevada State Health Division's Office of Vital Statistics will be established to support this process and identify paternities established because of acknowledgment.

The solution detailed here demonstrates our understanding of the Nevada requirement as we relate an example of our experience developing a similar solution. For example, in Arkansas, paternity acknowledgments are maintained by the Department of Health and OCSE program support. Copies of the paternity acknowledgment documents are received at the child support office and are scanned into the system. Each scanned image is automatically assigned a unique sequence number. Identification information such as parent's names and other demographic information is also recorded and associated with the scanned image of the paternity acknowledgment document.

The child support system performs an overnight internal search for a matching paternity acknowledgment for a dependent when a new dependent member is added to a case, or when a new paternity acknowledgment is received by the child support office. Additionally, a batch process interfaces with the Department of Health to match the paternity acknowledgments for the past 30 days. If a paternity acknowledgment is on file with OCSE, an indicator icon is displayed next to the dependent's paternity acknowledgment status. Once a dependent is matched to an acknowledgment of paternity, the system automatically initiates workflow activities for establishment of support and sends an alert to the case worker to review the case.

We will work with the State of Nevada to ensure the imaging solution and data exchange with vital statistics adhere to the State's requirements for NCSEAS.

(2.3.6) Multiple Putative Fathers

REQUIREMENT: (#265) The system must support multiple putative fathers for a single child.

While the requirement regarding multiple putative fathers (PFs) does not correspond to a specific federal system requirement, the functionality requested within this requirement is common within IV-D systems. This primarily seems to arise within the courts when a judge or hearing master prefers to combine proceedings when there are multiple actions related to a single child. Based on our CSE system implementation experience in multiple states, we propose to create separate cases for each alleged parent associated with a particular child while allowing the scheduling for the related actions to be within the same court at the same time.

Our solution can allow the creation of multiple PFs on a single case construct or on multiple cases, one for each PF. Under either design option, careful consideration is given to the OCSE-157 reporting on cases with multiple putative fathers.

(2.3.7) Genetic Testing

REQUIREMENT: (#266) The system must support the genetic test scheduling and rescheduling, as well as track genetic testing fees and results.

REQUIREMENT: (#267) The system must provide appointment scheduling, participant notification, and legal document preparation.

The genetic testing workflow is related to the paternity establishment workflow and includes a full complement of workflow steps, integrating with genetic testing labs, scheduling activities, scheduling notices and preparing legal documents. The detailed tracking for the genetic test, including the status and testing location for each participant, genetic testing fee details, and the results, are entered online by the caseworker or automatically updated by the system upon receiving genetic test results via an interface with genetic marker testing vendors. We implemented several best practice solutions for Establishment data management, such as automated access to genetic test data from organizations such as LabCorp and other national service providers, so that this information is automatically updated into the system without manual data entry. This process also results in automatic workflow movement and the generation of notices to PFs.

Below is an illustration of the Genetic Test screen implemented in one of our other systems, provided as a representative example:

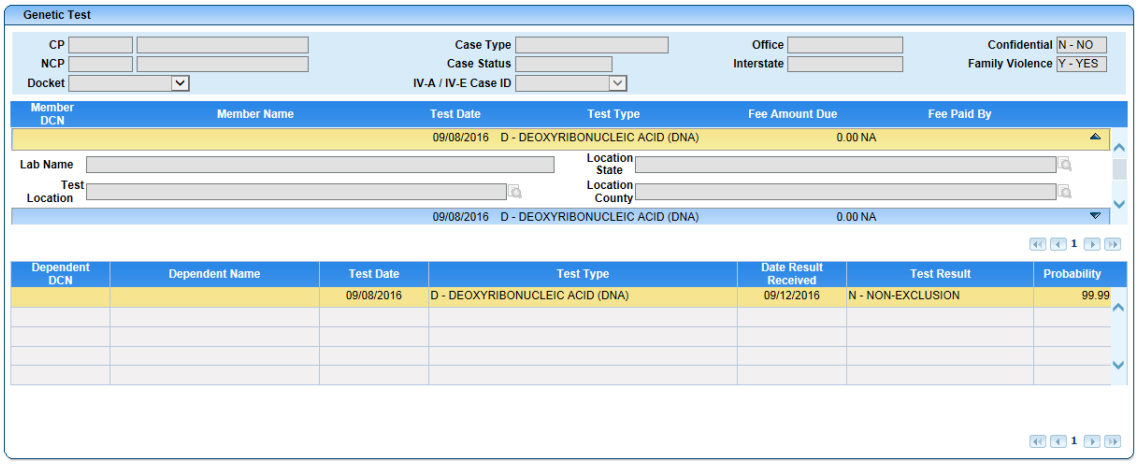

Figure 3.4 (2) - 40. Genetic Test Screen

(2.3.8) Hearing Calendar

REQUIREMENT: (#268) The system must support interfacing with courts' systems to accept hearing schedules.

Our solution provides the capability to interface with court systems to accept schedules in real-time or in a batched mode. We understand different courts manage calendar in different ways. Some district courts like to run the calendar themselves. For example, the district court may supply the child support office with the court date; some demand a notice of appearance is filed, and the parties must appear in person to obtain the court date; others opt to let the user choose from a variety of open slots on any given day. Upon receiving a request for hearing our solution will handle the request in the manner set out in Nevada's business rules. For example, if the court opts to let the user choose from a variety of open slots, the user queries the court system to find a set of open slots and displays these to the user. Once the user selects a slot, this information is conveyed back to the court system. The integration service enables the core CSEP application to interact with the calendar component in the court system to identify an available date/time and update it with the proceeding information recorded by the user. This enables the completion of case docketing and scheduling processes without having to exit the core CSEP application, therefore, providing a seamless experience to the user.

The scheduling component also allows for the 'repopulation' of court dates when vacates are processed, the cancellation of schedules, generation of vacate notices and the rescheduling of the hearing. These events are comprehensively recorded on the case journal along with the notices. With the proposed imaging enhancements and the integration of an electronic case file, the case journal also provides scanned images of external documents used in the case workflow through access to the electronic case file. The hearing process initiates from the updated schedules in the court system. Hearing masters and their staff can view a list of scheduled hearings and retrieve the case details including generated notices.

Alternately, our system processes incoming files with scheduling information from courts to update the scheduling databases within our system, notify caseworkers through customized alerts and generate appropriate notices to case participants.

REQUIREMENT: (#269) The system must provide a hearing calendar for staff preparing cases for hearings.

Our solution provides the functionality to create and maintain a hearing calendar. The system allows the user to view, modify, and add scheduled proceedings. The provided information is based on all of the scheduling done through the system for various hearing types. Scheduling may occur by judicial users or IV-D users.

On the screen, users can view schedules with detailed case and docket information for a full day, week, or month, and can search using many different fields. Additionally, users can search by plaintiff name or defendant names. Users also can access the calendar in a PDF or Excel format at 'print the calendar on demand.'

Recognizing the Nevada District Courts have various scheduling methodologies, we will work with the Nevada CSEP to modify our solution in a manner that provides a streamlined, automated process and greater efficiency. For example, if the district court chooses not to automate the court calendar, the hearing calendar in NCSEAS may need to be a replication or picture of the court calendar maintained by the individual district courts. Therefore, the calendar may need to be linked and updated by the sets that appear on the court calendar held by the courts. We understand it is Nevada's goal to eliminate the need for manual processing and/or duplication of efforts to schedule hearings on the court calendar.

(2.3.9) Service of Process

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REQUIREMENT: (#270) The system must track legal documents designated for service of process and personal service.

(#271) The system must track the assignment of the documents and service attempts (dates, time of day, and location of attempt) and results.
The California CSE system tracks service of process. The code will be modified or enhanced to meet the business requirements of Nevada. Our solution includes an internal indicator for documents designated for the service of process. This indicator allows the system to track the details for service attempts and results. Also, our solution provides the ability for caseworkers to view service attempts and service data of legal documents associated with a case or a participant, including but not limited to:

- *Classification of the document to be served or previously served*
- *Person to be served*
- *Method of service*
- *Date of attempted service*
- *Current condition of the service attempt*
- *Reason for unsuccessful service*

Timeframe-based tracking as described in our response to the alert management requirements is also available in our system. Services of process that are overdue are shown on the alert dashboard for the worker and available in online reporting for management.

REQUIREMENT: (#272) The system must accommodate alternative addresses and support location efforts.

REQUIREMENT: (#273) The system must reactivate the process for service of process when new address information becomes available.

Our solution allows for a member to have multiple open addresses for service of process, where each address also includes a free form text section. Here, a worker can enter additional information related to service for the member, as well as a section for general comments for the address record. All addresses for service of process are tracked, and all service of process historical information is viewable for the worker.

In a case where the person being served was in locate status, and there is an outstanding document to be served, NOT requiring personal service, the entry of a newly confirmed address triggers the service of process action and the worker is alerted.

(2.3.10) Guideline Support Calculation

REQUIREMENT: (#274) The system must incorporate Nevada's approved child support guidelines to calculate the support obligation amount automatically.

REQUIREMENT: (#275) The system must maintain case data on the application of the guidelines and deviations from the guidelines for the federally required four-year guideline review.

REQUIREMENT: (#276) At a minimum the guideline data maintained must include the guidelines calculated amount, the amount of any deviation, and the reason for the deviation.

Our solution allows guidelines to be applied to a case when an application to establish or modify child support is considered by the court including stipulations. The guidelines may be modified or disregarded by the court or by the parties in a stipulation where good cause is shown. The child support guidelines solution is designed to allow workers to create and manage child support guidelines with the respective worksheet

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for calculating the amount of child support for a case based on the information received (income, expenses, taxes, child care, and health care costs) from both parties to the case.

We use the guidelines solution to calculate appropriate child support obligations. The illustration below demonstrates the range of information available for inclusion in the automatic obligation determination functionality of our solution including master information, parent's income, tax/income adjustments, child care costs, health/other costs, and other dependent deductions. We will customize these based on Nevada's guidelines.

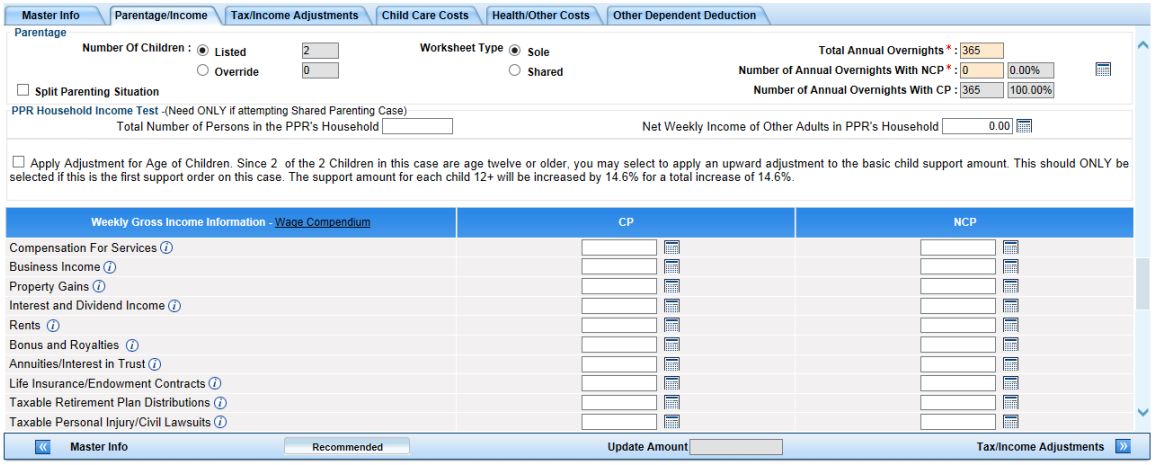

Figure 3.4 (2) - 41. Guidelines Screen

Captures data and applies Nevada guidelines for calculating child support

Once guidelines are calculated, these are automatically included and imported into our workflow solution and available as part of the comprehensive case history. Our solution includes the completed child support guidelines worksheet to be filed with any order or judgment that includes child support and is submitted for the approval of the court. If a proposed child support award differs from the award calculated under the child support guidelines, the worksheet states the reason for the deviation and the amount of the award calculated under the child support guidelines.

The system will maintain case data including but not limited to, the guidelines calculated amount, the amount of any deviation, and the reason for the deviation on the application of the guidelines to assist management with the federally required four-year guideline review.

(2.3.11) Hearing Results

REQUIREMENT: (#277) The system must accommodate documenting hearing results.

REQUIREMENT: (#281) The system must support both an automated and manual process to obtain the terms of the hearing result and then incorporate them into the appropriate document for a judicial signature.

REQUIREMENT: (#283) The system must transfer the terms of the order to the financial account record automatically.

REQUIREMENT: (#284) The system must initiate a monitoring process to track for a judicial officer's signature and document receipt.

These are addressed as a group. The proposed NCSEAS solution includes the intuitive functionality referred to in other certified system solutions as the Uniform Summary Support Order (USSO), as shown in the below figure. The USSO screen is a template of a generic order that is approved by the judicial authority and allows flexibility for common variations in child support related processing. The USSO screen is used to view

executed orders, create new orders, and edit orders pending signature. The terms of an order automatically update the case record on NCSEAS upon application of the judge's electronic signature. In addition to our automated solution, we also accommodate the manual process to obtain the terms of the hearing.

The Uniform Summary Support Order (USSO) functionality provides users with all of the information relative to the legal action as well as leading the users through each area relevant to comprehensive disposition results.

USSO is used in the actual hearing to enter the hearing disposition. Results are generated on-site in the form of the actual legal order and can be signed electronically by all parties. Details entered on the USSO screen are presented to the judge or hearing officer who adds their electronic signature to the electronic order. Final approval by the judge or hearing officer also triggers the loading of the disposition details to the applicable fields within the system, e.g., obligation details are added to the appropriate screen.

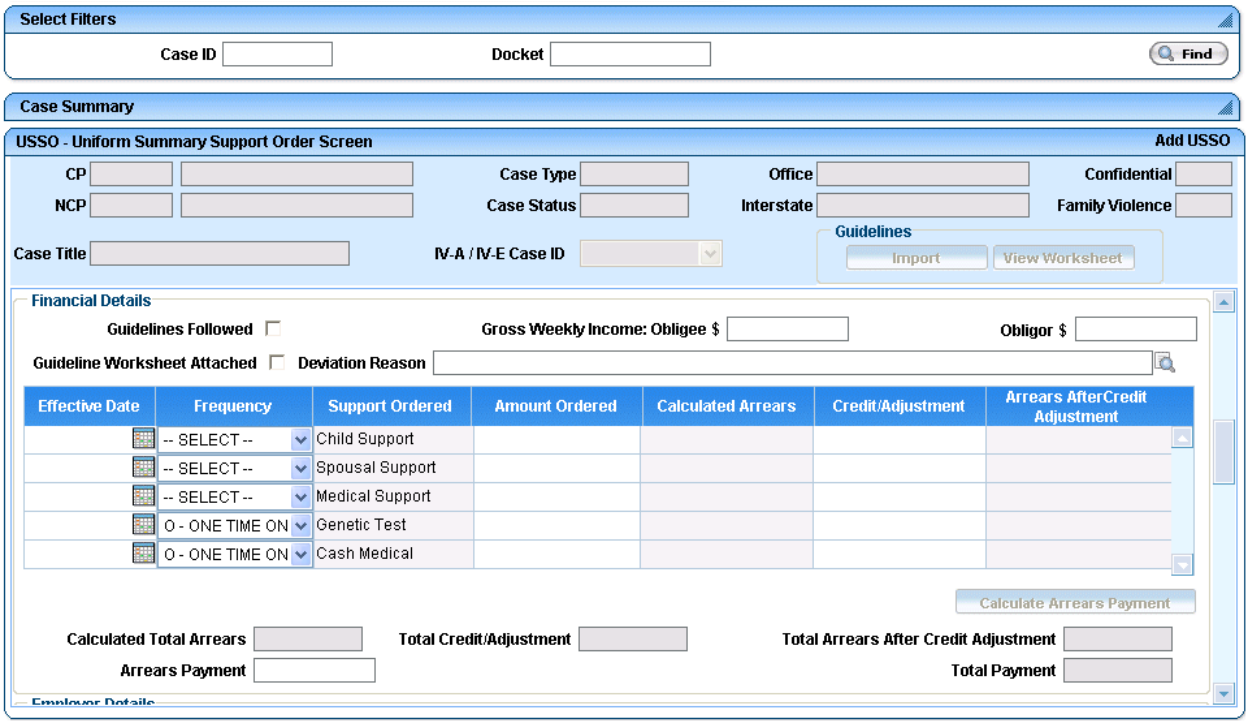

Figure 3.4 (2) - 42. Sample Uniform Summary Support Order Screen

REQUIREMENT: (#278) When the hearing result indicates a continuance, the system must support rescheduling.

Protech's solution includes an event driven process that examines case status, evaluates case conditions, and selects appropriate services and workflows for cases. It integrates scheduling and document generation components facilitating the online display of notices at specific steps in the workflow using a forms processor, provides the ability to interact with these notices, add information, notes, and electronic signatures on notices, and provides the ability to perform scheduling online at relevant steps.

The hearing disposition information on USSO is also linked to a workflow that initiates the proceeding. Entry on USSO triggers the next appropriate steps based on the disposition results. For example, if the hearing results in an order for support, the case automatically refers to enforcement and enforcement monitoring begins for the case. Other common next activities initiated based on the disposition results

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include rescheduling a hearing, monitoring a dismissed case for further action when dismissed (without prejudice), and beginning case closure action. These are all considered minor activity steps that include associated forms and alert processing when associated to the major activity.

In the case of a continuance, the court date is set in the hearing. The user would view the scheduling availability for the court and schedule a hearing for a specific date, the 'accept scheduling' of the system will allow the user to reschedule the case.

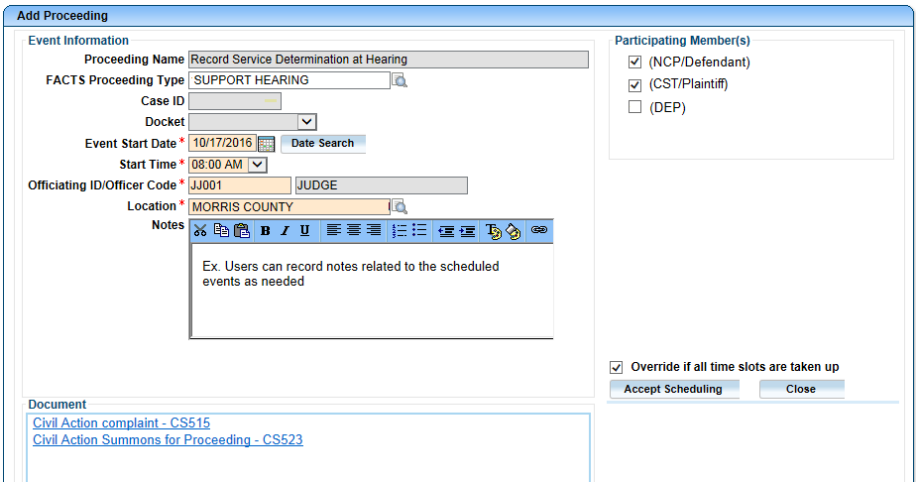

Figure 3.4 (2) - 43. Online Scheduling

Scheduling and Document Generation are integrated into the workflows

The scheduling component also allows for rescheduling and canceling scheduled hearings or appointments and generation of the appropriate notices. These events are comprehensively recorded on the case journal along with the notices.

REQUIREMENT: (#279) When the hearing result indicates a dismissal without prejudice, the system must solicit a date for use in monitoring the case for future action.

When workers update the status of an order, the workflow processor automatically lists the possible outcomes. If the worker selects dismissal of support petition, the workflow processor prompts for recording of reason for dismissal by listing the possible reasons for worker selection. The business rules engine also automatically determines the date on which a review can be sought.

Background processes automatically identify cases where workers can reschedule the case for court and automatically initiate the action and notify workers when the task is active.

REQUIREMENT: (#280) When the hearing result is a dismissal that would be a basis for case closure, the system must alert the child support case manager and monitor for closure actions.

Our process manager component plays a vital role in handling the workflow for cases eligible for closure. The system automatically selects IV-D cases eligible for closure under federal and Nevada closure requirements. Once identified, the system automatically opens the case closure workflow and generates an action alert to the worker. Upon selecting the alert, the worker is shown a case closure checklist for review, displaying case conditions to assist in the decision of whether to approve or reject the case for closure.

REQUIREMENT: (#281) The system must support both an automated and manual process to obtain the terms of the hearing result and then incorporate them into the appropriate document for a judicial signature.

Please refer to our response to #277 above.

REQUIREMENT: (#282) The system must maintain the data used to perform the guidelines calculation, including deviations from the guidelines.

Guideline calculation functionality is available for authorized users to utilize at any time the required information is available. Guideline calculation is by all state and federal rules. Our system will populate the guideline worksheet with all appropriate and relevant data when it becomes available. The users also will have an opportunity to enter data when necessary. This includes before and during any legal proceeding based on online accessibility for IV-D legal workers, judges and other appropriate court workers as defined by the State during the design process. The system provides all information and calculations to the case worker, and the appropriate action is taken.

Our solution allows guidelines to be applied to a case when an application to establish or modify child support is considered by the court or other competent jurisdiction. The guidelines may be modified or disregarded by the court only where good cause is shown. The child support guidelines screen is designed to allow workers to create and manage child support guidelines with the respective worksheet for calculating the amount of child support for a case based on the information received including but not limited to: income, expenses, time spent with the child(ren), taxes, child care, and health care costs from both parties to the case. Our proposed system solution uses the child support guidelines functionality to calculate appropriate child support obligations. The example provided in the graphic below demonstrates the range of information available for inclusion in the automatic obligation determination functionality proposed for the NCSEAS system including master information, parent's income, tax/income adjustments, child care costs, health/other costs, other dependent deductions, employment, and assets. We also understand that the State requires the system to maintain case data on the application of the guidelines and any deviations for the three-year required review period. This is functionality that is already used in our New Jersey system and will be incorporated in the NCSEAS system. State specific requirements for the guidelines such as the reason for the deviation can be easily entered by the user.

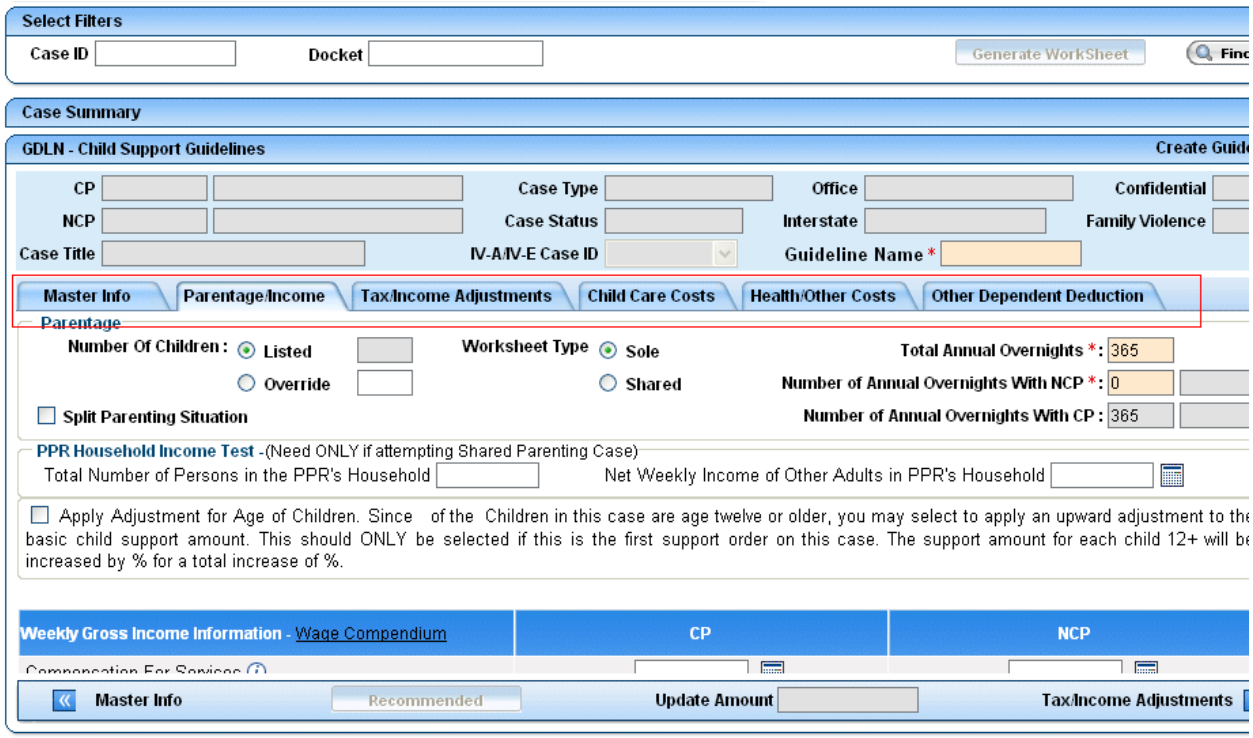

Figure 3.4 (2) - 44. Example of Child Support Guidelines (GDLN) Screen

The GLDN functionality captures and applies specific guidelines to the Child Support calculation.

REQUIREMENT: (#283) The system must transfer the terms of the order to the financial account record automatically.

Please refer to our response to #277 above.

REQUIREMENT: (#284) The system must initiate a monitoring process to track for a judicial officer's signature and document receipt.

Please refer to our response to #277 above.

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(2.4) Case Management

(2.4.1) Data Maintenance

REQUIREMENT: (#285) The system must contain all data necessary to manage each case, to meet all processing requirements, and to meet all reporting requirements.

Our Solution has been implemented and tested and certified in seven states: Arkansas, Michigan, Maine, Massachusetts, New Jersey, Delaware, and New Hampshire. It is also currently being implemented in South Carolina.

The Protech Team brings with it the experiences learned from working with all of these states, including the current data models from the State of California, and the roadmap that California is creating for its system migration project.

Apart from meeting the certification requirements in these states, we have also ensured that all state-specific processing requirements are met and fully implemented. These systems have been functioning for over 60 system-years when we combine the seven state implementations and have distributed over 6 billion dollars in collections, flawlessly.

Thus, we bring a rich baseline of federal and state-specific data elements to Nevada from California and other States and will work to incorporate Nevada-specific elements as required.

REQUIREMENT: (#286) The system must contain all data, for the period before conversion of a case, necessary to manage the case currently and prospectively, including data necessary to process or take action on a case and the date of the most recent action that triggered the next appropriate program standards timeframe.

Our solution's conversion process ensures that current and future management of cases will proceed without issues upon conversion. To facilitate this, we:

- *Review legacy data structures and processes using tools that automate such review. We also review the transfer system data model and relate them to other successful data models which we have implemented in various states. Subsequently, we create a logical data model that incorporates relevant entities and attributes and enhance these to meet Nevada's needs.*

- *Identify critical current processes and their dependency on legacy data. This includes processes such as releasing disbursement holds, held receipts, ongoing enforcement, IRS referrals, scheduled hearings, and lab referrals for paternity tests. Many activities are timeframe-constrained, and the tracking of these activities is critical – such as interstate referrals and responses, or expedited paternity time frames. Upon migrating to the new system, these processes and workflows should continue uninterrupted. We ensure that the data required for these processes are correctly converted, tested and implemented as part of our conversion strategy.*

REQUIREMENT: (#287) Data fields must be an appropriate length to capture the applicable information to minimize the need to truncate the data.

During data analysis and review, we consider the maximum lengths of various fields such as addresses, names, and locations. Based on industry standards, knowledge of legacy data and the requirements of Nevada we ensure that the lengths of the fields are sufficient to hold the values and that there is never a need for truncation of data.

REQUIREMENT: (#288) For each data element, the system must not require the user to enter or modify the value in more than one location.

Due to strict adherence to database normalization rules during the phases of logical and physical modeling, and intelligent de-normalization during the performance reconciliation phase, we ensure that data is correctly propagated to relevant data stores and there is NEVER need to re-enter data in multiple locations.

(2.4.2) Third Party Data Maintenance

REQUIREMENT: (#289) To ensure consistency and "clean" data, the system must include a repository of third party data such as employers, insurance providers, and correctional institutions.

REQUIREMENT: (#290) Data maintained within the repository must include at a minimum:

- employer name
- employer FEIN
- employer payroll address and phone number
- whether the employer offers insurance
- employer benefits address and phone number
- insurance provider name
- insurance provider FEIN
- insurance provider address
- correctional institution name
- correctional institution address
- contact information

Protech's solution provides a common repository of third party data including employers, financial institutions, insurance companies and other types of parties such as attorneys, courts, health plan administrators, payroll administrators, prisons/jails, genetic test labs, licensing agencies, military offices, pension plan administrator, and unions. This solution is also extensible, in that the system administrator can define new types of third party data.

Our repository maintains information key information on third parties. This includes names, Federal Identification numbers (FIN), State Identification Numbers (SIN), phone numbers, addresses, contact information, the source of the data, and verification status.

The solution links the locations of the third parties: corporate office, work locations, and service locations. When employers are linked to participants, and notices need to be sent to participants' employers' corporate offices, the system identifies the corporate office through these links and send notices to the correct address.

An employer maintenance unit within CSEP is usually responsible for maintaining and monitoring employer data. Incoming employer information from FCR, state employer registries, and other sources are automatically processed by Protech's solution. An MDM module identifies and de-duplicates employer data before accepting it into the master database. Data from verified sources such as FCR results in the automated issuance of income withholding notices: this is subject to configurable business rules. The following screen illustrates the key attributes stored for a third party.

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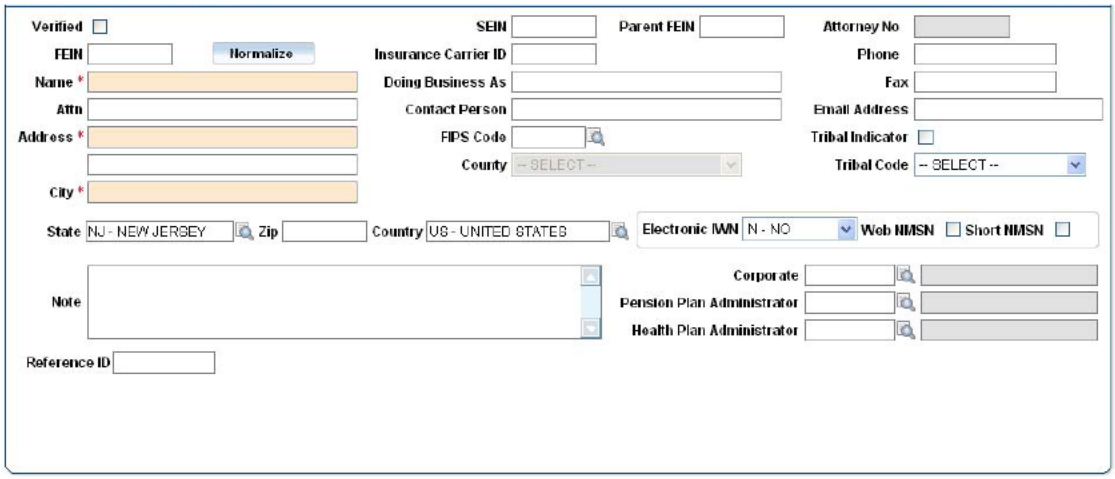

Figure 3.4 (2) - 45. Example of Key Attributes Stored for a Third Party

As explained above, the employer specific information such as address, FEIN, health plan administrator and payroll administrator is maintained in this third-party database uniquely and is linked with participants who are employed with this employer. This approach eliminates storing employer specific information multiple times.

The third-party table is maintained by a central administrator. The types of third parties that need to be maintained in the table are attorneys, courts, financial institutions, health plan administrators, employers, payroll administrators, insurers, prisons/jails, genetic test labs, licensing agencies, military offices, pension plan administrator, unions, etc.

REQUIREMENT: (#291) International addresses must be supported.

Protech's solution has been used for implementing iSupport, the international child support system in use by over 40 countries including the USA. We have reviewed international address standards and ensured that our solution meets or exceeds the address standards required by these countries. Addresses are stored with a rich set of attributes including status, geographical location, verification status, effective dates, history of changes and standardization attributes. These are visible to the user, conveniently grouped and classified by status and source for further action.

REQUIREMENT: (#292) The system must be capable of interfacing with the United States Postal Service to verify addresses.

We interface with third party software such as QAS, Melissa Data and MDM suites such as the IBM MDM suite to validate, cleanse and verify the validity of addresses. Our solution sends verification requests to USPS for address verification. Upon return, our Electronic Document Management (EDM) solution scans in and recognizes the responses. Then the address is marked as verified, or bad and end-dates the address. If a new address is received in the process of verification, this is recognized by the EDM software and automatically updated into the system as a verified address.

REQUIREMENT: (#293) The system must update the verification date and source upon receipt of a positive verification.

Incoming verifications from the postmaster or employer are processed automatically and updated into the system. At the time of verification, the system is updated with a verification date and status.

The system includes required fields for verification status and verification source of data received from other sources. The values available to select also designate if the data has been independently verified or not.

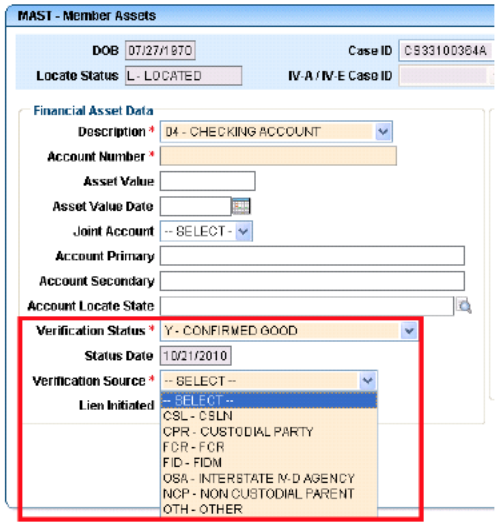

Figure 3.4 (2) - 46. Example of Verification Status and Verification Source Requirements

REQUIREMENT: (#294) The system must allow for multiple last names and special characters in third party data.

These are configurable business rules and our solution places these edits based on the rules. Multiple last names and special characters are allowed in third party data to handle names such as '@best#mail' and "Ca$h'n'Carry."

REQUIREMENT: (#295) The system must support linking records within the third party repository to case participants.

Our solution provides a "golden record" for key entities such as employers, third parties, and participants. These records are unique stores for these entities and used throughout the system to associate with other related entities. Multiple participant/s can have the same employer, and the employment record for each of those members uses the same employer other party id. Information for the employer can only be changed on the single employer other party record, but the changes reflect on each of the participant's employer records as shown on the Member Employment History (EHIS) screen. The same logic described for employer records also applies to entities such as attorneys, insurance companies, sheriff's offices, licensing agencies, and several others.

(2.4.3) Case Management Monitoring

REQUIREMENT: (#296) The system must automatically direct cases to the appropriate case activity from Case Initiation forward.

A key aspect of Nevada's architectural vision is a service oriented and event-driven architecture. Addressing this vision, we propose an event-driven process that monitors cases and evaluates case conditions to determine appropriate next actions for services and new workflows relevant to case management.

These next actions include:

- ***document generation,***
- ***scheduling,***
- ***workflow-driven imaging and services that update real-time reports, and***
- ***provide current enforcement status on reporting portlets.***

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All monitoring is configured and regulated by authorized administrators, federal and state time frames and includes an optional alert trigger that specifies the number of days after which a caseworker should be notified of the status of the activity step, or other services should be invoked, such as notifications to other states. Certain workflows progress by system default actions whereas others require a caseworker decision. Additionally, the frequency of reminders and escalation paths can also be set in our solution.

Protech's solution allows multiple, concurrent activities on a case when the case conditions meet the necessary criteria for concurrent activities according to the configurable business rules. An example of this would be the system moving forward with the establishment or enforcement of an order based on a confirmed address but still making regular locate attempts for employer information. Another example is the system solutions allowing multiple enforcement remedies to be used concurrently within the scope of the state/federal regulations and business rules.

Our solution's workflow management design monitors the flow of cases through the completion of functional tasks and specific activities within those tasks. Batch system monitoring programs process batch triggers that examine the case universe daily to evaluate case and participant conditions, identify needed actions and track due dates for activities in progress. These programs assess an array of case conditions, statuses, and events based on configurable business rules.

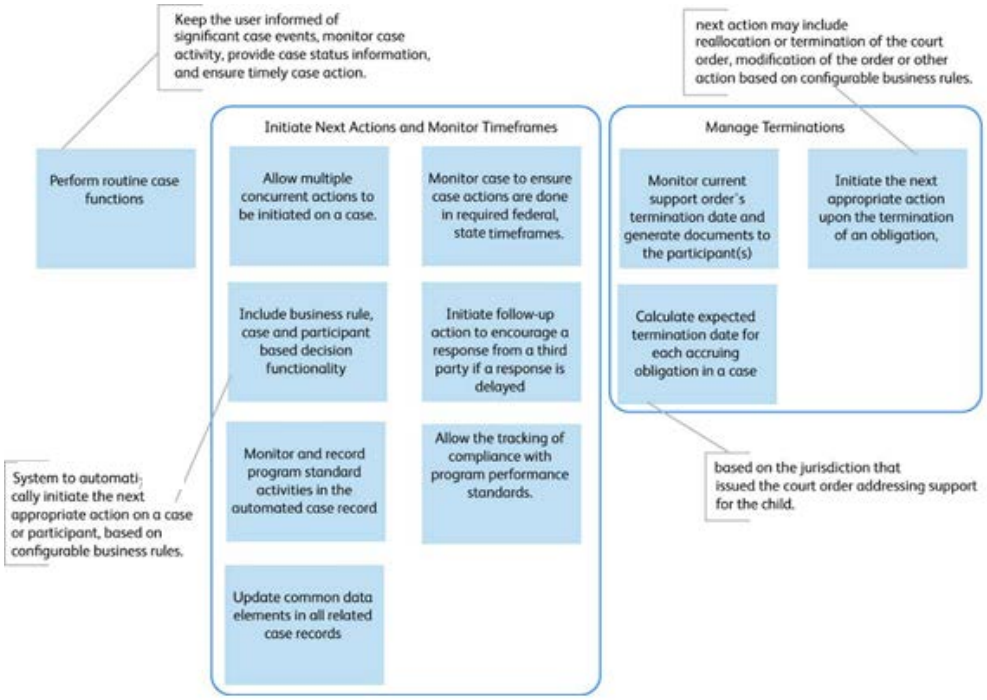

Figure 3.4 (2) - 47. Workflow Management Design

REQUIREMENT: (#297) At the conclusion of each function, the system must automatically direct the case to the next appropriate function and initiate appropriate actions.

Case management monitoring begins with the entry of a case into the system. Once a case initiates, the system directs the case to the appropriate function and initiates any required actions. The system automatically forwards the case from initiation to locate, or if location is not at issue, to an establishment or enforcement monitoring function.

Our solution's case workflow monitoring components manage the flow of cases through the completion of functional tasks and through specific activities within those tasks according to the required federal and state time frames. At a minimum, the monitoring function performs the following actions:

- *Identify multiple remedies simultaneously, if applicable*
- *Load activities for which the case meets the criteria for the activity processor and initiate priority one actions*
- *Generate messages to inform the worker of system actions completed or to notify the worker of the need to act*
- *Track cases with activities in progress daily and check for due date or next actions.*

The following schematic illustrates the workflow monitoring in our solution:

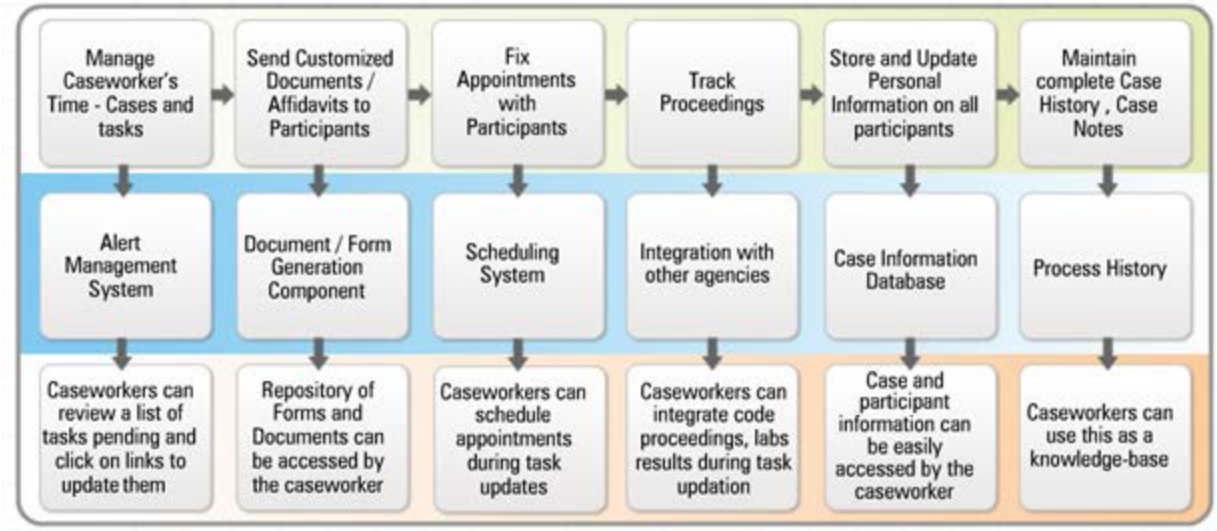

Figure 3.4 (2) - 48. Workflow Monitoring

Many of the activities to be monitored and recorded for these standards are incorporated through business intelligence reporting. By analyzing transactional records related to the following key program areas, we provide comprehensive, actionable reports to caseworkers.

- *Caseload statistics (e.g., age of cases, breakdown by category including interstate, and status)*
- *Collections*
- *Paternity*
- *Support obligations*
- *Cases for which orders could not be established or enforced (indicating the numbers and reasons for failures)*
- *Medical support/health insurance*
- *Employee activity and accomplishments*

REQUIREMENT: (#298) The system must record all case activities, including the date and time the activity occurred, in the automated case record.

The recording of case activity is a critical aspect of case management for child support systems. Case activity can be initiated by the system when certain conditions are met (such as starting enforcement remedies if the address and employer are available), or when a user performs case actions such as sending notices and scheduling hearings. Our solution records all activities with audit information and includes hyperlinks in these activity records to snapshot views of the actions that led to the recording of activity.

Dates and actions taken within each function are stored in the case record. Our case journal is a record of system and manually initiated activities for a case. The case processor screen maintains a comprehensive case diary of all case events from case initiation up to and including case closure. All case activities are tracked within the system and include the date, time, and name of the worker or system that acted. The system uses activity codes assigned to program standards for the tracking of the time frames monitored for compliance with program time standards.

The complete case history for each case record is maintained online. No case history data is archived from the online system. In the default view, the case journal entries are listed chronologically according to date of occurrence. For the convenience of the user, we provide multiple search, filter, and sort options to enable efficient review of the case history. The following two illustrations are those of a process dashboard's workflow steps and process history.

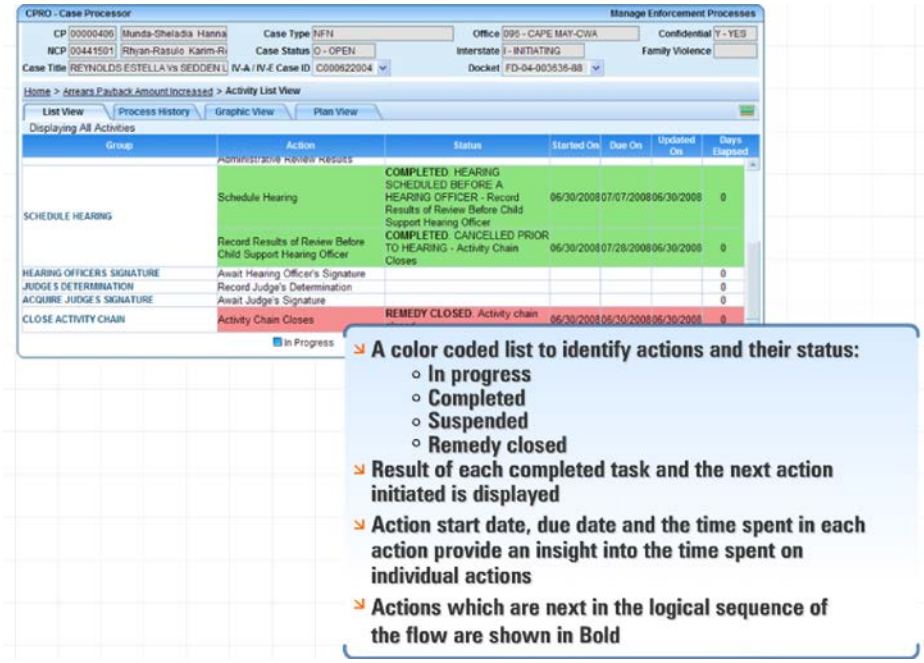

Figure 3.4 (2) - 49. Process Dashboard's Workflow

The first illustration is that of a workflow manager. This is powered by a process server that stores the workflow steps and the conditional next steps in a workflow process matrix. This matrix uses configurable business rules to implement workflows within every aspect of the case lifecycle. As the case proceeds through the workflow, the status of the completed steps and the ongoing steps are illustrated through visible indicators and color. Before taking the next step, the system displays all possible reasons for the completion of the current step; the user can choose the next step based on the circumstances of the case. Auto-

generation of documents and integrated scheduling are features of our process dashboard. Upon completing a step in a workflow, the system can also invoke other services such as updating an address or sending a message to appropriate caseworkers.

The second illustration below is that of the workflow process history that provides an audited, time stamped log of all process activities and links to the system that provides more detail on the circumstances of the history entry.

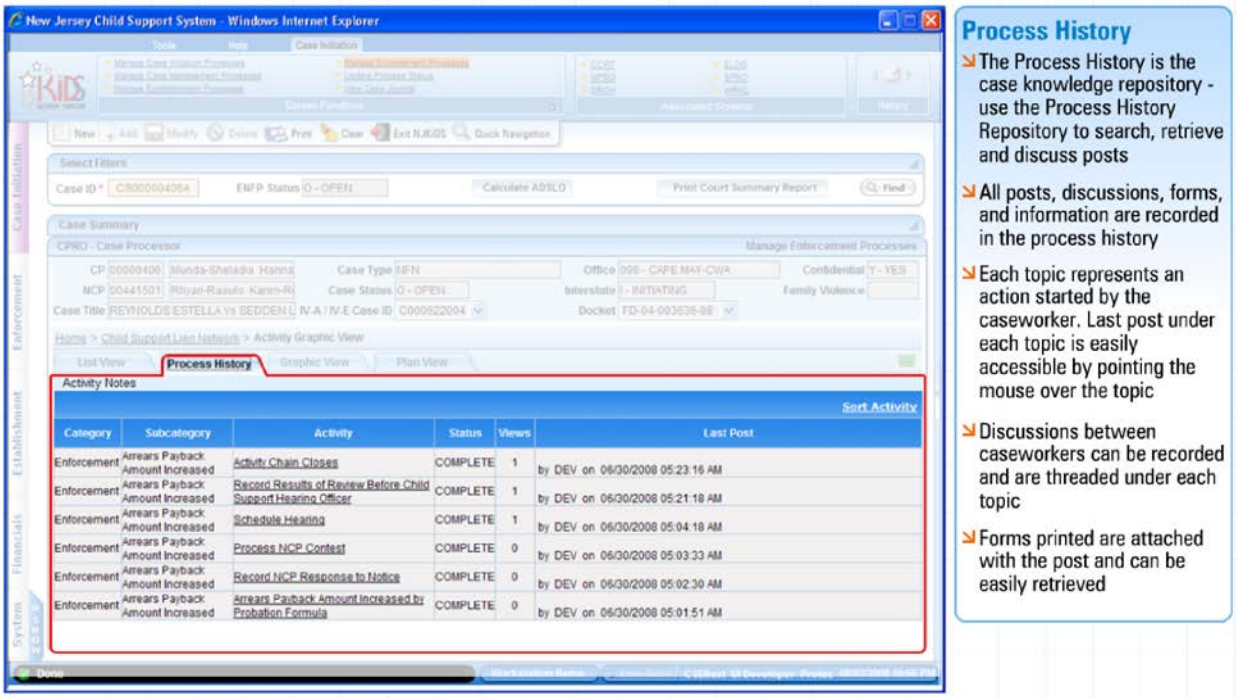

Figure 3.4 (2) - 50. A Representative Example of Process History

REQUIREMENT: (#299) The activities the system records must include, but may not be limited to:

- the date a case is moved into a specific function
- the dates and actions taken within the function
- the results of such actions and appropriate dates
- the date of referral to the next appropriate function

Dates and actions taken within each function are stored in the case record. Additionally, the results of the actions and the date of case referral to the next function are maintained.

Protech's solution features a services-driven workflow which determines and orchestrates the next activity, documents, supporting functions, and time frames for each activity. The workflow is used for all stages of the case lifecycle including case initiation, case management, interstate, establishment, locate, and enforcement.

Case processing functionality for case initiation, case management, establishment, and enforcement are accessible through a central user interface and work through automated workflows defined as activity chains. These activity chains are sets of steps that are pre-defined in the system and consist of major and related minor activities. A partial illustration of a major activity is "Suspend Driver's License" while the

corresponding steps of the workflow such as "Worker Reviews for Suspension" are referred to as minor activities. We offer this type of functionality for the NCSEAS, which can be customized to meet the business needs of the Nevada CSEP.

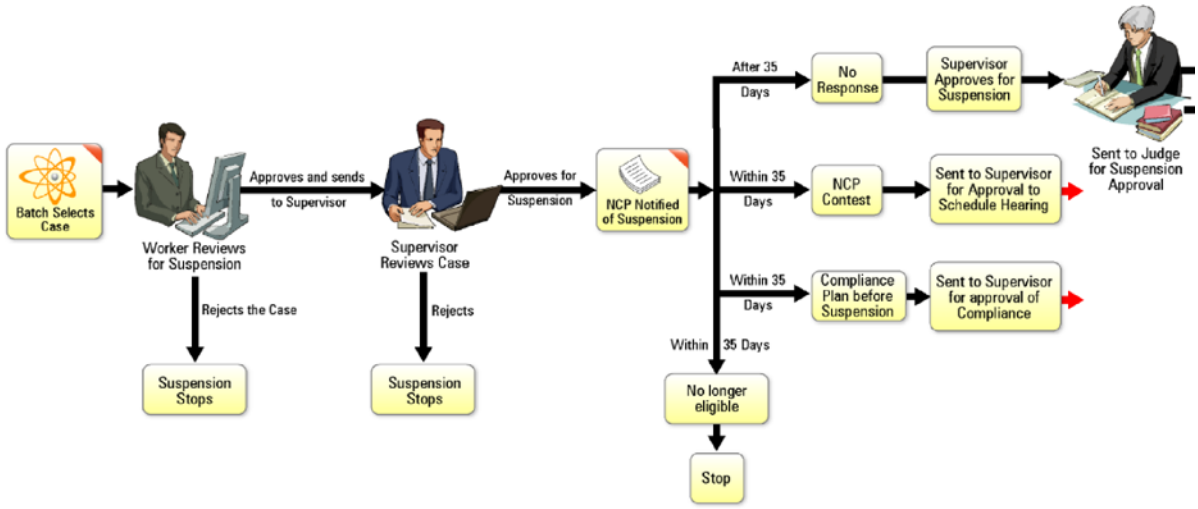

Figure 3.4 (2) - 51. Case Processing Functionality

REQUIREMENT: (#300) The system must track actions and dates to ensure compliance with required time-frames and federal and state policies.

Time standards that comply with federal certification requirements are incorporated into the activity chains and batch programs in the system. Upon noncompliance, an escalation process is implemented for specific actions based on configurable business rules. The system tracks compliance with case processing time frames by logging all worker and system completed activities in the consolidated case history screen. The date a case enters each subsystem or function is recorded in the case record, and the date the case moves from a subsystem to another is recorded. Start and completion dates for all system activities are stored.

REQUIREMENT: (#301) The monitoring algorithms must link a frequency to the condition being monitored since some conditions require daily, monthly, or variable attention.

Protech's solution facilitates periodic monitoring for case conditions where the periodicity is implemented based on configurable business rules. The workflow management design monitors the flow of cases through the completion of functional tasks and specific activities within those tasks. System monitoring components process case triggers and examines all cases daily to evaluate case and participant conditions, identify needed actions, and track due dates for activities in progress. These components assess an array of case conditions, statuses, and events. Additionally, they track cases with activities in progress and check for due dates or next actions.

REQUIREMENT: (#302) The system must monitor child ages and alert the worker when a child will emancipate within a period defined by the CSEP.

A common determining factor for the termination of a support order is when the youngest child reaches the age of emancipation as defined by the jurisdiction responsible for the order. Such an event can be configured to automatically result in notification going to the participants in the case to verify emancipation status in the event there are extenuating circumstances for consideration.

Our solution provides for the designation of an obligation as being a "blanket" obligation or "per child" obligation. Orders that are "per child" are those that state an amount per child. For "per child orders", if one of the children become ineligible for current support due to emancipation or other reasons, that child's current support obligation of the order terminates, and notifications are sent to relevant entities (CST, NCP, employers and credit reporting agencies) advising them of the reduction. Reallocation of an obligation automatically occurs when the order does not specify an amount per child, there are multiple children on an order, and one, or more of the children are no longer eligible for current support. This is known as a blanket order. The system automatically takes the total current support and splits among the remaining children with no reduction to the total.

(2.4.4) Case Update Processing

REQUIREMENT: (#303) The system must automatically accept and process case updates and provide information to other programs on a timely basis.

Our solution uses configurable business rules to automatically update case information when no worker intervention is needed, automatically alert workers when direct intervention in an update is needed, and automatically generate additional inquiries for address and other verifications when case/participant updates and alerts to workers are not sufficient. The system documents the acquisition date of the information and the source of information.

Incoming updates (online messages, batch files) are processed through on-demand services or regular batch services. These services are configured to update member and case information as per Nevada's specific business processes. Such updates include but are not limited to: member program history, member demographics, member address, employer address, social security number, IV-D case type changes, assistance status changes, etc. Data received that does not match through automated verification processes is identified for exception processing.

Protech's solution includes required fields for verification status and verification source of data received from other sources. The values available to select from also designate if the data has been independently verified or not.

The exchange of required information to other programs such as IV-A, IV-E, and Title XIX agencies is implemented through automated services that can be triggered by users or automated workflows. Such exchange is available through many formats including the National Information Exchange Model (NIEM) for exchange with the courts.

Protech's solution maintains the identifying information for the entities that interact with case processing. Each entity is assigned a single party id that can be used in multiple places throughout the system. For example, when entering an employer for a participant, the user enters the employer party id for the employer that then pulls the data from the third-party table and populates it on the participant's employment record. The same logic is followed for entities with roles such as insurance companies, sheriff's offices, licensing agencies, utility companies, etc. The functionality can also be configured to allow a single entity to serve multiple roles. This dual role functionality would include features to specify different contact and address information for the entity depending on the role that applies to the situation it is being used for. For example, an insurance company may want requests associated with an employment to go to one location and requests associated with insurance compliance to go to another location.

REQUIREMENT: (#304) The system must perform initial edit / validation checks, including numeric and character checks and cross references, to ensure the accuracy and completeness of fields.

Protech's solution provides a uniform edit/validation layer for all fields of the user interface in a common metadata repository to ensure and manage consistent edits within fields and cross edits. This repository ensures that the same edits are used under the same circumstances and update the same fields even from different components. It allows configurable business rules to be implemented for front-end validations to affect these edits consistently across all screens.

REQUIREMENT: (#305) The system must update common data elements in all linked case records.

Our integrated, normalized data models ensure that duplicated elements do not exist in the databases except in the case of reporting, using star/snowflake schemas and intelligent de-normalization. Thus, common data elements are already linked to case records such as case-id with the case-participant constructs, name of the participant is not repeated each time the participant is linked to other cases, and the assistance status is not replicated across case records – they are associated with one program id, and an effective/end date. By implementing such structures, we ensure complete data integrity throughout our system. Participants have a single identification key that is unique to the participant/member. Data that is specific to the participant, such as address, employment, demographics, assets, etc., is associated to every case on which the participant exists.

REQUIREMENT: (#306) The system must have data elements that identify the source of information and an indicator of whether the information has been independently verified.

Key data elements such as addresses, date-of-birth, SSN and employers have associated verification attributes that include the source, date of receipt, date of verification, the status of the verification and the source of the verification. This information is also available for non-key data elements where verification is required – including member program history, member demographics, IV-D case type changes, assistance status changes, etc. Data received that does not match through automated verification processes is identified for exception processing.

The system includes required fields for verification status and verification source of data received from other sources. The values available to select also designate if the data has been independently verified or not.

REQUIREMENT: (#307) The system must add or remove children from cases.

Our solution can add/remove participants from cases and change member status to inactive. These records are available for historical purposes but cannot be used unless re-activated. Inactive members are displayed in the case record but are not considered for case processing.

REQUIREMENT: (#308) The system must track the associated update of an added or removed child's financial obligations and accounts.

Adding or removing a child's financial accounts are triggers for a variety of processes in the case life cycle such as:

- *Arrears reassignment- the process to implement changes to current support or arrears is invoked to update case balances.*
- *If the child is on assistance, then the corresponding PRWORA- arrear buckets are updated and notification records created for outgoing CSENet referrals if applicable.*
- *Enforcement remedies will be re-evaluated based on the latest case balances, and notification will be issued to employers or NCPs about the change of circumstances*
- *Case closure assessment will review the case for eligibility*

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Protech's solution invokes each of these processes based on configurable rules and tracks the updates on the case record in a comprehensive case log.

(2.4.5) IV-A Updates

REQUIREMENT: (#309) The system must have the capability to interact with the IV-A system on a daily basis to accept updates to the case information and provide updates to the IV-A system.

(#310) The data exchange must include all the required address, employment, medical support, child removal reasons, and obligation data as identified by the federal child support certification criteria defined in Chapter III Section D-2 and F-6 of the Guide for States.

Protech's solution provides an elaborate exchange of data between the IV-A agency by federal regulations and system certification requirements. This is a bi-directional interface where data elements from the IV-D agency's automated system are transmitted to the IV-A agency and vice versa. The information exchanged includes initial referral details and updates from IV-A with establishment and payment information sent from IV-D. The information in the data exchange between these systems includes all required addresses, employment, medical support, child removal reasons, and obligation data.

REQUIREMENT: (#311) The system must communicate and track incidents of client non-cooperation and good cause determinations.

Federal system certification requirement includes the information on good cause for noncooperation when the IV-D agency makes that determination. The good cause processes implemented in one of our states is presented in the schematic below:

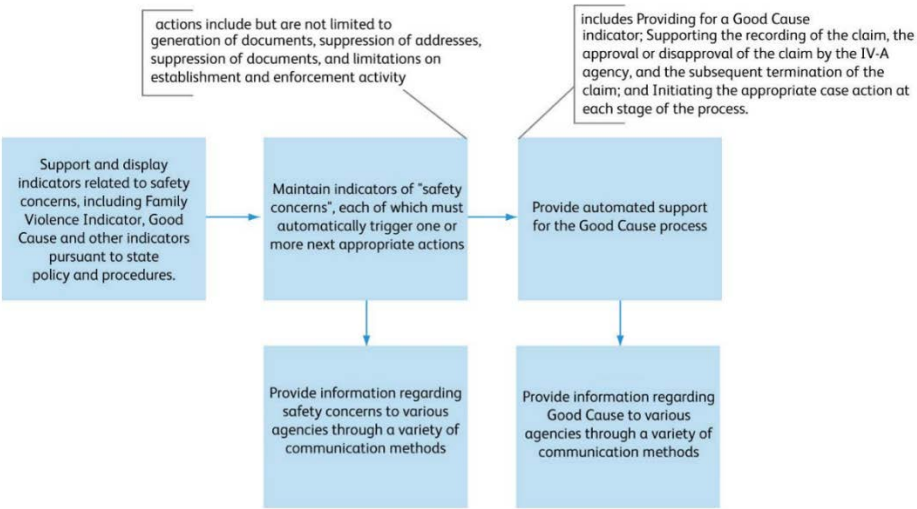

Figure 3.4 (2) - 52. Good Cause Processes

We maintain and track information regarding good cause for a case. The information retained is available for various agencies through a variety of communication methods.

A determination of good cause is recorded in our solution that also includes an indicator for good cause that appears in a standard location of the case header used on all case level screens. The information regarding the determination is maintained in the system in conjunction with the details of the case status. When the good cause indicator is set to (yes), users can access the status details to see the reason for good cause and the date of the status.

Our solution implements the requirement to track the additional steps for initial filing, approval or disapproval and the termination of good cause for a case. The case actions to be initiated at the various stages of the good cause process are also incorporated in the design using configurable business rules.

REQUIREMENT: (#312) The system must establish controls over paternity data to ensure that IV-A does not change the paternity status of a child after IV-D has validated or manipulated a child's paternity status.

The update of participant data from IV-A is completely configurable and will be customized to meet Nevada's requirements. The system has specific access controls over key fields such as paternity established (yes/no) that ensure the IV-A system cannot modify the paternity status of a child after it is established in the IV-D system.

REQUIREMENT: (#313) The system must establish controls over demographic data to ensure that updates from IV-A do not automatically change case members' data after IV-D has validated or manipulated the demographic data.

The update of participant data from IV-A is completely configurable and will be customized to meet Nevada's requirements. The system has specific access controls over key fields that contain demographic data that ensure the IV-A system does not automatically change the members' demographic data after it has been validated.

REQUIREMENT: (#314) The system must reassign child and medical support arrearages per federal distribution regulations whenever IV-A assistance ceases.

The ceasing of IV-A assistance is an important event in the history of a child support case. Protech's solution initiates a multi-function process encompassing financials, enforcement, and reporting. In the financials area, the values in the PRWORA arrear buckets and medical support are re-assessed retroactively going back to the date that the assistance was ceased. Any receipts that were distributed after that date are re-assessed, and notifications are sent to the caseworker or the receipts are reversed, with offsets. These changes, in turn, are recorded on a detailed financial log that provides pre-event and post-event arrear changes for easy review.

REQUIREMENT: (#315) The system must screen and reject inappropriate updates from IV-A.

All updates from IV-A are subject to a screening process that verifies the validity of changes, ambiguity, and completeness of data. Based on configurable business rules, the system rejects updates, creating a detailed report of rejections and reasons for rejection. Once these are addressed on the referral record, the system allows a re-processing of the update through the same screening process. Reports of rejections can go back to the referring agency if the business process rules allow this.

(2.4.6) Title XIX Updates

REQUIREMENT: (#316) The system must have the capability to interact with the Title XIX system to accept updates to the case information and provide updates to the Title XIX system.

REQUIREMENT: (#317) The data exchange must include all the required address, employment, medical support, and obligation data as identified by the federal child support certification criteria defined in Chapter III Section D-2 and E-11 of the Guide for States.

Protech's solution provides an elaborate exchange of data between the Title XIX agency by Federal regulations and system certification requirements. This is a bi-directional interface where data elements from the IV-D agency's automated system are transmitted to the Title XIX agency and vice versa. The information exchanged includes initial referral details and updates from Title XIX with establishment and payment information sent from IV-D. The information in the data exchange between these systems includes all required addresses, employment, medical support, child removal reasons, and obligation data.

REQUIREMENT: (#318) The system must screen and reject inappropriate updates from Title XIX.

All updates from Title XIX are subject to a screening process that verifies the validity of changes, ambiguity, and completeness of data. Based on configurable business rules, the system rejects updates, creating a detailed report of rejections and reasons for rejection. Once these are addressed on the referral record, the system allows a re-processing of the update through the same screening process. Reports of rejections can go back to the referring agency if the business process rules allow this.

REQUIREMENT: (#319) The system must reassign medical support arrearages per federal distribution regulations whenever Title XIX assistance ceases.

The ceasing of Title XIX assistance is an important event in the history of a child support case. Protech's solution initiates a multi-function process encompassing financials, enforcement, and reporting. In the financials area, the values in the PRWORA arrear buckets and medical support are re-assessed retroactively going back to the date that the assistance was ceased. Any receipts that were distributed after that date are re-assessed, and notifications are sent to the caseworker or the receipts are reversed, with offsets. These changes, in turn, are recorded on a detailed financial log that provides pre-event and post-event arrear changes for easy review.

(2.4.7) Child Welfare (IV-E) Updates

REQUIREMENT: (#320) The system must have the capability to interact with the Child Welfare (IV-E) system to accept immediate updates to the case information and provide updates to the IV-E system.

REQUIREMENT: (#321) The data exchange must include all the required address, employment, and obligation data as identified by the federal child support certification criteria defined in Chapter III Section D-2 of the Guide for States.

Protech's solution provides an elaborate exchange of data between the IV-E agency by federal regulations and system certification requirements. This is a bi-directional interface where data elements from the IV-D agency's automated system are transmitted to the IV-E agency and vice versa. The information exchanged includes initial referral details and updates from IV-E with establishment and payment information sent from IV-D. The information in the data exchange between these systems includes all required addresses, employment, medical support, child removal reasons, and obligation data.

REQUIREMENT: (#322) The system must reassign child support and medical support arrearages per federal distribution regulations whenever IV-E and foster care maintenance assistance changes or ceases.

The ceasing of IV-E assistance is an important event in the history of a child support case. Protech's solution initiates a multi-function process encompassing financials, enforcement, and reporting. In the financials area, the values in the PRWORA arrear buckets and medical support are re-assessed retroactively going back to the date that the assistance was ceased. Any receipts that were distributed after that date are re-assessed, and notifications are sent to the caseworker or the receipts are reversed, with offsets. These changes, in turn, are recorded on a detailed financial log that provides pre-event and post-event arrear changes for easy review.

REQUIREMENT: (#323) The system must screen and reject inappropriate updates from IV-E.

All updates from IV-E are subject to a screening process that verifies the validity of changes, ambiguity, and completeness of data. Based on configurable business rules, the system rejects updates, creating a detailed report of rejections and reasons for rejection. Once these are addressed on the referral record, the system allows a re-processing of the update through the same screening process. Reports of rejections can go back to the referring agency if the business process rules allow this.

(2.4.8) Case Action History

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REQUIREMENT: (#324) The system must update and maintain in the automated case record all information, facts, events, transactions, and actions taken in a case.

This requirement is addressed in our response to Group 4: Case Update Process. Protech's solution implements the recording of all information, facts, events, transactions, and actions are taken on a case in a common user-reviewable and auditable set of screens. This includes a summary and expanded view of actions and audit logs that indicate person, system, time and date for the action. These are accessible by the user in a variety of ways including performance view (show the least performing cases first, cases needing attention now and other such views). Each set of updates also include compliance time frame information: when is the next action due, what is the status of the current action, and allow the user to make tracking notes on these actions.

REQUIREMENT: (#325) The system must provide the automatic recording of events and significant data changes to the case action history.

This requirement is addressed in our response to #298. All data changes that relate to a case such as:

- *Receipt of information from external sources such as FCR*
- *Changes to assistance status*
- *Enforcement updates*
- *Expedited paternity*
- *Collections and disbursements*
- *Accruals*

The list above is not exhaustive but provides an idea of the range of information on the process history. The recording of these updates is completely automated and auditable.

REQUIREMENT: (#326) The system must accept manually recorded case notes.

Our solution will have the ability to record case notes on any of the case entities such as case, participants on the case, and third parties linked to the case such as employers, attorneys, and agencies through a 'Quick Notes' functionality. They are all viewable on a single uniform interface. Our notes processor also allows for structured conversations which are useful for approval processes and communication between various units of CSEP. Notes can be entered in rich text format and can include attachments such as pictures and videos associated with the case.

REQUIREMENT: (#327) The system must record the date and time of each event, data change, and manual case note.

A complete process history is maintained by the system, and all actions – system or user initiated. These include the date, time, change of data and notes. Also, the date a case enters each subsystem or function and the date the case moves from one subsystem to another or from one activity to another is recorded in the case record.

REQUIREMENT: (#328) The system must accommodate differentiating case events by type to provide selective retrieval. Types include but are not limited to:

- Contacts
- Case notes
- Noncustodial parent address changes
- Custodial party address changes

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- Noncustodial parent employment changes
- Case type changes
- Obligation changes
- Medical support coverage changes
- Documents
- Court events
- Significant data changes
- Financial adjustments
- Addition or removal of child(ren)
- BOW / Paternity Changes for each child(ren)
- Deleted alerts / ticklers
- Docket number changes
- Financial Institution Data
- CSENET incoming / outgoing

Protech's solution for case event retrieval includes sophisticated sorting and filtering facilities. They are provided as user-customizable filters and sort options. Additionally, the filters can be combined "Show me all financial institution data changes for incoming CSENet cases." The system allows filtering actions by case participants – for instance, "show me all court events related to the NCP" or "Assistance changes related to a specific participant." These can also be geographically displayed as a density map on Nevada's outline.

REQUIREMENT: (#329) The system must provide retrieval of case action data by person, type of action, by date in either ascending or descending order as specified by the user, and by data type as specified by the user.

This requirement is covered in our response to #328 above.

REQUIREMENT: (#330) The automated case record must maintain a record of documents generated, critical data element changes, all positive locate and asset interface actions and a monthly summary of interface activities.

As mentioned in our response to #324, the automated case record contains complete and auditable information or all documents generated, allows the user to regenerate or reprint the documents, and has as a record of every significant action including manual and system-generated action. These actions and documents are accessible through the process history as explained in our response to #328. Thus, we provide a chronological view of all case activities which includes, but is not limited to, case actions, dates of case activities, data elements changed, locate and asset interface actions taken, financial activities, enforcement actions taken, and documents generated.

REQUIREMENT: (#331) The system must not accept edits to system initiated actions.

Our solution ensures that edits to any action – system or user generated are accepted or rejected through configurable business rules. For instance, if there is a system generated IWO notice sent to an employer record received from the FCR, this cannot be overridden.

REQUIREMENT: (#332) The system must allow edits to records on manually initiated actions through the end of the business day during which the data was entered in the system.

Please refer to our response to #331. The system does not allow edits to system initiated actions except through documented, audited, authorized overrides. Manually initiated actions such as arrear adjustments,

updating addresses, changing assistance status and other actions can be edited within a customizable timeframe, such as a day.

(2.4.9) Workflow Management

REQUIREMENT: (#333) Whenever possible, the system must automatically initiate the next step in case processing without being prompted by the caseworker.

Protech's solution provides sophisticated monitoring of case conditions allowing a case to move through the system after the case is opened automatically. Federal certification guidelines specify that case processing is directed by system logic that applies business rules to guide the case flow. Our solution uses configurable workflow rules to direct new or re-opened cases to the next function. These rules guide the workflow engine that controls the sequencing and execution of tasks or events to support the automatic initiation of the next step, or alert caseworkers to start the next step.

Upon initiation, the system directs the case to the appropriate function and initiates any required actions. The system automatically forwards the case from initiation to locate, or if location is not at issue, to an establishment or enforcement monitoring function.

When a case is added to the system, worker assignment is determined. The case is directed to the appropriate function, and the assigned worker is notified of the case assignment and classification, including case type and stage. The case processing time frames required by federal standards are tracked from the inception of the case. Dates and actions taken within each function are stored in the case record. Additionally, the results of the actions and the date of case referral to the next function are maintained.
The batch monitoring program monitors the flow of cases through the completion of functional tasks and specific activities within those tasks. Any change of data triggers case tasks and services to re-evaluate case and participant conditions, identify needed actions, and track due dates for activities in progress. As examples, the batch monitoring program:

- *Flags cases for enforcement when arrearage amounts and case conditions meet the defined criteria for a specific remedy.*
- *Identifies multiple remedies simultaneously, if applicable.*
- *Loads activities, for which the case meets the criteria, to the activity processor and initiates priority one actions.*
- *Loads priority two activities to the processor. Based on an evaluation of the case circumstances, the worker selects the priority two remedies to initiate.*
- *Generates alerts to inform the worker of system actions completed or to notify the worker of the need to act.*
- *Accrues obligations, sends termination notices when end dates are near, calls case closure processes when appropriate.*
- *Tracks cases with activities in progress and checks for due dates or next actions.*

The system sends alerts to ensure that activities requiring casework decisions are completed within the pre-determined time frames. The worker then has the discretion to proceed, cancel, or dismiss the action based on business practices and policies. The system workflow provides for an automated default trigger to move the case forward. If the worker has not completed the action by the due date as defined in the minor activity table, it is completed by the system, based on the parameters table to store characteristics of the case or

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remedy to determine and initiate the next action. If the next action is document generation, the details are recorded on a history screen with the date and title of the documents. An informational alert is sent to advise the worker of the automated action. System case actions are triggered by on screen logic when data fields are updated or changed.

An example of a typical case monitoring processing flow is shown in the illustration below. This flow will be customized for Nevada.

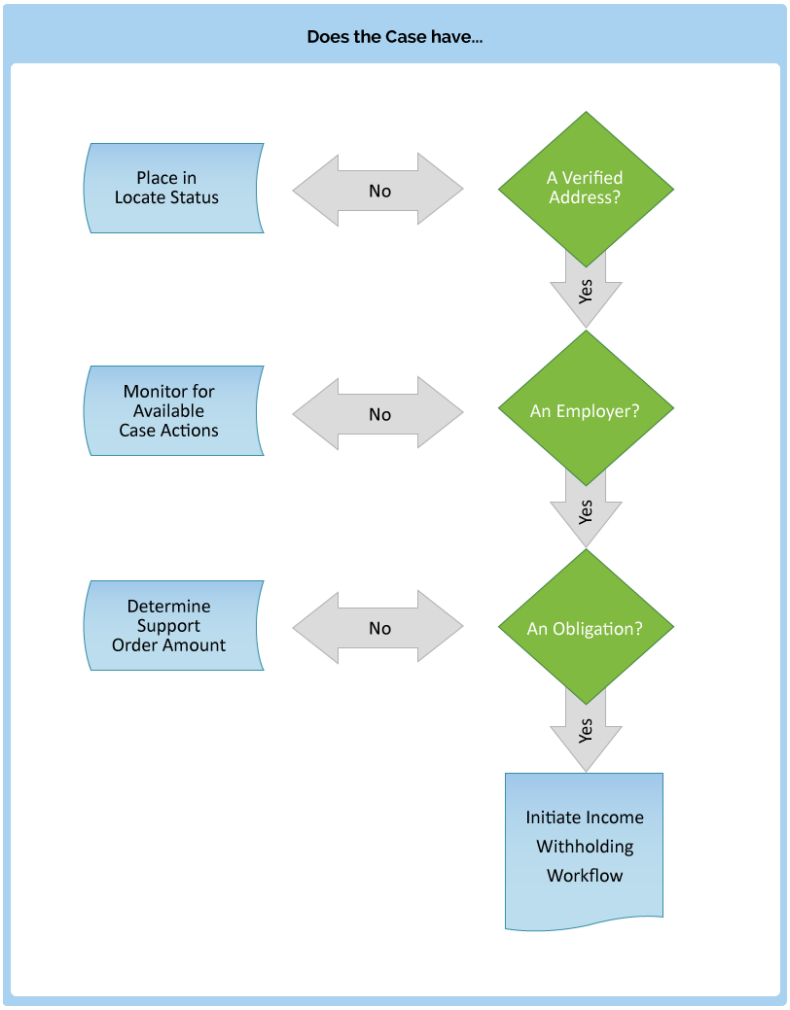

Figure 3.4 (2) - 53. Case Monitoring Processing Flow

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Upon initiation, cases which have no verified addresses are automatically placed in locate status. When an address is found, the case again is considered for automated case actions that cannot be completed without a valid address. If an address is known, but employment data is not available, the case moves from locate status and is monitored for available case actions, but automated searches of data sources continue until employment data is obtained.

For obligated cases, when employment data is found, the system responds to the positive trigger created by the updated employment record and automatically initiates the income withholding workflow and generates the appropriate notices. For un-obligated cases, the employment information is used in determining the correct support order amount. Our solution tracks the emancipation of a child and re-allocates a blanket obligation as required to the remaining dependents. Records of automated actions are written to the event log table.

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REQUIREMENT: (#334) The system must include workflow management functionality that captures all of the steps and "if then" scenarios (i.e., "if this occurs then that should happen") for each process in the child support lifecycle.

Our Solution's workflow centers around two types of actions: user action and system action.

- *User Action. System users, including caseworkers, complete actions in the system, being prompted primarily through alerts. The system maintains an ongoing record of all actions completed, and automatically determines the required next steps, including notice generation.*
- *System Action. The process manager implements an automated workflow based on configurable rules. A series of pre-defined parameters are used to govern the steps that need to be taken in a case and the order in which they need to be taken. Throughout the day, conditions occur that change the status of the workflows. For example, the loss of an employer results in the closure of a wage withholding remedy. When the automated new-hire interface provides new employer information, wage withholding initiates and a notice may be generated. All such conditions are classified into positive or negative triggers and are reviewed by the monitor program during the batch cycle.*

Another trigger for the process manager is the predetermined timeframe for a workflow step, established by federal and state guidelines. When these timeframes are reached, the manager program automatically initiates the next step. Worker overrides are available to authorized personnel, to be able to influence the workflow and provide an override.

Using the concept of hierarchical activities, our workflows are organized into groups of granular activities, with end-point decision tables on the next activity. These activities have several parameters to guide and to time the workflow, such as:

- *Fee code- does the workflow step need to start a fee assessment process?*
- *Alert (action, info, none) – who needs to be alerted when this happens?*
- *Days to complete - maximum number of days allotted for completion of the step*
- *Priority level – how important is this step in the context of the overall workflow?*
- *Address type – type of address that must be available to process the step*
- *Service type – type of legal service required to process the step*
- *Source – the information source, if any, required to process the step*
- *Role – alerts the child support staff role with primary responsibility for the minor activity*
- *Related service – any business component that needs to be automatically triggered – for instance, update a counters tables that informs a report*

For the workflows (such as remedies, modifications, etc.), a series of functional indicators are available that serve as gatekeepers for starting or continuing the workflow. The process manager uses and evaluates these indicators while starting or loading the workflow.

Workflow services generate alerts for user action based on the alert parameters mentioned above. These alerts are displayed to the caseworker on a separate alert screen that links to the workflow processors or other screens as appropriate. For example, Delaware requires the addition of a role field that directs the

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alerts to caseworkers with the specified role, rather than specifying a caseworker by name. Business logic needs to be added to determine the appropriate caseworker for alert determination. Assigning roles to users within teams facilitates the automatic assignment of alerts to functionally specific case units, such as centralized locate and legal functions. Our solution includes Role-based alerts, centralized alert management, and reporting. Details of these are provided in the alert management section of our response, #349-#372. They illustrate the following points:

- *Effective handling of large numbers of alerts*
- *Focus on alerts needing immediate attention*
- *Prioritize alerts and handle them effectively by priority*
- *Schedule specific times to address alerts and be reminded of these times*
- *Filter and view pending alerts in a variety of ways*
- *Check for potential time frame violations before they occur and plan ahead*
- *Role-based delivery of alerts for workflow activities to the user responsible for next action*
- *Graphical views of alert statuses and alert aging analysis, filtered by subsystem and a reporting interface*
- *Several useful time-management features*
- *Personalized alert management by introducing the concept of personal folders to store special alerts, with customized inbox rules*
- *Scheduling of time to handle alerts*
- *Customized views at different levels of authority*

We provide collaborative management of the various workflows required for the case lifecycle. For example, if a supervisor wants to provide direction to a caseworker on a specific action, the caseworker can respond within the same user interface in a threaded discussion, using the various collaborative tools such as messaging and forums. An advanced search feature using text-based searches, patterns, google-like search patterns for the workflow processor allows the use of the workflow processor effectively, identifying specific patterns of casework, and applying the knowledge to new remedies.

REQUIREMENT: (#335) The system should support multiple discrete business functions and associated business processes. Users should be able to execute these functions by navigating a reasonable number of logically presented screens.

Ease of use is very important while navigating to various screens in the workflow. Our solution provides a uniform presentation layer for all workflows, to ensure that user training requirements are minimized as new workflows are added.

An illustrative user interface is presented in the following diagram. This interface allows the user to select appropriate workflows (such as remedies) and provides information on the latest entry or action on any ongoing workflow with more information in an advanced presentation format.

Once a workflow is selected, detailed screens provide a list of steps in the workflow in a grouped, phased manner. The statuses of these steps are color-coded and identifiable by keystroke for ADA compliance.

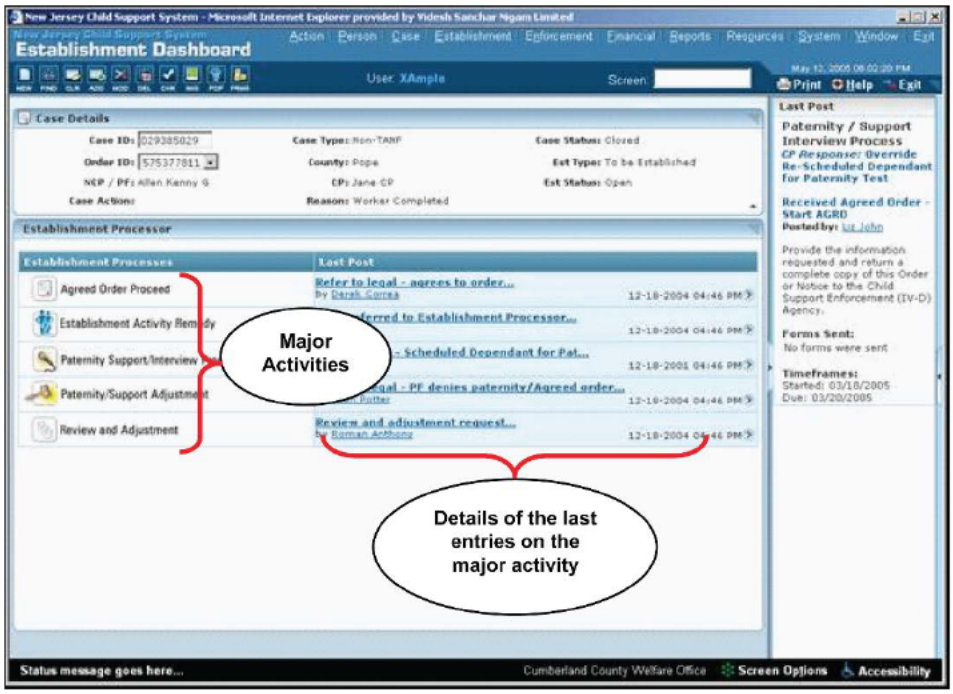

Figure 3.4 (2) - 54. Example Workflows (Major Activities)

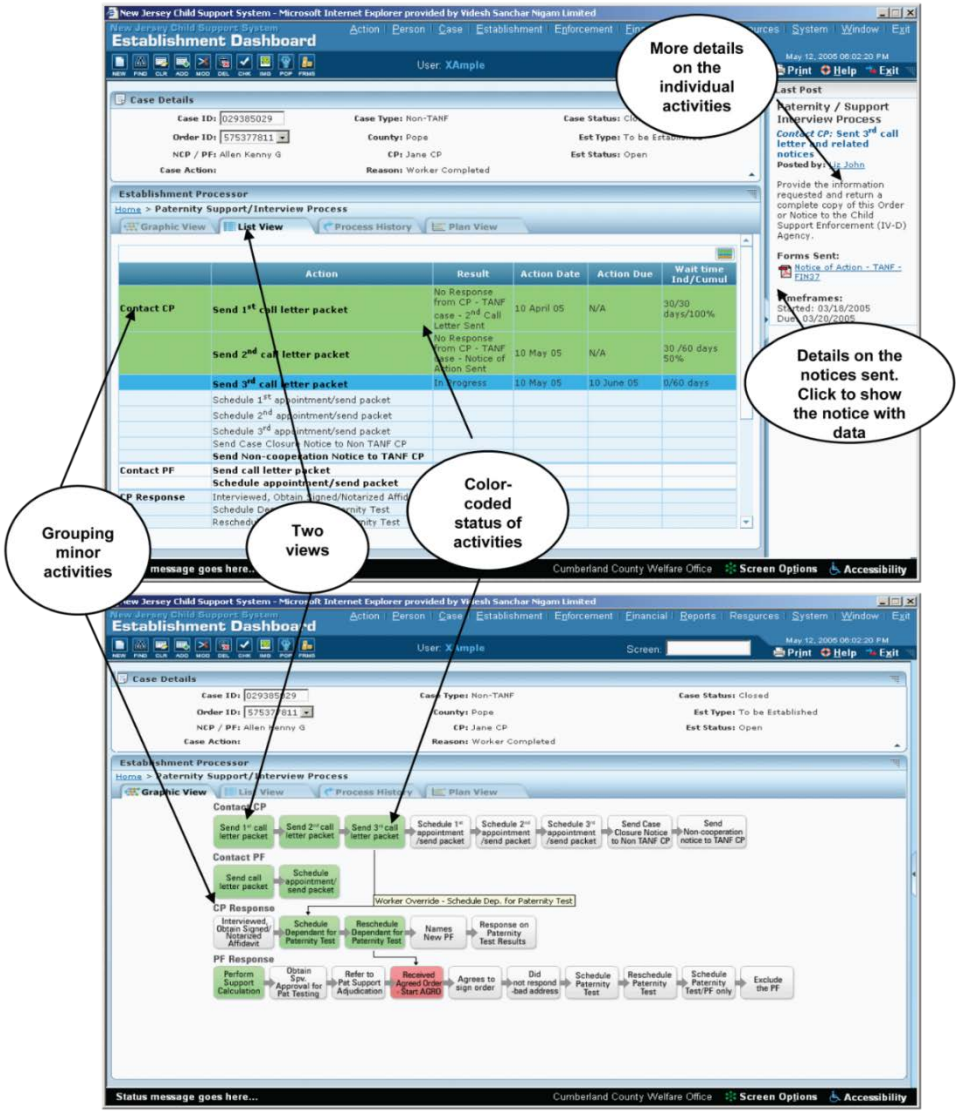

Figure 3.4 (2) - 55. Workflow Steps (Minor Activities)

The grouping of workflow steps into logical units within a workflow allows a caseworker to view and track the key phases of a major activity, as illustrated above. The interface provides a graphical view of the activity flow along with a list view of the activity flow for added clarity and rich user experience. The activities are also color-coded for easy reference to the status of the activity. Selection of an individual row on the list view or an individual box on the graphical view provides details, including the notices sent for that activity. Multiple parallel workflow steps are accommodated in this design.

A further enhancement is the base lining and tracking of the activities using the plan view tab that is presented below. Four baselines are available: these include the federal baseline, statewide baseline, office baseline, and caseworker baseline.

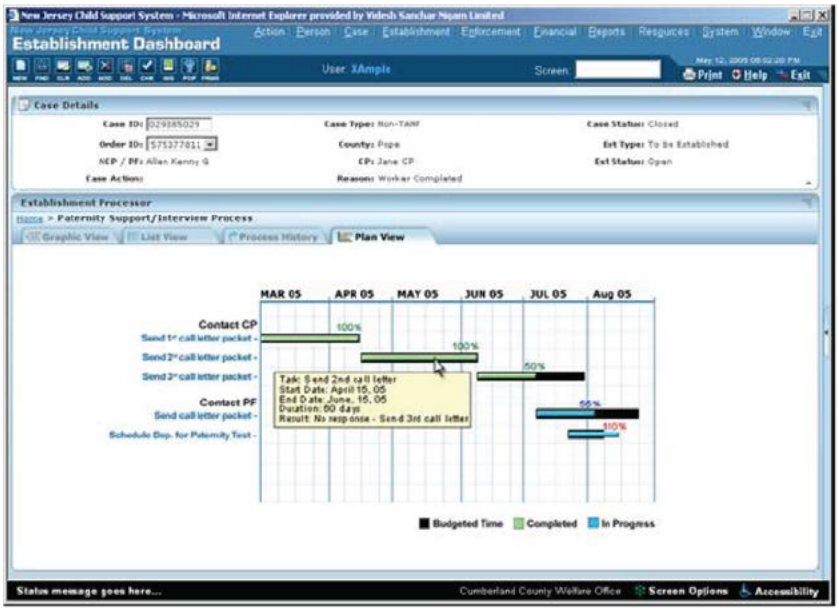

Figure 3.4 (2) - 56. Accommodating Multiple Parallel Workflow Steps

REQUIREMENT: (#336) The workflows must consider the specific requirements for instate, interstate, international, and tribal cases, including transmitting and receiving information via the CSENet.

Cases that are identified in the system as an Intergovernmental case are still subject to continual monitoring of establishment and review and adjustment statuses for the next appropriate action, as with any other IV-D case. The difference for an intergovernmental referral is how to proceed on the case once the system determines it is eligible for action. An initiating case referred to another agency would require the use of CSENet transaction processing for sharing information and obtaining status information. If CSENet is not an option for the responding agency, information would be shared through other communication channels while using system generated forms to obtain the information.

Our workflow processes for interstate cases (including tribal and international cases) emulate in state case processes in a large extent to reduce duplicative services within the system and additional training needs for interstate cases. The difference is case processing consists primarily of the generation of CSENet transactions/UIFSA transmittals and the applicability of certain enforcement remedies/establishment actions, time frames and special reporting requirements. Based on configurable business rules, some of these referrals are passed onto caseworkers in the Central Registry for review, and further processing through the standard review and the case create process. For instance, quick locate requests are automatically processed without caseworker intervention, while establishment/enforcement requests result in the creation of cases and assignments to caseworkers.

Our solution features the ability to track missing requests sent to the other state for information that is required to process the interstate activity. Once the cases are created, they are processed by services and workflows common to in-state and interstate cases, with an additional communication component (through UIFSA forms or CSENet) to exchange information with the other state on the status of the case and other necessary information for case processing. This exchange is implemented using UIFSA or CSENet, depending upon master data that the system stores for the other state as a FIPS entity. A FIPS-based reference screen is used to indicate if the other state is capable of CSENET exchange, the types of permitted transactions, and address/correspondence information. This exchange of information is highly automated,

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based on configurable business rules, such as case status, receipt of match information from locate sources, or the occurrence of other important events in the life of the case. In the rare instances, when a manual exchange is required due to the inability of the other state to handle the automation, our solution provides screens and processes that facilitate the generation of transactions or UIFSA notices.

Our solution also provides for hard copy documentation received in support of interstate referrals to be scanned, linked to the referral record, and the automated case record related to the interstate case. We support all CSENet functions with the latest CSENet specifications. A comprehensive audit history is available. The audit history includes the CSENet records exchanged or UIFSA notices sent at various points in case processing. State and federal time frames are tracked through a work list system. Users and management are notified when time frames are not met or when some action is due, either through alerts or reports generated by the system.

REQUIREMENT: (#337) The workflows must comply with federal and state policies.

Workflows are defined through configurable business rules, which follow federal guidelines and state policies. All monitoring is configured and regulated by state and federal time frames and includes an optional alert trigger that specifies the number of days after which a caseworker should be notified of the status of the activity step, or other services should be invoked, such as, notifications to other states. Certain workflows progress by system default actions whereas others require a caseworker decision

Our workflow management is designed to manage the flow of cases through the completion of functional tasks and specific activities within those tasks according to the required federal and state timeframes. At a minimum, the monitoring function performs the following actions:

- *Identify multiple remedies simultaneously, if applicable*
- *Load activities for which the case meets the criteria for the activity processor and initiate priority one actions*
- *Generate messages to inform the worker of system actions completed or to notify the worker of the need to act*
- *Track cases with activities in progress daily and check for due date or next actions*

REQUIREMENT: (#338) Workflow activities will include generating appropriate documents, monitoring for and capturing responses, and alerting the worker when a case needs manual intervention.

At every step of the workflow processor, based on configurable business rules, the system can generate documents, scan in documents, allows the user to enter notes, or invoke services such as the scheduling service.

Each of these steps is recorded in a case journal/process history as described in our response to requirement #298 under case management and monitoring section of the response.

Protech's solution implements a case journal/process history that provides users with a view of all case activities in chronological order by date. This includes case actions, dates of case activities, data elements changed, locate and asset interface actions taken, financial activities, enforcement actions taken and documents generated.
The case journal entries are links to generated documents and associated details for the entry. For example, clicking on the entry of "Note to File" results in the note window opening and displaying the full text of the

note. Selecting a "Document Print…" entry takes the user to a listing of document recipients and allows them to select the document for viewing or printing in exactly as it was produced for the selected recipient.

All activities on a case are entered on the automated case record to maintain a complete historical record of activities related to the case. Activities displayed include, at a minimum, the event code, activity description, date, status, and worker. In addition to the activities that are recorded, the automated case record also includes narrative/note entries for the case, ECM (document imaging) related actions for documents generated by the system and/or other electronic content received and attached to a case.

As discussed throughout our response, we use configurable business rules and specify workflow processes as configurable business rules to accommodate the various case actions processing the system performs in support of identified safety concern.

REQUIREMENT: (#339) The system must execute and trigger transactions and / or documents to complete a set of instructions within a workflow immediately whenever possible.

When the workflow processor depends on human interaction to move to the next step in the workflow, an alert is sent to the appropriate caseworker/roles. Upon selecting the alert, the worker is navigated to workflow manager screen. An illustration of such a screen is shown below, where the user can take the next step. A set of options is presented to the user, and the result of selecting any one of those options is also presented – as a "what-if" scenario. All documents that would be generated by taking the next step are visible and displayed online for review and updates. Once the user selects an option, the workflow automatically navigates to the next step immediately and triggers all the appropriate actions online.

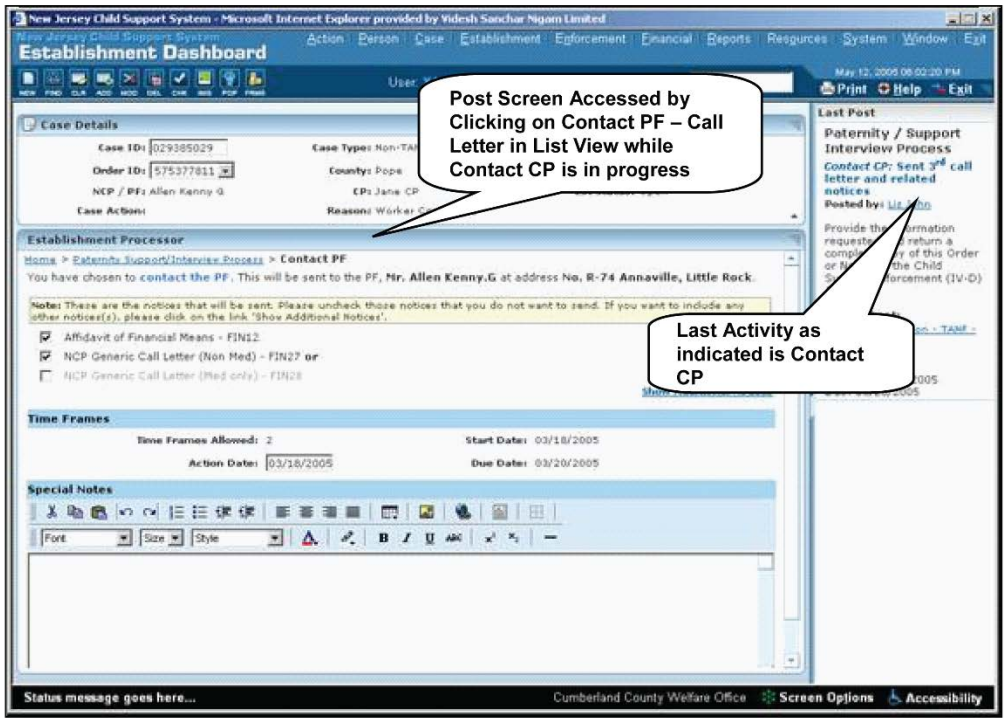

Figure 3.4 (2) - 57. Workflow Manager Screen

REQUIREMENT: (#340) When immediate system processing is not feasible, transactions and / or documents must be executed with a single nightly process.

Immediate system processing may not be feasible in those instances where system-wide assessments need to be done – for example, the loss of an address can affect disbursements, locate and enforcement. Such impactful processing is relegated to a common nightly batch process. This process moves the case to the next step in the workflow, generates appropriate documents and calls services that need to be executed because of the step. The generated documents are routed to county/state office printers or a common central printer for mailing purposes. If the document can be delivered online through the customer portal, this action is taken, and the document is not sent to the printers.

REQUIREMENT: (#341) The workflow management functionality must include the ability to set and remove exemptions for a participant or case on specific workflows.

Our solution provides exemption management for all applicable workflows including enforcement and financials. Exemptions are time-bound: upon nearing the end-date of the exemption appropriate workers will be alerted to extend or remove the exemption. Exemptions can be set at case and participant levels.

REQUIREMENT: (#342) There must be a single location within the system from which workers will be able to see a snapshot of all active workflows for a case and all exempted workflows for a case.

Our solution features a comprehensive case action dashboard which provides a snapshot of all active and ended workflows and can drill down from there to specific workflows with the intent of progressing these flows. Exemptions are visible in clear formatted text, and the system allows the exemptions to be lifted directly from the dashboard.

REQUIREMENT: (#343) The system must document in the case narrative history the record of all completed system and worker activities within a workflow process.

Please refer to our response to requirement #298 under Case Management and Monitoring. The narrative history and collaborative activities are captured in the Process History screens. Another illustration of the process history is shown below, and capture the collaboration notes between various workers who are active on the case and contribute to its movement in the case lifecycle.

This narrative history includes ongoing and completed activities within a workflow process and relates these to other processes which could affect the current process.

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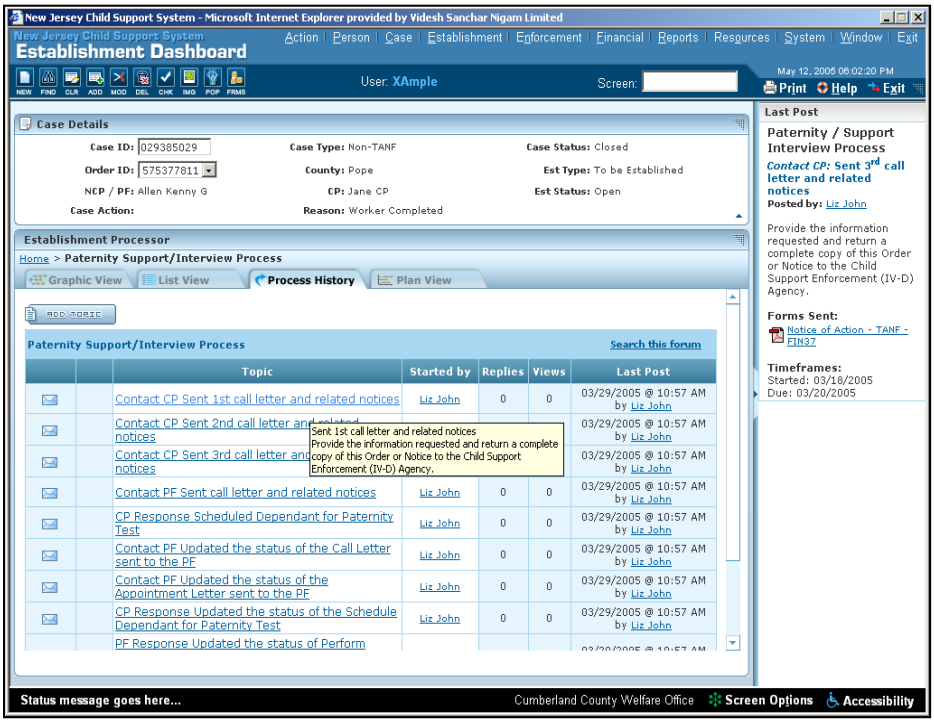


Figure 3.4 (2) - 58. Collaborative Communication

REQUIREMENT: (#344) The system must provide the CSEP with the ability to modify workflow parameters as program policies change.

Workflow parameters and processes are completely configurable; this includes the next actions to be taken, the triggers for these actions, federal and state time frames, exception processing and services to be invoked upon reaching the workflow step.

REQUIREMENT: (#345) The system must provide flexibility for alternative workflows based on criteria such as case characteristics, office size, or other.

Our workflows are configurable based on offices – different offices can have different workflows depending on their size and preferences. These are controlled by a central administrator, but the system has the flexibility to implement such changes. For instance, a larger office may have more approval steps while a smaller office may not.

REQUIREMENT: (#346) The workflow system must support multiple methods for work distribution.

Please refer to our response to #363, Alert Management for managing workloads. As for work distribution, we support multiple methods including Alpha assignment, round-robin, load-balanced, functional separation or a combination of these.

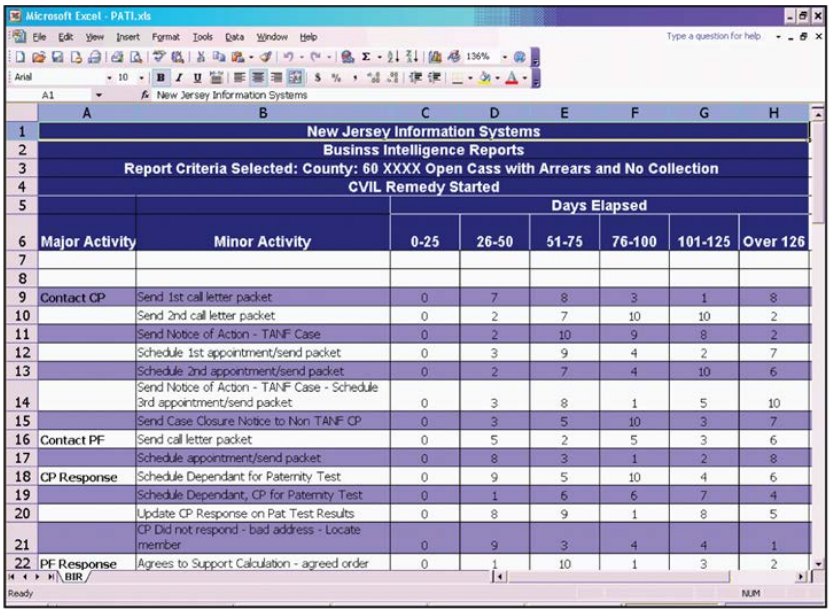
REQUIREMENT: (#347) The system must capture duration for each workflow instance.

We capture the duration for each workflow instance and compare with state and federal time frames. We monitor the duration of the workflow and provide alerts and warnings at appropriate times to ensure that delays are minimized.

REQUIREMENT: (#348) The system must provide audit capabilities for specific workflow instances and general workflow steps and logic.

We provide a comprehensive process history (response to #298, #343) that includes audit information for every step of the process. To capture the logic, we provide the ability to add case notes with rich text and attachments for each step of the workflow.

Apart from these baselines views, an online report provides a cross-tabular view on the "velocity" of the workflow process:



	Major Activity	Minor Activity	Days Elapsed 0-25	26-50	51-75	76-100	101-125	Over 126
9	Contact CP	Send 1st call letter packet	0	7	8	3	1	8
10		Send 2nd call letter packet	0	2	7	10	10	2
11		Send Notice of Action - TANF Case	0	2	10	9	8	2
12		Schedule 1st appointment/send packet	0	3	9	4	2	7
13		Schedule 2nd appointment/send packet	0	2	7	4	10	6
14		Send Notice of Action - TANF Case - Schedule 3rd appointment/send packet	0	3	8	1	5	10
15		Send Case Closure Notice to Non TANF CP	0	3	5	10	3	7
16	Contact PF	Send call letter packet	0	5	2	5	3	6
17		Schedule appointment/send packet	0	8	3	1	2	8
18	CP Response	Schedule Dependant for Paternity Test	0	9	5	10	4	6
19		Schedule Dependant, CP for Paternity Test	0	1	6	6	7	4
20		Update CP Response on Pat Test Results	0	8	9	1	8	5
21		CP Did not respond - bad address - Locate member	0	9	3	4	4	1
22	PF Response	Agrees to Support Calculation - agreed order	0	1	10	1	3	2

Figure 3.4 (2) - 59. Process 'Velocity' Report

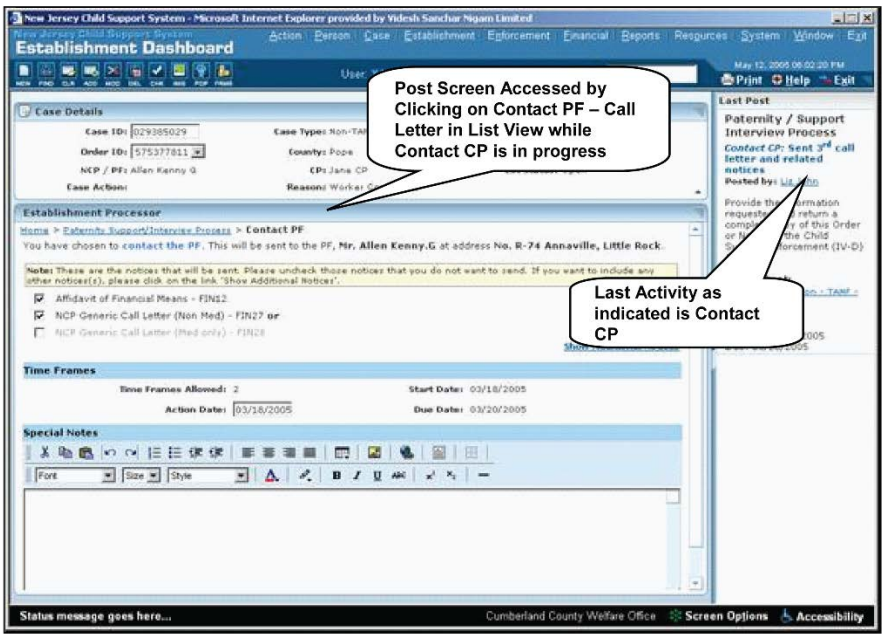


Figure 3.4 (2) - 60. Posting Screen

The caseworker can select documents to be printed, select additional documents, and enter special notes

A useful feature is the use of the "continuous user interface" where the screens that support the workflow are available based on the context of the minor activity, through a "sliding pane." An example of this feature is shown in the following figure.

If required these panes can slide to fill the entire screen so that more information can be seen and updated without losing the context of the main workflow screen. By building innovative Web-based user interfaces, our solution implements the concepts of "continuous user interfaces" to CSE systems where the user does not have the feeling of losing the context of a business process while accessing information that is spread across multiple screens, a common situation. Using sliding panes and other modern UI design techniques, the Protech Team designs optimal interfaces to enhance the user experience and the feeling of continuity across business operations.

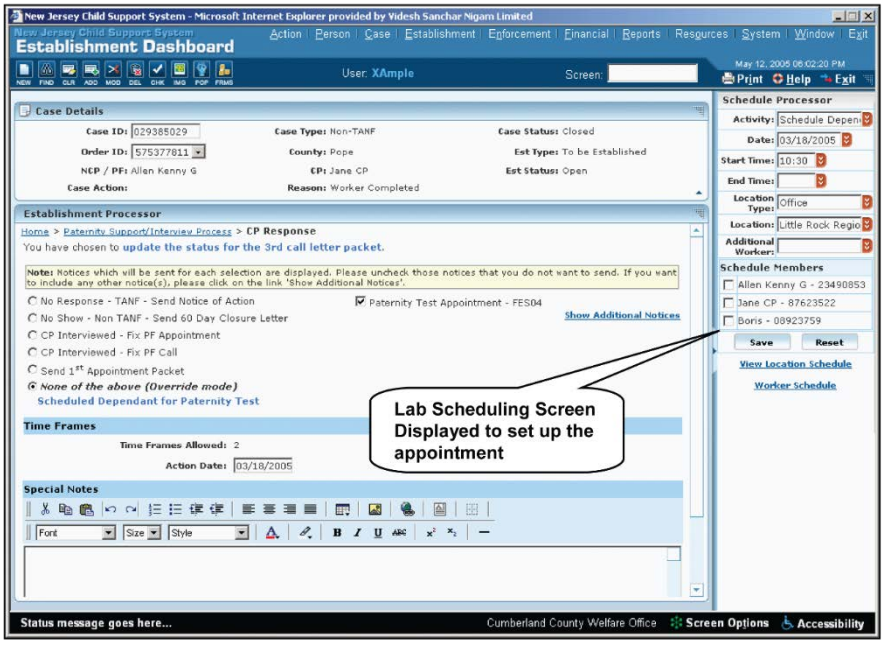


Figure 3.4 (2) - 61. Continuous User Interface

Example of a Sliding Pane, illustrating the concept of a continuous user interface. The right-pane expands to fill up the screen, or fill up half the screen and can compress, without losing the context of the screen

Over the past few years, the technology for collaborative communication using forums and secure instant messaging has matured and been commoditized to the point where it has industrial-strength reliability and can be used in serious, high-performance, operational contexts. The Protech Team has integrated such technology into its workflow systems to enable caseworkers, supervisors, and administrators to communicate securely and conveniently. This communication is associated with all levels of the workflow and is tagged to the case profile to allow easy extraction of such collaborative notes using search engines. Supervisory approval can also be recorded in this manner, and be made available as a comprehensive process history as shown in the following figure.

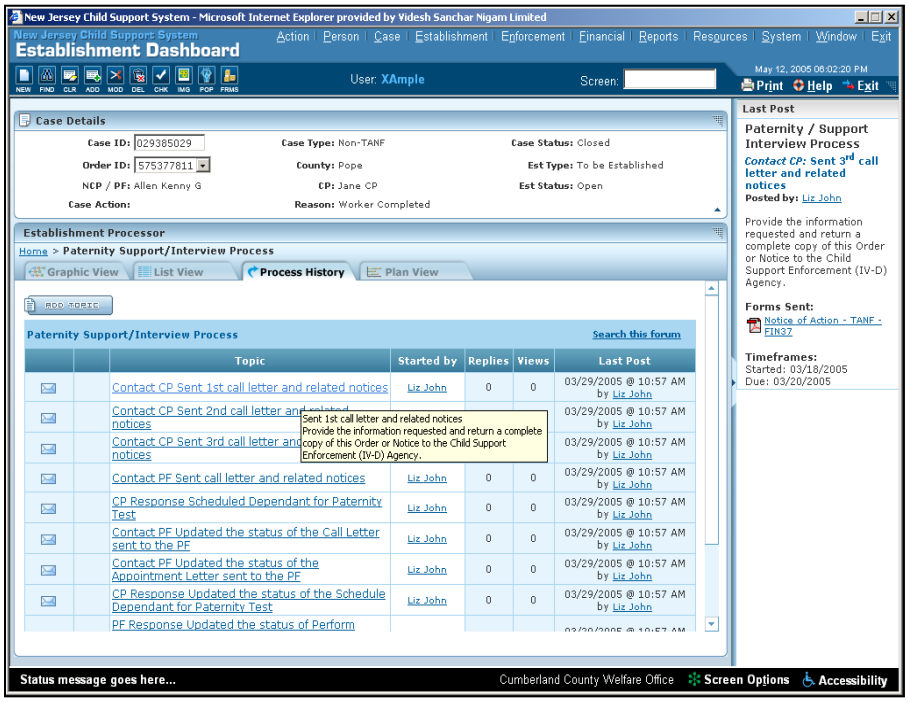


Figure 3.4 (2) - 62. Collaborative Communication

Many collaborative comments can be added for one Minor Activity if necessary. This promotes discussion, knowledge sharing, and a comprehensive record of notes for workflow actions. Advanced search is also available for these workflow actions

Activity Chains

The system interacts with a batch monitoring processor that processes batch steps based on online and batch inputs, including time-expired activities. This is the primary mechanism that is used by the Arkansas system for automated progression of workflows. The batch monitoring processor can also be called as a web service for online processing of workflows without creating case triggers.

Case Triggers

Loss or gain of case information (e.g., address, employer) can result in the automatic activation or inactivation of major activities. A batch program uses functional triggers to determine when a major activity needs to be activated or inactive based on the functional triggers. Where negative and positive information cancels each other, there is no action taken by the case processor. A parameter file controls the number of triggers processed. When required, the case trigger processors can also be invoked online to activate, reactivate, or inactivate workflows, on demand.

Screens for Major/Minor Activities Maintenance

The major and minor activities screens are illustrated below in the following figures. An additional feature is the existence of "activity groups," which are subsets of minor activities within a major activity. These groups provide visibility on the phases of a major activity and allow a better view of the progress of an activity chain for a major activity.

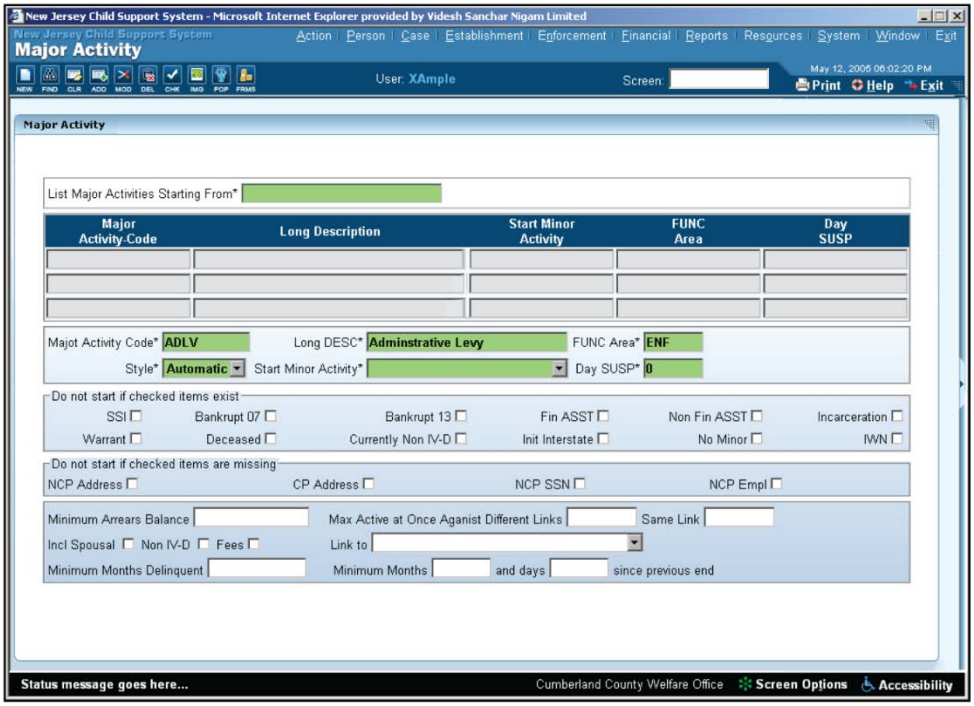


Figure 3.4 (2) - 63. Major Activities Maintenance

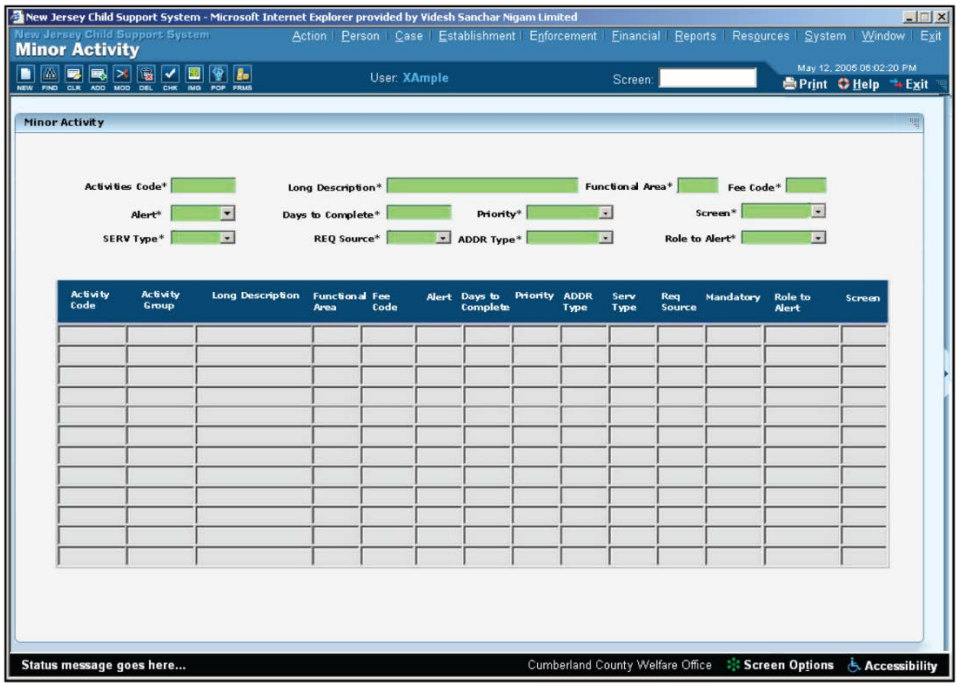


Figure 3.4 (2) - 64. Minor Activities Maintenance

Activity Code Reference Screen

The activity code cross reference screen, shown in the following figure, links major and minor activities with a reason code value. Currently, business logic is mixed with the values in this cross-reference table for

workflow, in that, the generation of notices is dependent on case parameters such as case type and establishment type. Thus, some of the minor activity codes are generic variables such as "NOTICE_" that are substituted during run-time with the correct notice, depending on the case parameters.

Such devices, while convenient to code, present challenges as they violate the architectural principles of separation of the business logic and database layers, are difficult to maintain, and spread the workflow logic into the database layer and stored procedures. The team's approach addresses these challenges through system enhancements to obtain the necessary notice IDs using a business component that evaluates the case and determines the requirements for form generation independent of the cross-reference table.

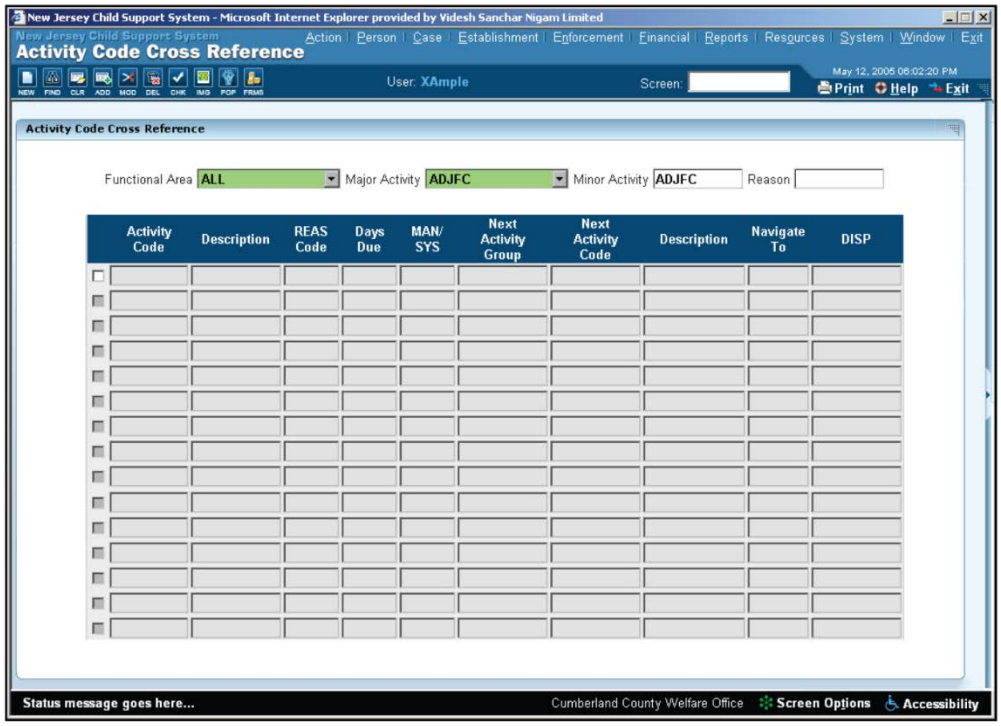


Figure 3.4 (2) - 65. Activity Code Cross Reference Screen

The Activity Code Cross Reference Screen links Major and Minor Activities with a reason code value

Based on the architectural principle of separation of workflow and presentation layers, the system uses a workflow business component to isolate workflow from the presentation, business logic, and database layers. All workflow functionality is integrated into one component. This approach, illustrated in the following figure offers the advantage of layering and the fact that these components can be viewed and maintained without concern about the impact on the database, front-end, stored procedures, and business logic. This approach also allows more scalability and flexibility, such as potential integration with fax and e-mail servers, other agencies, balanced scorecard systems and real-time reports, or using industry-standard enterprise workflow automation tools in the future.

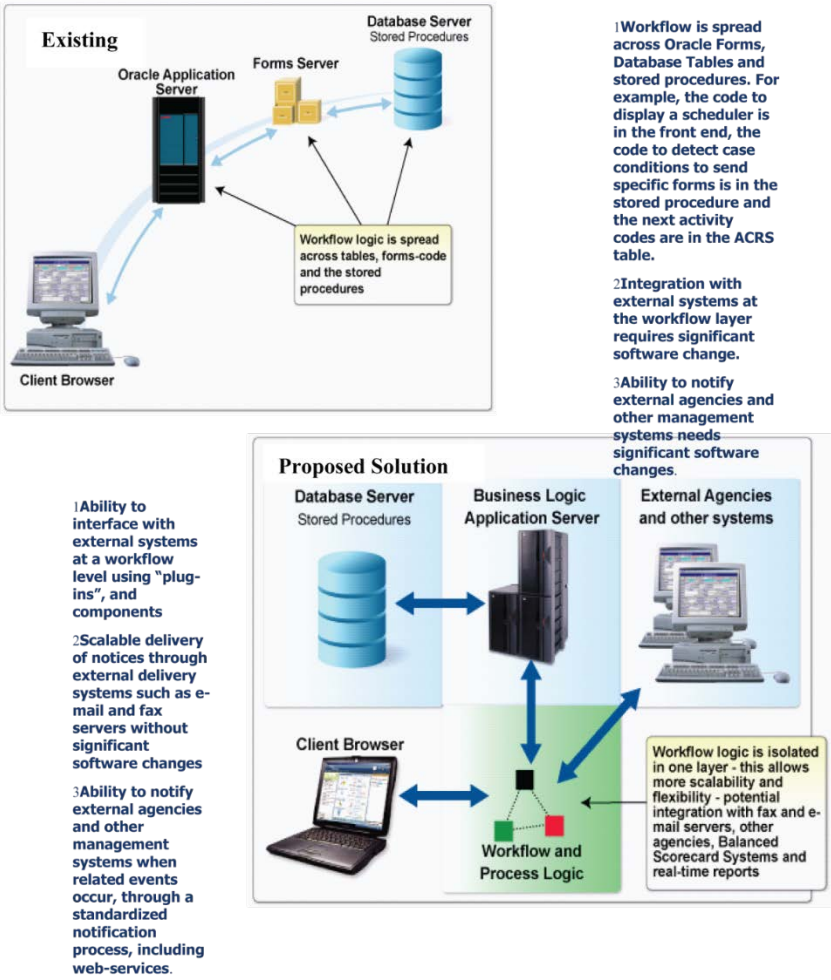


Figure 3.4 (2) - 66. Workflow and Business Process Layer

Isolation of the workflow and business process layer from other architectural layers

(2.4.10) Alert Management

REQUIREMENT: (#349) The system must include an alert management system with both action alerts and informational alerts. Action alerts require a worker to take an action or make an entry on the system. Informational alerts provide information to the worker but do not require an update to case data (e.g., a newly assigned case or new locate information received).

Protech's solution associates each event and trigger in a case's lifecycle with one or more alerts. These alerts can be either informational or can require a worker to act on a case. Each of these alerts includes explanatory subtext, links to the original event that triggered the alert and a help text that shows how the alert is to be addressed. Alerts are displayed for a worker and can be filtered by status, date range, category, subcategory, and description and can be shown in ascending or descending order. Alerts can also be grouped and sorted into worker-customizable categories such as "alerts for cases that are not paying for the past 60 days" or "alerts for cases where the cases have moved into assistance."

Our alerts solution allows workers to view current, historical, and overdue alerts using several filter options including but not limited to case and participant ids, office, district, worker, and overdue days. A summary of alerts and an aging analysis is also provided for convenience.

Alerts are assigned to caseworkers based on configurable assignment rules –assignments can be done manually, or automatically through system-assigned rules. These alerts may require the worker to review the case to determine the next step or action to take, or they may require approval by the worker or supervisor for the action that occurred and to be able to proceed to the next step or action.

REQUIREMENT: (#350) When the system reflects the completion of a required action for a case, the system must mark the alert as completed and automatically remove the alert from the work list.

When a required action is completed by a worker (such as reviewing incoming referrals or locate data) the system automatically closes the corresponding alert after marking it as completed. These alerts are also visible upon special request but are removed from the regular work list.

REQUIREMENT: (#351) The system must not allow workers to remove or dismiss action alerts manually.

Action alerts are created for caseworkers as to-do items and relate to specific actions on a case. Our solution does not provide removal or dismissal options for action alerts: the only way for these to be closed is for the worker to complete the corresponding action manually.

REQUIREMENT: (#352) Alerts must be stratified to prioritize worker actions.

As mentioned in our response to #349, we provide extensive stratification options for worker actions. These options are dependent on the roles of the workers: for instance, a locate worker has a different set of options than an enforcement worker. Performance stratification is the common thread in either case.

Caseworkers and supervisors can create personal "smart" folders for cases which they would like to track separately. All alerts for these cases would be within these smart folders. Users can also create smart-folders for "cases which have recently not paid well" or "cases with new employers." These custom conditions can be created by the caseworker.

By providing for customizable stratification, our solution offers unique advantages for CSEP and other stakeholders of the system.

REQUIREMENT: (#353) Every alert must contain the information the system needs to navigate to the exact spot the worker needs to resolve or review the alert.

When the worker selects an assigned action alert, the system automatically navigates the worker to the appropriate screens and components, along with an explanation of what action is expected of the caseworker, and where the required action can be performed. Upon completion of the action, the system immediately updates the alert as successful and removes it from worker display.

REQUIREMENT: (#354) Each alert must have a due date designed to ensure compliance with federal timeframes.

The attributes of an alert can be set by authorized users such as supervisors and system administrators. At the time of doing this, the attributes can include days to completion, from federal and state perspectives.

Time frames can be set of individual actions, groups of actions (an enforcement remedy, for example) and combinations of these. Inter-governmental time frames can also be recorded for those actions that relate to such cases, thus allowing multi-path tracking of activities, and reporting on those.

REQUIREMENT: (#355) Alerts that remain unresolved for a defined period must follow an escalation process, which may include alerting the supervisor at a point that will still allow the supervisor and worker to take corrective action before the end of the federal timeframes.

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Our solution provides for a customizable escalation process where overdue alerts are escalated to specific roles, a certain number of days before the due date, and to different roles after the due date. By implementing this feature, the solution provides maximum flexibility for alert escalation: anybody in those roles can receive the message and act to reduce delay in the implementation of the case actions.

REQUIREMENT: (#356) The system must direct alerts based on roles assigned within the system.

Our solution provides for role-based and individual assignments of alerts. When specific caseworkers (instead of teams) are assigned to a case, alerts related to the scope of the caseworker are sent to that worker. When roles are assigned to a case (ex. paternity establishment), then alerts are directed to workers in those roles. If a worker in that role is already working the case and a new alert is to be assigned for that role, the system can be customized to alert that caseworker, to ensure continuity directly.

REQUIREMENT: (#357) The system must be able to direct alerts either to a specific person assigned a role or to groups of people assigned a role.

Please refer to our response to requirement #356.

REQUIREMENT: (#358) Alerts can only be resolved by a worker with the role associated with the alert.

Alerts are visible only to the worker(s) who are assigned the alert. Only workers in the same role can work on an alert meant for that role. If the worker re-assigns the alert to another worker (due to leave, vacation or work overload) the re-assignment is recorded in an auditable log, and the other worker can see the alert. Our solution offers the ability for the re-assigned alert to be worked on by the second worker if that second worker is in the same role. The system is customizable to switch the role restriction on or off, for the second worker to work on the alert.

REQUIREMENT: (#359) The system must include edits to prevent alerts from being assigned to a worker if a conflict of interest exists between that worker and the case for which the alert was generated.

Our solution maintains a conflict-of-interest repository which indicates which cases are related to workers or other stakeholders who may have access to these cases. Edits are based on this repository, to restrict cases from being viewed by people with potential conflicts-of-interest. This repository is also used to restrict the assignment of alerts to people with a conflict of interest.

REQUIREMENT: (#360) The system must include the ability to restore alerts cleared in error.

A user can retrieve alerts which are cleared. This can be done by specifying a date range, and kind of alert. Upon retrieval, the user can uncheck the 'clear' checkbox to retrieve the alert.

REQUIREMENT: (#361) The system must present a filtered list of alerts for a case to allow a more concentrated organization of effort.

Our alert management system provides the following additional functions:

- *Priority-based graphical views of alerts by functionality, due date, user-assigned priority, and supervisor-assigned priority.*
- *Calendar views of alerts, to put the tasks on hand in perspective to other caseworker tasks.*
- *Drill-down access to knowledge management forums, including case notes, directly from alerts to inform a caseworker as to how other caseworkers handle such alerts.*
- *Ability to create user-defined folders to group alerts and handle them later or send them to other users.*

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- *Allow the capability to create annotations on these alerts and discuss them with other caseworkers through a forum interface, as well as enable quick-search and advanced search features for notes and alerts using text-based search criteria.*
- *A personal scheduler to fix times for review of specific alerts and creation of self-defined alerts for time management.*
- *Various aging reports for personal alert management.*
- *An audit trail of alert resolution available online*
- *Online caseload balancing among different teams and caseworkers.*

Our solution provides an alerts dashboard, which allows users to see their alerts at a glance and use a variety of features to filter and re-organize alerts. One implementation of such a dashboard in Arkansas is shown below as a representative example. Users can click on individual bars on the graph to work on specific kinds of alerts, reorganize their alerts into various personal folders (lower right) and create multiple reports. Extensive filtering, intelligent organization and pinpoint reporting are hallmarks of this dashboard.

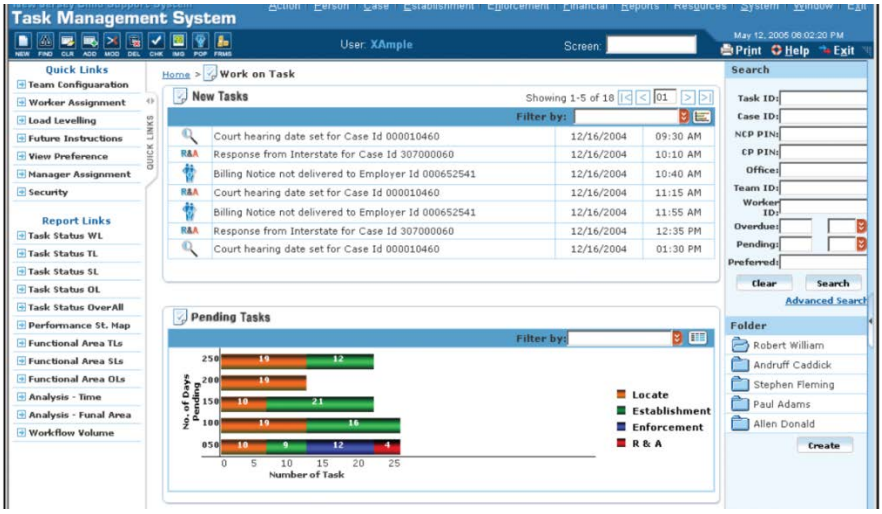

Figure 3.4 (2) - 67. Alerts Dashboard

REQUIREMENT: (#362) The system must allow authorized users to reassign alerts manually.

Please refer to our response to #358. While reassigning alerts, workers have the option of selecting an individual worker or a role. When selecting a worker, the system warns the worker of any conflict-of-interest assignments. When a role is selected, the system allows such reassignment if configurable business rules are met.

REQUIREMENT: (#363) The system must move case alerts automatically en masse upon case reassignment, caseload rebalancing, or role reassignment.

Our solution provides extensive re-balancing capabilities for case re-assignments. Supervisors use our solution to reassign cases for load-balancing, or when caseworkers go on vacation: this action results in the automated re-allocation of alerts to the new caseworkers, roles, and offices.

Protech's solution addresses the complex business requirements of online workload leveling and reassignment of tasks/alerts across different teams, different users within a team, and future assignments to caseworkers. This feature allows supervisory control of a workload and task reassignment in bulk or

individually. The reassignment is immediately and dynamically reflected in the case diaries of the enterprise system and recorded in the case process history.

The team supervisor, office manager, or task administrator, who seeks to redistribute the workload within a team or among various teams, accesses the system which retrieves data about all involved locations and parties. Information is displayed in a hierarchical structure. For each team within the office, the information includes team name, team's functional area, team supervisor's name, the total number of tasks assigned to that team, the total number of tasks pending, the total number of tasks overdue, and the total number of users assigned to the team. The authorized staff decides to select one or more teams for workload rebalancing.

The ability to simulate, view, and control the allocation and distribution of caseloads on a process dashboard allows Nevada to respond to changing workloads and new regulatory changes without software modification.

REQUIREMENT: (#364) The system must allow workers to view future alerts on individual cases and entire caseloads.

Please refer to our response to #361. The dashboard drills down to individual cases and caseloads. These alerts can be viewed in a spreadsheet format and can be exported into Excel or a PDF report.

REQUIREMENT: (#365) The system must allow authorized users to generate reports regarding alerts, including those due in the past as well as those due in the future.

Please refer to our response to #361. Our alerts dashboard allows for reports to be generated with a variety of views, online, as shown on the left panel of the illustration. These are task oriented and case-oriented reports with a variety of sorting options. Reports are available online and can be exported to PDFs and Excel.

REQUIREMENT: (#366) The system must provide the CSEP with the ability to add, modify, and delete alerts or alert conditions as program policies change.

Alerts are completely customizable for specified case actions. Using customizable business rules, the system provides the ability to add, modify and delete alerts. We ensure that deletion of alerts is not allowed if these alerts are currently in use. Deletion is 'logical' in that deleted alerts can be un-deleted. Authorized system administrators can add or modify alerts, their priorities, and assign-to roles, visible-to roles, pre-and-post due-date alert escalation.

REQUIREMENT: (#367) The system must log alert activities (e.g., responded, ignored, created, deleted) and provide the ability to generate audit reports based on those logs.

Every user action, including alert activities, is comprehensively recorded for audit purposes. These include information such as worker ID, timestamp, the action that resulted in response to the alert, newly created alerts and deleted alerts. Log activities are represented in a comprehensive reporting dashboard that allows drill down, answering questions such as "who closed the most alerts?" and "which case worker delays a lot more than others?".

REQUIREMENT: (#368) The system must have the capability of sorting and prioritizing cases needing attention or action by utilizing an evaluation schematic of data present on each case. This is separate from whether or not an alert is present on a case (assists with case stratification).

Our case tracking dashboard provides the capability of sorting and prioritizing cases needing attention. An expandable left panel provides the ability for users to customize the grouping and sorting of cases based on customizable performance metrics.

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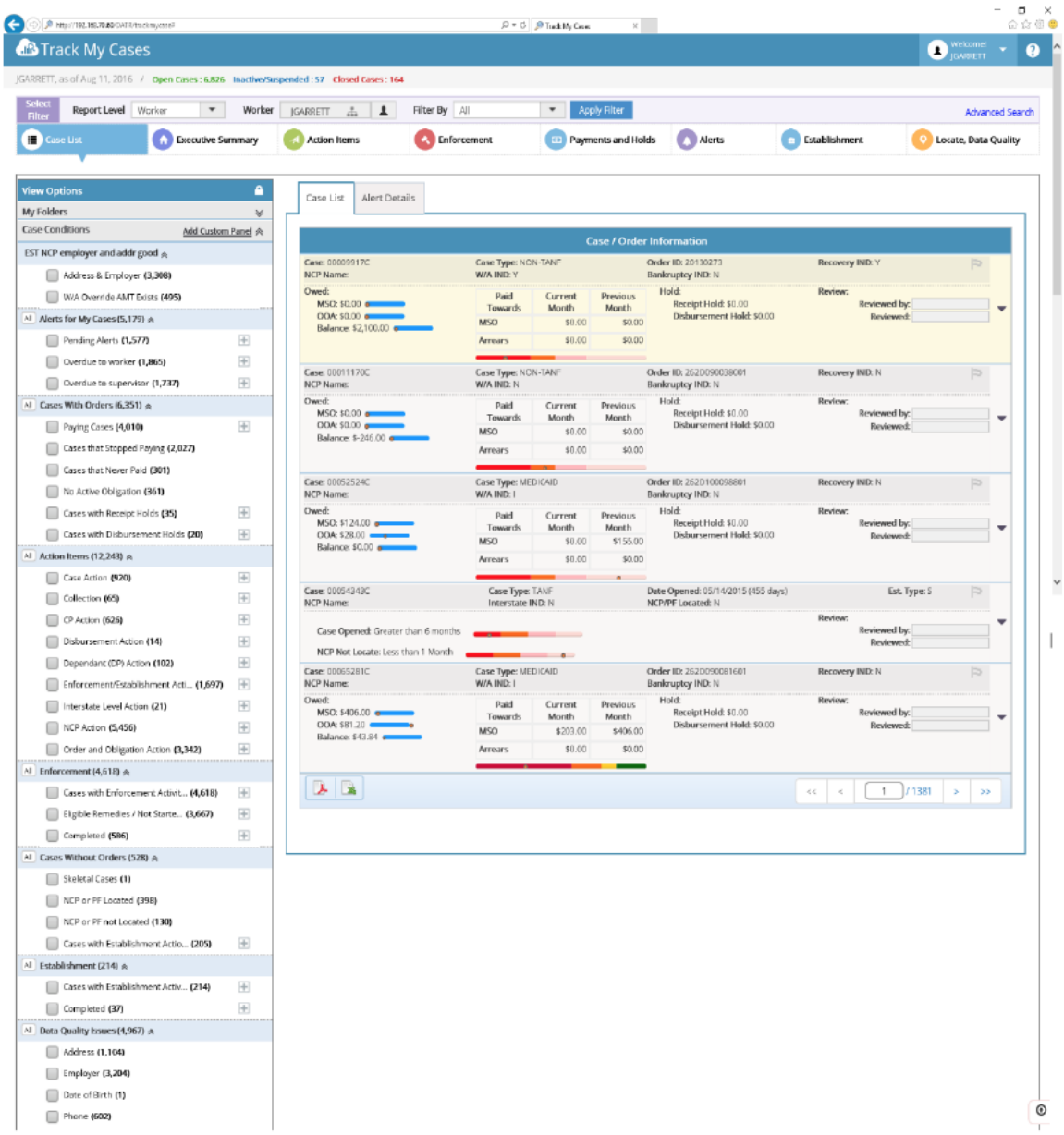

Figure 3.4.2.4-24. Case Performance Dashboard

REQUIREMENT: (#369) The system must monitor cases for changing circumstances and cancel or reformulate alerts based on changes in case circumstances.

An event processing component in Protech's solution constantly monitors any change to case data including additions, updates, and deletes. Depending on the kind of change, the event processing component initiates tasks and services that create new alerts (such as incoming employer alert, loss of mailing address, conditions satisfied for CSLN remedy). The tasks and services also evaluate current alerts for closure. Such alerts are displayed on the alerts dashboard and assigned to appropriate roles at the time of alert creation, delivered to the worker assigned to the case or the worker responsible for the next action in the workflow.

The flow of information for alerts notifications is presented here:

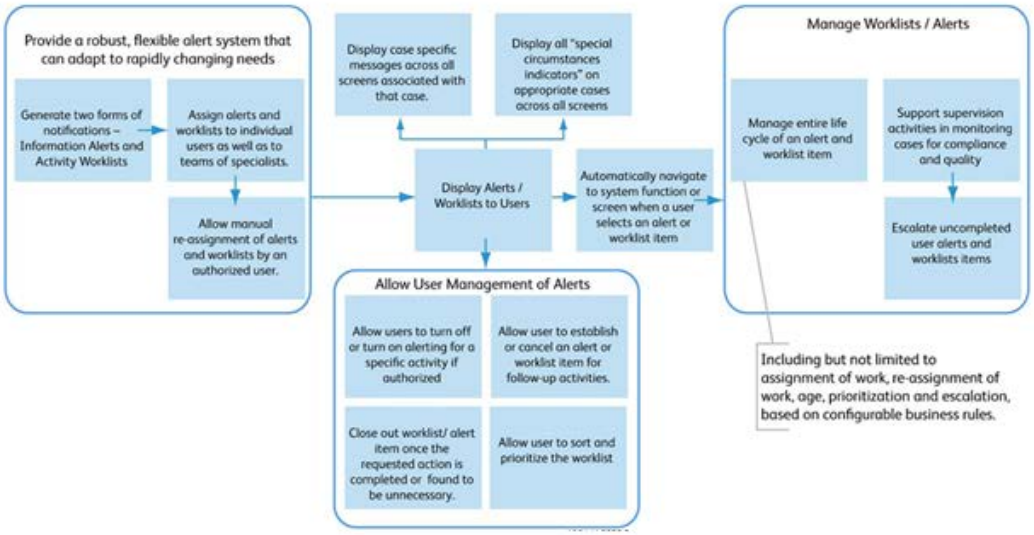

Figure 3.4 (2) - 68. Flow of Information for Alerts

REQUIREMENT: (#370) The system must maintain an audit trail for alerts showing how and when they are triggered, how and when they are resolved or canceled and that they have been viewed and by whom.

Please review our response to requirement #361. The dashboard provides an online view of the audit trail for how alerts are triggered, how long have they been waiting (aging analysis) and how have they been resolved.

(2.4.11) Document Management

REQUIREMENT: (#371) The system must be programmed to recognize situations requiring certain documents or notices and then generate the document without caseworker intervention.

Protech's solution will leverage the existing DWSS implementations of Thunderhead and FileNet for document generation and management. Using these tools, correspondence can be auto generated based on specific user actions initiated in NCSEAS or other DWSS applications, manually initiated by selecting a specific piece of correspondence from the document inventory, or triggered based on values and dates within the database or data warehouse.

As a web service, the Thunderhead solution will integrate API's into the NCSEAS application, make calls to the Thunderhead correspondence engine, facilitate necessary workflows utilizing IBM's Business Process Manager (BPM), store correspondence in FileNet, and present web pages for document editing via WebSphere. It will address any workflows that are needed around a piece of correspondence by providing task and process management, workflow control, and approval processing services to DWSS. Workflows are also a part of the Thunderhead correspondence engine and are used to facilitate correspondence creation and modification.

REQUIREMENT: (#372) The system must include or support a single document management system that will provide automated generation of documents as well as maintaining a record of documents previously generated with all associated user and systematic data.

Protech's solution will leverage the existing DWSS implementations of Thunderhead and FileNet for document generation and management. The Thunderhead engine supports the automated generation of

documents, in addition to manual completion of individual pieces of correspondence. These documents are then inserted into FileNet with appropriate indexing information and metadata that allows the document to be linked back to the case, person, or functional areas desired by the client. FileNet serves as the document repository, maintaining all documents and associated metadata. Thunderhead can be configured to deliver these documents to a FileNet Enterprise content management server or instead directly back to the business process manager for subsequent workflow.

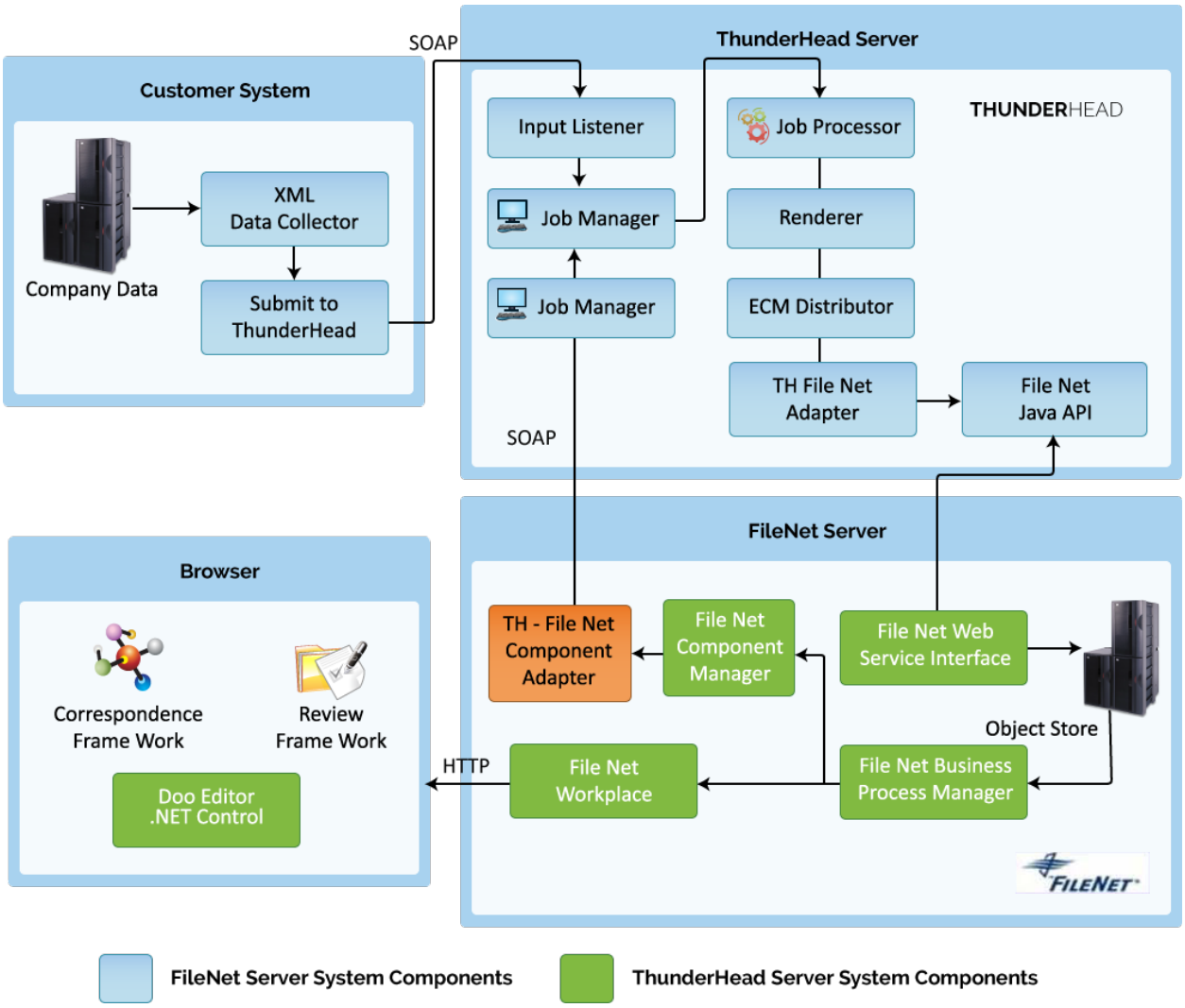

Figure 3.4 (2) - 69. Flow for Document Generation and Management

REQUIREMENT: (#373) The document management system must have a document library that incorporates all batch and online generated documents, including, but not limited to, all federally required intergovernmental documents.

Thunderhead allows users to create and store forms and documents for correspondence generation. Template authors and/or business users may select or search from a full library of forms and notices to fulfill any business need. Generated documents are inserted into FileNet, which offers a searchable repository.

The document templates created within Thunderhead are stored in a separate database/content repository of their own and can be modified by authorized business users without affecting the system code. Authorized business users have access to these templates via the Thunderhead desktop client, where they can view all

the templates (including all their versions) that are stored in the Thunderhead database and modify/create them as needed. Templates created in Thunderhead have their version maintenance which allows for older and newer versions to coexist within the same repository, so a user can always refer to a specific version if needed.

The Thunderhead library is organized in a hierarchical folder structure, with folders for projects, layouts, templates, shared content, and any other artifacts associated with the library. Security can be set for each folder to control who has read and/or write access to each folder.

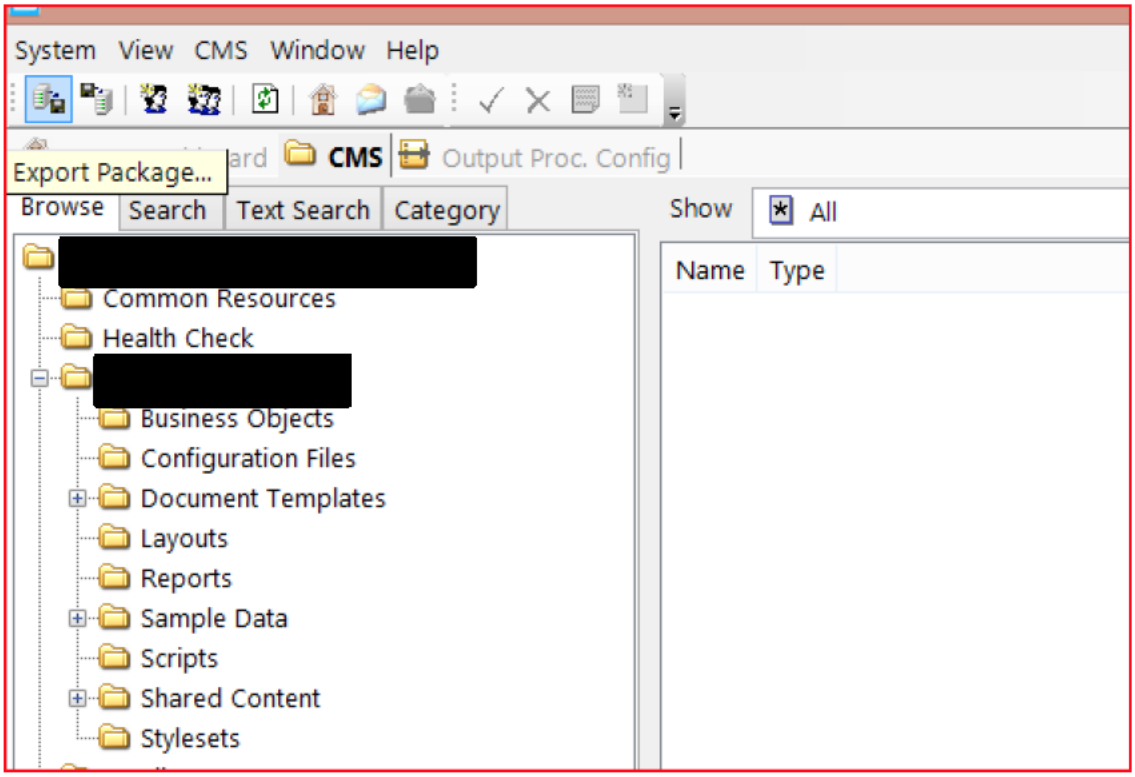

Figure 3.4 (2) - 70. Document Library Hierarchical Structure

REQUIREMENT: (#374) The batch documents must be linked to profiles of offices and staff for ease of maintenance of office addresses, staff names, and positions.
REQUIREMENT: (#375) The system must categorize each document within the areas of case initiation, locate, establishment, enforcement, accounting, intergovernmental, and correspondence.

Our response addresses these as a group. Documents generated from Thunderhead can include a QR code that links the document to any case, person, or case for ease of maintenance. QR codes are two dimensional and can store up to 7100 characters of information both vertically and horizontally, unlike traditional bar codes which can only store up to 20 characters of information. Within Thunderhead, these QR codes can be configured to contain any data available to the template. This freedom to choose the configuration would allow documents to be linked to various functional areas of case management as required.

REQUIREMENT: (#376) The document library must be easy to maintain when documents are added, changed or no longer used.

The Thunderhead library is easily managed. Content can easily be added for immediate use. Additionally, Thunderhead offers version maintenance which allows for older and newer versions to coexist within the

same repository, so a user can always refer to a specific version if needed. Within a template, the user can define effective dates which will allow the template to take effect within a specified time. This versioning is provided not only at the document level but for all artifacts (headers, footers, images, etc.) as well. Additionally, the built-in repository implements a check-in/check-out paradigm.

REQUIREMENT: (#377) Authorized users must be capable of performing the maintenance within the document library without assistance from technical staff.

Thunderhead was architected for use by non-technical business users with minimal training. Providing a word-like editing environment, familiar buttons and features can be quickly leveraged. No specialized skills are required, and templates can be easily accomplished by business (non-technical) staff.

Thunderhead is easily customizable regarding security and authorizations to allow maintenance without intervention from technical staff. Documents and other artifacts are stored in a content repository, which is hierarchical folder based, so you can mirror your business lines within the content repository (folder structures for each group/department). The folders can have security applied so even though the systems are using one repository, if desired, different groups or departments would not have access to each other's templates based on predefined user roles. Assets such as headers, footers, logos, or paragraphs can be designated as shared content and stored in a commonly accessible folder. Shared content is created once, and dynamically included in correspondence, significantly reducing maintenance efforts.

Thunderhead utilizes a role-based security model where users can be members of groups or assigned specific roles.

All users can be members of one or more groups. Authorization to modules, functions, and entity instances (e.g., to a specific folder or project) is always granted at group level, therefore individual users can access resources only through membership of a group. If a user is a member of more than one group, where any group confers a right the user will inherit it. Users accumulate rights from all the groups to which they belong, whether any individual group confers the totality of those rights.

REQUIREMENT: (#378) When the system does not have sufficient information to complete the document, it must populate as much data as possible and present the incomplete document to the worker for completion.

The Thunderhead solution also includes an interview capability, InterviewNOW, where a series of dynamically generated screens guide an interactive session for gathering data which may be missing, but necessary to complete the document. The interview forms are pre-populated with known data, and missing data is collected during the interview. Once the interview is completed, the correspondence is generated (or a draft) and the new data is made available to update your systems of record (back-end systems).

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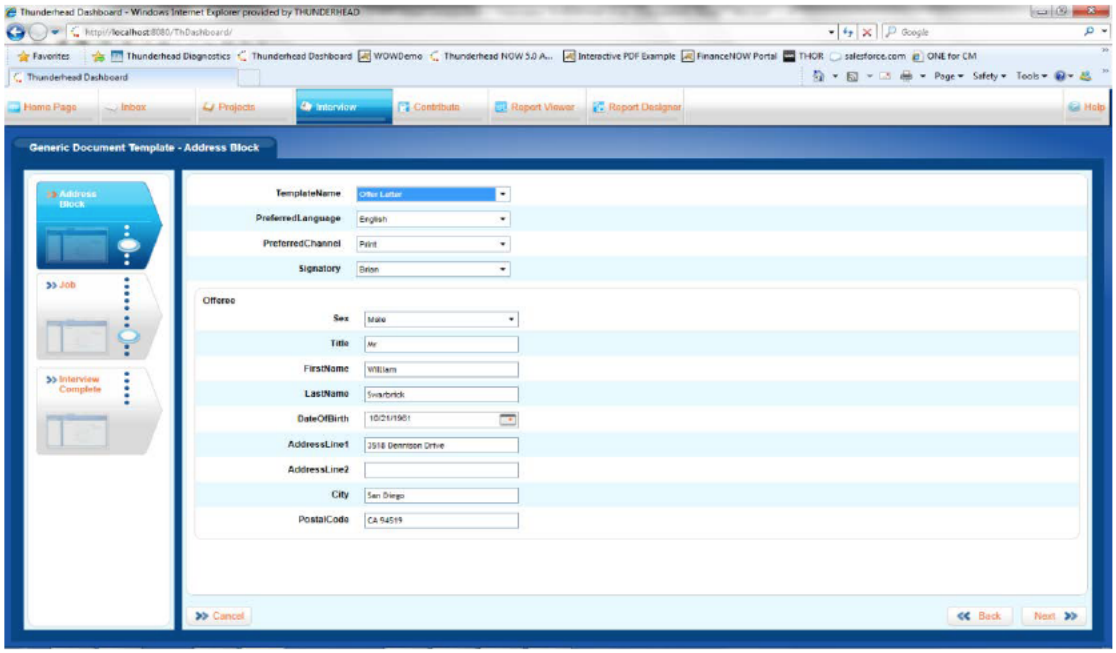

Figure 3.4 (2) - 71. Sample Guided Data Collection Screen (InterviewNOW) in Thunderhead

In production, a user will be able to initiate a piece of correspondence through the NCSEAS application which will call the BPM software through its API and create an instance of a document workflow for a given worker, case, and piece of correspondence. Once the workflow instance has been created, the BPM software will be opened via a NCSEAS call. Upon loading, the BPM software will pass relevant document information to a Thunderhead editing window via XML and the Thunderhead API.

The editing window will be displayed to the user, and the relevant information will be placed into the correspondence based on the templates design and business rules. Here the user can leverage Thunderhead document editing and updating functionality, as a service called through the BPM, to handle document generation. Upon completion and delivery of the piece of correspondence from Thunderhead, the BPM will make a rules-based decision about the destination of the document based on predefined settings, or if authorized, selected by the user and whether the document needs to be approved based on the user's level of access.

If based on predefined rules, approval is required before completing a piece of correspondence, and if the user does not have the proper access, the newly created documents will be sent to an assigned supervisor within the BPM that has the authority to approve the documents. If the documents are finalized, the BPM will take the completed documents from Thunderhead and store them into FileNet, which provides document storage and indexing services.

These items of correspondence can be created in draft mode for editing, routed via workflow, and in batches of 1 to unlimited numbers. Batches can be automated to run at specified times to produce correspondence in any desired output (print, PDF, email, SMS, etc.) and sent to FileNet for document management.

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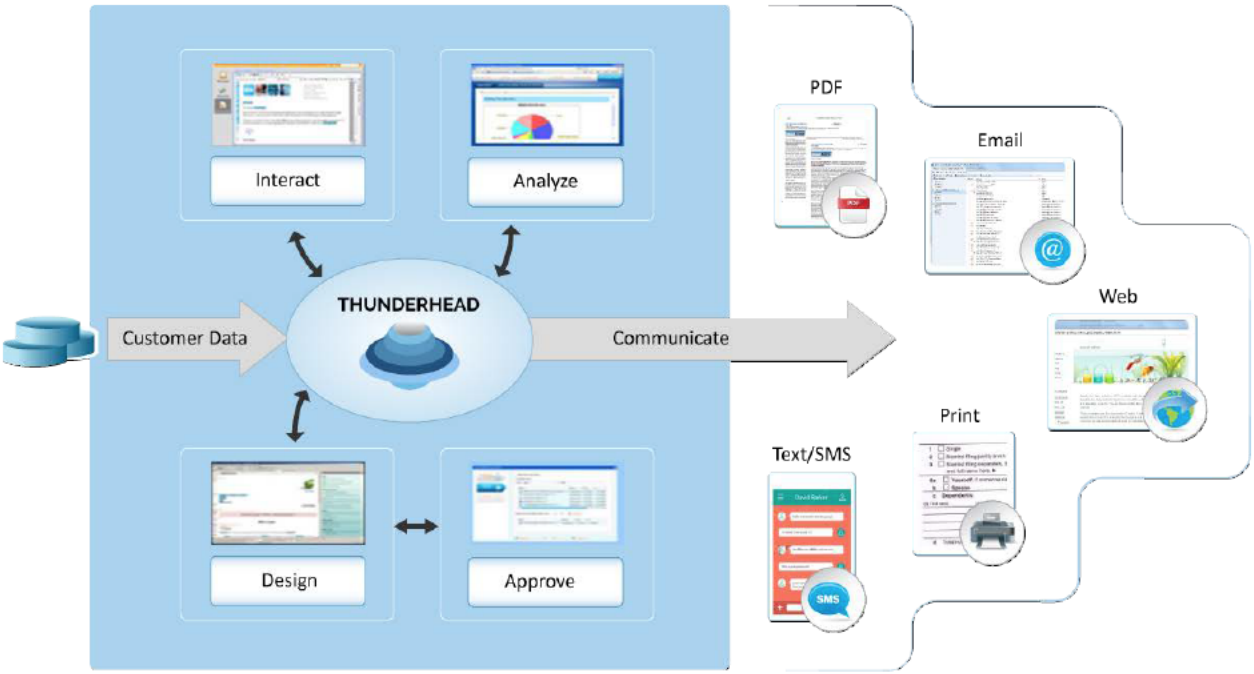

Figure 3.4 (2) - 72. Data Flow Capabilities in Thunderhead

REQUIREMENT: (#379) The system must maintain a record of every document generated within the system as part of the case history.

Thunderhead offers the ability to print to the archive channel, which when enabled, ensures every document generated is deposited into FileNet, the document management system. Thunderhead provides direct, automated access to the storage and retrieval of artifacts (documents, images, etc.) from the FileNet system. All user's actions are recorded in a log file and can be audited and reviewed on demand. Actions such as who generated correspondence, when it was generated, and what was generated, are all easily recoverable. Also, actions not accomplished which should have been accomplished are also recorded.

REQUIREMENT: (#380) Documents must be available for reprinting if necessary.

Documents generated in Thunderhead are sent for archival in FileNet and can be reprinted at any point in time.

REQUIREMENT: (#381) Each document must be capable of including a bar code to allow automated routing of images to workers when the returned document is scanned.

Thunderhead supports all bar codes, and these can be based on any data available to allow automated routing and workflow. Bar codes such as 5 of 9 and 3d are all supported via fonts.

The Thunderhead solution currently in production at DWSS uses QR codes. We propose that the NCSEAS uses these QR codes over the traditional one-dimensional barcodes because QR codes are two dimensional and can store up to 7100 characters of information both vertically and horizontally unlike traditional bar codes which can only store up to 20 characters of information. Within Thunderhead, these QR codes can be configured to contain any data available to the template. This freedom to choose the configuration would allow us to make sure that no sensitive information goes into the QR code.

REQUIREMENT: (#382) The document management system must include an address hierarchy for each document type which defines the recipient(s) (e.g., custodial party, noncustodial parent, or attorney) and the address to which it must be sent (e.g., residential or mailing).

The NCSEAS online transaction DB2 database stores the addresses of the respective noncustodial parent, custodial parent, employer, attorney recipients. The document generation system will use the common address hierarchy algorithm to determine the appropriate address for the associated recipient and document type that are stored as configurable parameters.

REQUIREMENT: (#383) In addition to the address hierarchy, each document must have specifications regarding printing (e.g., local or central) and mailing (e.g., regular first class or certified).

Specific output processing can be applied to printed material which can include but is not limited to, bar coding and mail sorting, for bulk rates and cost optimization. Thunderhead allows printing specifications, such as local or central, and mailing specifications, such as regular, first class, or certified, to be set in the output channel, using a batch configuration file. Then any document sent through this channel will have those specifications applied when that document is generated.

REQUIREMENT: (#384) Documents must be designed to prevent the disclosure of Personally Identifiable Information (PII) by federal and state policies (such as in cases with domestic violence).

Documents generated by Protech's solution will use the UPI (Unique Person Identifier) instead of the person's SSN. Documents will be designed in conjunction with the State before they are developed in Thunderhead to ensure that no PII is disclosed by federal and state policies. Additionally, Protech understands the importance of securing personal information and will work with DWSS to identify data and correspondence which would require encryption. Necessary steps will be taken to ensure full compliance with DWSS requirements. Also, it is important to note, the Thunderhead solution does not retain any transactional data, and the system will operate inside the state's firewall and DMZ. Protech understands this requirement and will fully comply.

REQUIREMENT: (#385) The document management system must also accommodate case conditions that may require special processing for documents, such as family violence or threats to the agency.

Documents generated from Thunderhead can include a barcode and/or metadata that links the document to any case, person, office, or functional area. Additionally, this metadata can flag the document for special processing. Specific output processing can be applied to printed material for consideration towards certain case conditions. Thunderhead allows these printing specifications to be set in the output channel, using a batch configuration file. Then any document sent through this channel will have those specifications applied when that document is generated. FileNet can be customized to read the data in these barcodes and automatically route a document to the desired area.

REQUIREMENT: (#386) The system must leverage a client communication system and utilize electronic forms of communication when possible and preferred based on client profiles.

Protech's document generation and management solution use Thunderhead, which supports full multi-channel output as required here, as well as other channels such as XML and SMSText. Thunderhead supports output correspondence in one or many channels simultaneously. Email, HTML, Print (AFP, Postscript to name a few) SMS Text, XML, and PDF are supported.

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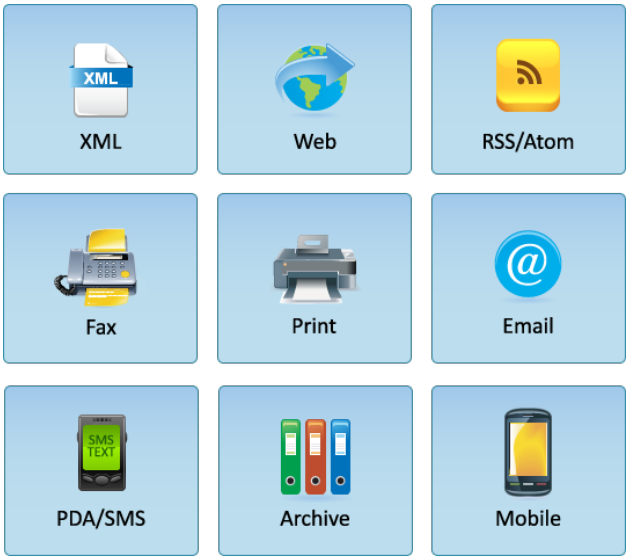

Figure 3.4 (2) - 73. Output Channels Supported by Thunderhead

Also, full email output is supported. Addressing can be done automatically, and multi-recipient addressing is available as an out-of-the-box feature (e.g., one copy to the client and one to archive which might include a watermark noting archive). Email, once generated, is relayed to your email server for delivery.

Figure 3.4 (2) - 74. Multiple Output Capabilities Using a Single Template

REQUIREMENT: (#387) The system must support both central and local printing of documents.

With Protech's proposed document generation software, Thunderhead, correspondence generated during the day can be immediately printed at a local printer or can be batched up and handed off the mail room for batch central printing.

REQUIREMENT: (#388) The system must have a displayable audit trail for the entire lifecycle of each document.

The Thunderhead solution provides direct, automated access to the storage and retrieval of artifacts (documents, images, etc.) from the FileNet System. All user's actions are recorded in a log file and can be audited and reviewed on demand. Actions such as who generated correspondence, when it was generated,

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and what was generated, are all easily recoverable. Also, actions not accomplished which should have been accomplished are also recorded.

(2.4.12) Obligation Review and Adjustment

REQUIREMENT: (#389) The system must monitor and identify cases to support the State's review and modification procedures.

Our Solution monitors for cases that meet the criteria for review and adjustment based on state and federal guidelines.

As with other case processing functionality in the system, the review and adjustment workflow monitors due dates and automatically moves a case through the defined sequence of activities by the mandatory time frames within the R&M workflow. The workflow manager component tracks due dates for required actions and automatically generates documents necessary to advise the parties of the action. A due date for each time frame is established. The following screen illustrates the screen that a worker would use to move the workflow through the hearing steps of the R&M process. This is followed by a description of the implementation of this workflow in one State.

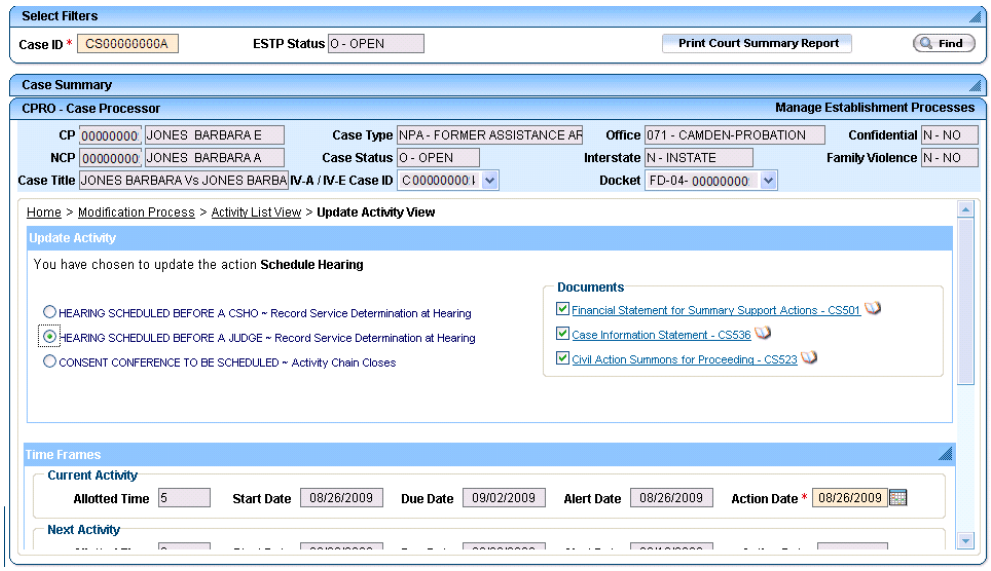

Figure 3.4 (2) - 75. Example of a Case Processor Screen

If the system review of the support obligation determines that the case should proceed with a review of the support modification, the system produces the documents necessary to commence and complete the court action.

For TANF cases the notice of a right to review at least once every three years generates at the original issue date of order. At each review occurrence, whether the review goes forward or if the review is determined to be unwarranted, a right to review notice is generated at two years and eleven months. This also records in the automated case history. The notice of the review is sent to both parties. This is an illustrative example and will be updated based on Nevada's specific requirements.

For non-assistance cases, cases where review is requested, and those assistance cases with approved good cause, the system automatically generates the initial notice with a worksheet to both parties that the case is eligible for review and adjustment.

The non-assistance parties and assistance parties with good cause have 30 days to respond to the notice and request a review. If the parties to a non-assistance case and an assistance case with good cause do not respond within the 30-day period, the system automatically terminates the review and adjustment activity.

For current TANF cases, the triennial review and adjustment process is mandatory. Our solution monitors and tracks the time frames for cases automatically and manually selects them for the review and adjustment process to be completed within 180 calendar days.

Should the non-requesting party be at a "not located" status at the time the "initiate the review" is recorded in the system, the beginning of the 180-calendar day period to conduct the review is postponed until the location status of the non-requesting party is moved from the "not located" status to the "located" status. The system sends the worker an alert when the non-requesting party is located.

The review and adjustment of support obligations when either party resides out of state is handled as all other cases requiring possible interstate case action and by federal statute and Nevada's defined business processes. The order is assessed for continuing exclusive jurisdiction to determine how the case proceeds and whose review guidelines are applicable. A CSENet transmittal can be initiated through the system if it is determined that another state must pursue the review and adjustment process.

The system records all activities and documents within the chain of actions including the resulting adjustments to the obligations, the addition of health insurance information or the reason that review and adjustment is not being sought. Our solution generates the documents to notify the CST and NCP, and/or their attorney of record, of all proceedings where child support might be modified. Whenever a determination is made not to pursue the adjustment process, the process must be closed with an explanatory reason code.

REQUIREMENT: (#390) Whenever possible, the system must automatically initiate the next step in the review and adjustment process without being prompted by the caseworker. The system must automatically:

- Generate documents and notices
- Accept, edit, and verify information and data from various sources
- Refer cases to automated interfaces with location sources
- Identify and refer cases for FPLS and SPLS submittal
- Flag cases for potential review and adjustment of support obligations
- Direct cases to the next appropriate processing unit once action is completed in a unit
- Take any other actions that the system can initiate automatically

The workflow management design monitors the flow of cases through the completion of functional tasks and specific activities within those tasks. The workflow manager component reviews case conditions across the system to evaluate case and participant conditions, identify needed actions and track due dates for activities in progress. These programs assess an array of case conditions, statuses, and events based on configurable business rules. The specific requirements referred by Nevada are handled by the workflow processor including document generation, verification, identification of cases and referral to locate, enforcement, referral of arrearages to credit bureaus, generation of delinquency reports, flagging for review and adjustment, processing and distribution of collections, and direct to next processing unit.

REQUIREMENT: (#391) The system must support the review and adjustment process with linkage to the guideline calculation application and the generation of the appropriate documents.

REQUIREMENT: (#393) The system must collect income, asset, employment, and health insurance information through automated interfaces. Provides means for entry and edit of data received (including the input of manually obtained financial information), both from interfaces and financial affidavits received from other sources.

If the system review of the support obligation determines that the case should proceed with a review of the support modification, the system produces the documents necessary to commence and complete the court action. For PA cases, this includes a notice to the CST and NCP indicating a proceeding has been initiated

which might result in changes to the support obligations. To process this workflow, the system retrieves information including income, assets, employment and health coverage are retrieved through automated interfaces and manual entry. The caseworker uses the validated data to update a guidelines document that is available through an online guidelines calculator, to determine the adjustment. Notices are generated to the CST and NCP informing them of the outcome of the preliminary review of the income. The workflow tracks their response to identify if the adjustment was accepted by both parties or if a participant wants a court hearing. According to the response, the next activity is automatically initiated.

REQUIREMENT: (#392) The system must perform case monitoring to ensure that case actions are accomplished within required timeframes.

The review and adjustment workflow component monitors due dates and automatically moves a case through the defined sequence of activities by the mandatory time frames within an activity chain. The workflow component tracks the due dates for required actions and automatically generates documents necessary to advise the parties of the action. A due date for each time frame is established.

REQUIREMENT: (#393) The system must collect income, asset, employment, and health insurance information through automated interfaces. Provides means for entry and edit of data received (including the input of manually obtained financial information), both from interfaces and financial affidavits received from other sources.

Please see our response to #391 above.

REQUIREMENT: (#394) The system must be capable of supporting the review and adjustment of support obligations when either party lives out of state or has a tribal child support court order.

The review and adjustment of support obligations when either party resides out of state is handled as all other cases requiring possible interstate case action and by state and federal statute and Nevada's defined business processes. CSENet/UIFSA notifications are sent, and responses received where CSENet/UIFSA is applicable.

(2.4.13) Case Closure Management

REQUIREMENT: (#395) The system must routinely monitor cases and financial data for potential case closure.

Our process manager component plays a vital role in handling the workflow for cases eligible for closure. The system automatically selects IV-D cases eligible for closure under federal and Nevada closure requirements. The following flow represents how our process manager determines and monitors the case closure process.

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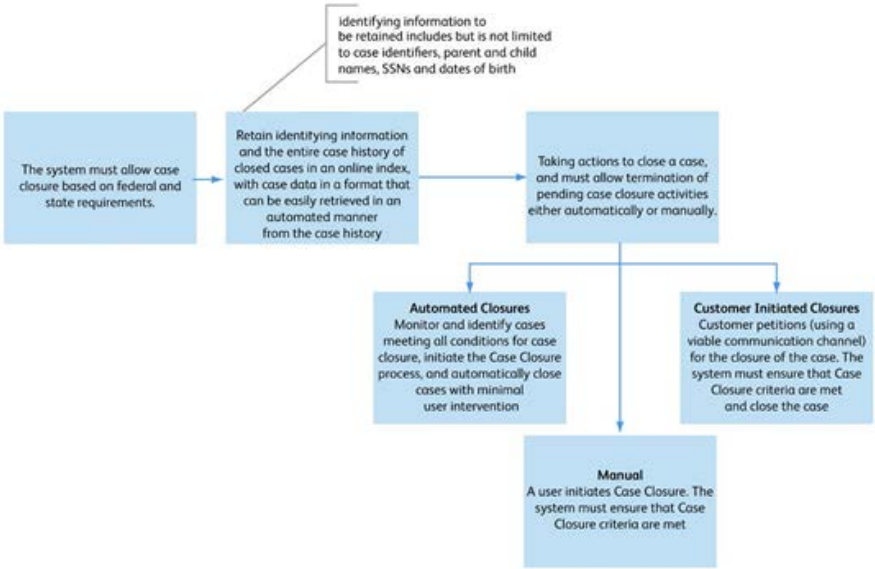

Figure 3.4 (2) - 76. Process Manager Flow

REQUIREMENT: (#396) When case data suggests closure action, the system must initiate the case closure process or alert the worker to review the case.

Automated case reviews validate the eligibility of the applicable case data matched to the specific reasons selected for closure. Additionally, the system provides a case closure checklist that presents a consolidated view to the worker of the various data elements that are relevant to closure as configured based on requirements and business process flows.

REQUIREMENT: (#397) The system must generate all documents necessary to support the closure process.

For those reasons that require 60-day closure notification, the system monitors the case for 60 days after notifications are sent for receipt of new information or receipt of an objection to close. The case and all open activities are closed at the end of the sixty days if no action is taken.

The system automatically removes a case from closure if new information is received before closure resulting in the case closure criteria no longer being met. Workers perform an informal administrative review for case closure if an objection to closure is received. The supervisor removes the case from closure. At any point, a case closure process has been initiated and is then stopped before the case is closed, the system notifies the CST, NCP and, if applicable, the other state or agency, that the case is not closing and provide the reason for the decision.

REQUIREMENT: (#398) The system must monitor the pending closure and implement it at the end of the regulatory timeframe unless reversed by staff.
REQUIREMENT: (#399) The system must prevent the worker from reversing an automated case closure more than twice without supervisory approval.

Selecting the option to close the workflow chain ends the activities associated with that instance of the workflow. Although, if a case is removed from the case closure process after closure notification has already been sent, the system generates a letter to the CST, NCP, and if applicable, the other state, informing them the case is not closing and providing the reason why. Upon such reversal, if the automated case closure processes re-determines the case as eligible for closure and the case is once again re-opened, our system will be designed to prevent this if supervisory approval is not met.

Protech's solution can automatically identify all IV-D assistance and non-assistance cases eligible for closure based on federal case closure conditions as provided in 45 CFR 303.11(b) (1-12) and based on state requirements provided by Nevada. The system allows closure of these cases upon confirmation of the eligibility.

Other system solutions implemented by Protech have included this functionality as a part of a weekly eligibility batch program that identifies cases that meet the criteria as configured in the system. The appropriate user is alerted by the system regarding the selection of the case for closure review and is provided with a case closure checklist to assess the status of case conditions before proceeding with a recommendation for closure or stopping the case closure action.

Protech's solution automatically selects cases eligible for closure through a regularly scheduled process. Once identified, the system automatically opens the case closure workflow and generates an action alert to the worker. Upon selecting the alert, the worker is shown a case closure checklist for review, displaying case conditions to assist in the decision of whether to approve or reject the case for closure.

Case closure action requested through a valid customer request results in a worker using the case management case closure activity chain to initiate case closure per the customer request. As with the other case closure reasons, once the case closure activity is initiated, the system takes the case through the chain of activities that include a review of the case data to validate eligibility. Requirements validation and design sessions ensure that the eligibility is based on Nevada-specific requirements and from federal sources.

REQUIREMENT: (#400) The system must prevent the worker from moving forward with case closure prematurely or inappropriately.

Workers access the case closure workflow online, and can manually initiate or close a case closure activity chain. Initiation of the chain results in the case moving through the chain of activities that include validation of eligibility for closure based on the conditions specific to the case closure reason selected. The system will not allow caseworkers to close cases prematurely – it will display an error message. In some states, we have implemented the ability for closing the case as result of a worker override, which is audited and reported.

REQUIREMENT: (#401) The system must provide a simple and effective means to reverse the closure process when new information becomes known.

A reversal of case closure can be done in our system, either automatically or manually. When new information arrives into the system that invalidates case closure, the workflow processor automatically updates the case closure workflow and reverses the case closure without worker intervention. When a worker chooses to reverse case closure online, she goes to one location and unchecks a checkbox which reverses case closure.

REQUIREMENT: (#402) When closure action is deferred, the system must not select the case for closure again until the worker specified number of months has passed.

Case closure conditions are constantly monitored for all cases. One of the conditions is that the case closure must not have been manually deferred within sixty days. This timeframe can be changed through the customization of the case closure business rule.

REQUIREMENT: (#403) Identifying information on closed cases including, but not limited to, parent and child names, SSNs, and dates of birth, must be retained on the system in an online index, with all case data maintained in an automated format that can be easily retrieved in an automated manner from the archived history file.

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All information on a case is retained even after the case is closed. They are available in the same format as a regular case, and we provide online access to archived cases through a database of closed cases that has the same structures and UI as at the time of closure. Thus, this information can be easily retrieved in an automated manner.

REQUIREMENT: (#404) Closed cases must retain all their data and history.

Please refer to our response to #403. As with any case, open or closed, all data is retained along with their history.

REQUIREMENT: (#405) The entire history file of a closed case must be retained in an easily accessible automated manner for at least three years.

Please refer to our response to requirements #403 and #404.

(2.4.14) Intergovernmental Case Management

REQUIREMENT: (#406) The system must support central registry functions to route or electronically transmit correspondence and documents to the appropriate office staff.

Our processes for interstate cases (including tribal and international cases) emulate in-state case processes in a large extent to reduce duplicative services within the system and additional training needs for interstate cases. The difference is case processing consists primarily of the generation of CSENet transactions/UIFSA transmittals and the applicability of certain enforcement remedies/establishment actions. New referrals from CSENet are matched with in-state participants to ensure that other cases with the same participants in the same case construct do not exist within the system before case creation. Based on configurable business rules, some of these referrals are passed onto caseworkers in the central registry for review, and further processing through the standard review and the case create process. For instance, quick locate requests are automatically processed without caseworker intervention, while establishment/enforcement requests result in the creation of cases and assignments to caseworkers.

Interstate request initial processing functions that are to be centralized can be configured to be assigned to central registry staff rather than to local offices. Configuration rules can also be implemented to maintain central registry as primary caseworkers for the duration of the interstate case if this is the model that DOR chooses to adopt.

Regardless of whether the assigned worker is based in the central registry or a local office, interstate cases in our solution are processed through similar workflows as in-state cases, with additional functionality to provide regular status updates to the other state through CSENet transactions or UIFSA notices. Workflows for in-state cases are based on same configurable business rules and meet a variety of requirements as provided in the case management, establishment, and enforcement sections.

For case creation based on new referrals, our solution uses configurable user assignment rules to route cases to caseworkers across the State. These rules are based on functional routing (such as, locate, establish, enforce) and on caseload balancing/alpha split routines. For each incoming referral type, our solution provides the ability to indicate the required information, attachments, and data elements to process the referral. This information is configurable and is used by our solution to determine if the information received is sufficient to process a referral. If so, the system automatically forwards the case from the central registry to the appropriate child support unit based on configurable business rules. If the information is not sufficient, our solution interacts with the initiating state to send appropriate information through automated workflows and common tracking mechanisms.

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An illustrative process flow of interstate cases in our solution is provided below:

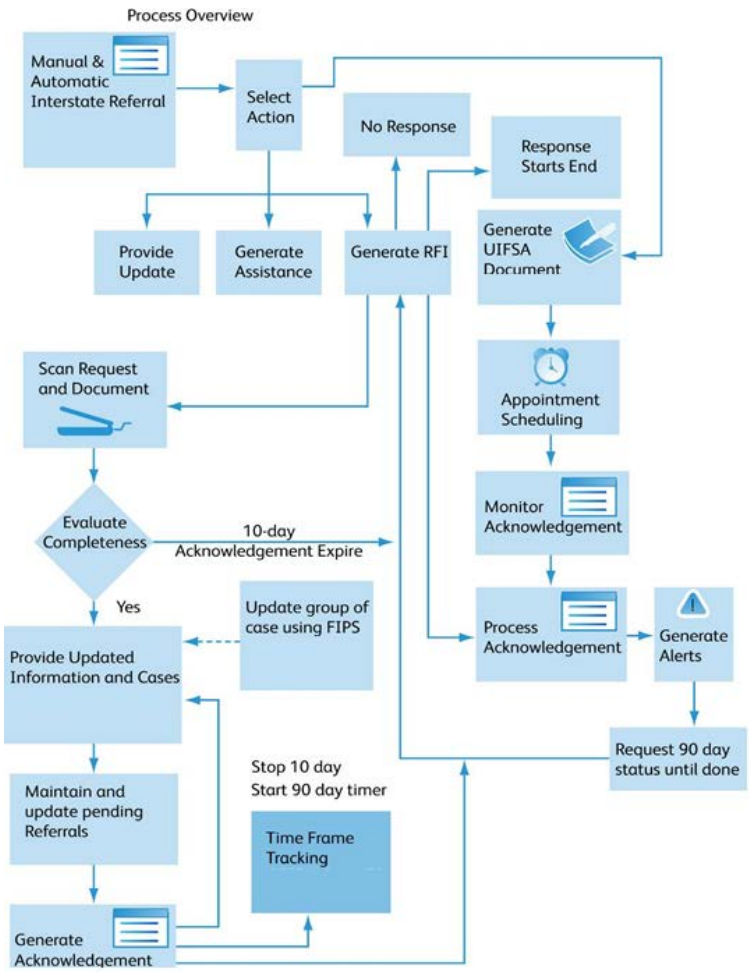

Figure 3.4 (2) - 77. Interstate Case Process Flow

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REQUIREMENT: (#407) The system must monitor intergovernmental case and financial data providing automatic updates to other states via CSENet and / or UIFSA notices.

Interstate monitoring is based on the standard case monitoring and alert components of our solution as described in our response to requirements in alerts management, case management monitoring, and workflow management sections of the requirements.

Protech's solution sends task messages to ensure that activities requiring casework decisions are completed within the pre-determined time frames. The user then has the discretion to proceed, cancel, or dismiss the action based on business practices and policies. The workflow provides for an automated default trigger to move the case forward. If the user has not completed the action by the due date as defined by the workflow, it is completed by the system, based on configurable business rules. If the next action is document generation, the details are recorded on a history screen with the date and title of the documents. An informational message is sent to advise the user of the automated action. System case actions are also triggered by on screen logic when data fields are updated or changed.

REQUIREMENT: (#408) The system must provide a history of CSENet and / or UIFSA communications.

Our solution supports all CSENet/UIFSA functions with the latest CSENet/UIFSA specifications. A comprehensive audit history is available. The audit history includes the CSENet records exchanged or UIFSA notices sent at various points in case processing. State and federal time frames are tracked through a work list system. Users and management are notified when timeframes are not met or when some action is due, either through alerts or reports generated by our system.

A history of transactions with other federal, state, international, and tribal agencies is available on a specialized interstate diary, which provides to access a history of incoming and outgoing CSENet/UIFSA transactions with these agencies. Because these cases are processed using the same services as in-state cases for locate, establishment, and enforcement activities, all other activities are also automatically recorded as regular case activities. This includes UIFSA and CSENET transactions, and other documentation as standardized, prescribed, and available for interstate transactions.

Our solution also maintains a history of all orders for a case and allows authorized users to retrieve images of orders that have been scanned into the system. The system provides an audit feature that enables the review of the complete history of order changes and modifications when a user wishes to see the history of order changes or all orders that have been in effect for a case.

REQUIREMENT: (#409) The system must maintain a history of all the other state agencies that have been contacted electronically regarding a specific case.

A history of all the other state, tribal, or international child support agencies contacted is maintained based on the specific case ID. The system generates the documents to interact with other child support agencies and sends the documents via CSENet or UIFSA. Generated documents display on a history grid and are reviewable either as CSENet transactions or reformatted for print as standard UIFSA forms. This history is viewable together with the history of all transactions related to the corresponding in-state or other related interstate cases.

REQUIREMENT: (#410) The system must allow document generation to interact with any of the other state agencies known to have interaction with the case.

Our solution provides for hard copy documentation received in support of interstate referrals to be scanned, linked to the referral record, and the automated case record related to the interstate case.

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For efficient management of documents, our solution maintains multiple FIPS codes and related OCSE-approved location identifier codes for all other IV-D agencies in a table of values. These are associated to specific jurisdictions within states, tribal, and international geographical locations with the name and address of the location. Documents that are designed to include interstate location address information use the relevant location code for the case to select the address information from the FIPS table.

Our solution's e-signature capabilities include automatically retrieving and affixing signatures of authorized individuals on documents and the ability to receive e-signatures of case participants from electronic signature pads attached to workstations. Based on configurable the business rules, our solution requests signatures to move the workflow to the next step or to automatically affix signatures to document images sent to other states. We generate relevant documents to interact with other child support agencies and send the document via CSENet or UIFSA. Generated documents display on a history grid and are reviewable either as CSENet transactions or reformatted for print as standard UIFSA forms. For case creation based on new referrals, our solution uses configurable user assignment rules to route cases to caseworkers across the state. These rules are based on functional routing (such as, locate, establish, enforce) and on caseload balancing/alpha split routines.

Our solution automatically extracts data from the system and generates UIFSA transmittal records for other jurisdictions that cannot accept transaction electronically through CSENet.

The system maintains IV-D case identifiers for the initiating and responding states associated with a case. Either or both IV-D case identifiers are available for inclusion on system-generated documents based on the State-approved document design. Documents that require a raised seal or notarization may be designed to include IV-D case identifiers.

We will work with the State to ensure that all necessary documentation is generated based on Nevada laws, federal, state, tribal, and international law. Our certified solutions in other states generate all documents as required by federal and relevant laws. These include:

- *Notice of Determination of Controlling Order (Form OMB-085H)*
- *Locate Data Sheet (Form OMB-085G)*
- *Affidavit in Support of Establishing Paternity (Form OMB-085F)*
- *Uniform Support Petition (Form OMB-085D)*
- *Registration Statement (Form OMB-085I)*
- *General Testimony (Form OMB-085E)*
- *Child Support Enforcement Transmittal #1 - Initial Request (Form OMB-085A)*
- *Child Support Enforcement Transmittal #2 - Subsequent Actions (Form OMB-085B)*
- *Child Support Enforcement Transmittal #3 - Request for Assistance/Discovery (Form OMB-085C)*

REQUIREMENT: (#411) The system must allow for active intergovernmental actions with multiple states at the same time on a single case.

Our solution's multi-state design allows for multiple states to have active intergovernmental actions with a IV-D case at the same time. Obligation and order information received is stored at the child level, with the corresponding interstate arrears and other attributes in such a way that distribution can readily prioritize collections across states.

When key participants on a case move across state lines multiple times, the order is potentially registered in multiple states for initiating and responding cases. Ramifications of such registrations include enforcement actions and arrearage accruals in multiple states. Information on Continuing Exclusive Jurisdiction (CEJ) is important in determining the applicability of enforcement actions in that state. Our solution records and stores this information for orders and arrears. When such information is received through CSENet or manual entry, the order is related to multiple states and jurisdiction types (issuing, controlling, CEJ, registered) for each state. When arrears are recorded and tracked at a child level in our solution, the FIPS code of the order jurisdiction is also recorded, providing our financial processes the ability to send payments to the other states based on configurable business rules.

Our solution features an automated workflow that requests and identifies all existing support orders along with certified copies of each order, all payment records, and arrearage calculations for each order. Once these are received, the workflow processor directs this documentation for caseworker review. Typically, this involves the verification of the documentation, residential addresses of participants, and the reconciliation of arrears. We provide the ability to record information from the arrears reconciliation calculator into the case record and provide the determining court with necessary information to make the determination, including any current orders with CEJ. Once a decision is made by the court, our system generates a "Notice of Determination of Controlling Order" and sends it to multiple states with an image of the certified copy and caseworker reminders to follow up with physical copies of the controlling order.

REQUIREMENT: (#412) The system must maintain a history of all closed intergovernmental transactions.

The closure of an IV-D case is addressed through normal case closure processes for in-state and interstate cases, the only difference being that the process for interstate cases includes notification for the initiating or responding jurisdiction through CSENet transactions or UIFSA referrals. The closure date and reason for closure are recorded through detailed entries on the case history.

Similarly, when the other state's case is closed, the transaction is processed through CSENET/UIFSA on our system, and a historical record is maintained without loss of data.

REQUIREMENT: (#413) The system must maintain a history of all other state orders that have been in effect for the case.

Our solution maintains a comprehensive history of all other state orders, on the interstate diary as well as on our support order screens. The other state's order attributes are stored in our in-state order format and arrears are stored by FIPS and debt types.

(2.4.15) Initiating Intergovernmental Case Management

REQUIREMENT: (#414) The system must manage initiating intergovernmental cases.
REQUIREMENT: (#415) The system must track and record dates to ensure compliance with federal timeframes.
REQUIREMENT: (#416) The system must document all case activity and provide updates to the responding state and the parent residing in Nevada as required by the federal child support certification criteria defined in Chapter III Section D-9 of the Guide for States.

Management of initiating cases is completely automated in our system. Once it is determined that the case is eligible for initiating intergovernmental processing, our solution generates corresponding CSENet/UIFSA transactions based on the information available about the other state or country. A history of all outgoing interstate communications generated within our system sent either by CSENet or UIFSA is maintained, and all incoming communications received regarding this case is maintained in the same location.

The date the additional information is requested from the responding State and the type of information requested is captured in the automated case record, and worker alerts are sent to obtain and send such

documentation or information via CSENet. When the responding state requests information or provides notifications of actions completed, these are shown to the caseworker in a structured manner, to provide a detailed history of such transactions.

All case activity related to the initiating case is recorded in the case diary, and interstate aspects are also recorded in a specialized interstate diary for ready access. Upon receiving requests from the other state, updates are provided automatically. Any significant event on the in-state case that is required to be informed to the responding state is also sent to the other State via CSENet/UIFSA.

(2.4.16) Responding Intergovernmental Case Management

REQUIREMENT: (#417) The system must manage responding intergovernmental cases.
REQUIREMENT: (#418) The system must track and record dates to ensure compliance with federal timeframes.
REQUIREMENT: (#419) The system must document all case activity and provide updates to the initiating state as required by the federal child support certification criteria defined in Chapter III Section D-8 of the Guide for States.

The management of responding cases is like that of initiating cases in our system. An additional aspect of responding cases in the case initiation aspect. Once the referral is received from CSENet or via UIFSA transmittals, these cases are automatically matched with in-state cases, and new cases are created based on configurable business rules. During partial matches, they are displayed for worker review, and upon such review, the information is automatically transferred to the case create process. This is explained in our response to the case initiation requirements of the RFP.

Management of responding cases is completely automated in our system. Once it is determined that the case is eligible for responding intergovernmental processing, our solution generates corresponding CSENet/UIFSA transactions based on the information available about the other state or country. A checklist of missing attachments is sent to the initiating State, and federal/state timers are established to monitor the receipt of these documents. A history of all interstate communications generated within our system sent/received either by CSENet or UIFSA is maintained, and all incoming communications received regarding this case is maintained in the same location.

The date the additional information is requested from the initiating state and the type of information requested is captured in the automated case record, and worker alerts are sent to monitor the receipt of such documentation or information via CSENet. When the initiating state sends information on key aspects of the case, these are received and directed to the appropriate caseworker in a structured manner, to provide a detailed history of and to act on such transactions.

All case activity related to the responding case is recorded in the case diary, and interstate aspects are also recorded in a specialized interstate diary for ready access. Upon receiving requests from the other state, updates are provided automatically. Any significant event on the in-state case that is required to be informed to the responding state is also sent to the other state via CSENet/UIFSA.

All enforcement and financial actions on the case are auto-sent via CSENet/UIFSA transmittals. New enforcement remedies started, IRS collections, scheduled hearings and other important events as prescribed in the federal regulations are sent to the initiating State.

(2.4.17) Intergovernmental Document Generation

REQUIREMENT: (#420) The system must be capable of completing, generating, and sending via CSENet and hard copy all federally required intergovernmental documents.
REQUIREMENT: (#421) Document generation must be completed without worker intervention when possible, including automatically incorporating accurate and current financial records when necessary.

For states unable to accept the forms electronically through CSENet, our solution generates UIFSA transmittals for communication, by auto-filling the appropriate data into the transmittal.

For forms requiring notarized signatures or raised seals, our solution notifies authorized caseworkers to imprint notarized signatures and raised seals manually by the worker after the forms are generated.

All data in interstate forms are auto-filled to the extent possible by the system. The caseworker can enter additional notes on the CSENet transaction/notices online before transmittal.

Please refer to our responses to #410, #411, and #412 for additional information on document generation.

(2.4.18) FIPS Management

REQUIREMENT: (#422) The system must capture and update all federal FIPS information in one central location.
REQUIREMENT: (#423) Information maintained must include at a minimum:

- FIPS codes
- names
- addresses
- contact information
- CSENet state agreement functional indicators
- information about special processing needs for processing intergovernmental cases (e.g., documents and copies of statutes needed for paternity or establishment)

The state profiles requirement specifies the development of an updatable parameter table to record the characteristics of the system interaction requirements for intergovernmental entities. The table parameters include a CSENet transaction exchange agreement and determine the requirement for paper or electronic exchanges with other state child support programs.

Our solution allows for customized interaction with various entities (represented by FIPS) for intergovernmental communication. An administrator can specify which transactions are communicable via CSENet and which ones are communicable only via UIFSA

Our solution's central FIPS repository is periodically updated by information from the IRG, to include

- *FIPS codes*
- *Names*
- *Addresses*
- *Contact Information*
- *CSENet state agreement functional indicators*
- *Information about special processing needs for processing intergovernmental cases (e.g., documents and copies of statutes needed for paternity or establishment)*

The repository includes a table of values that are associated to specific jurisdictions within states, tribal, and international geographical locations. These OCSE-approved identifiers are utilized throughout the system as the uniform reference for geographical location information that is relevant to various aspects of a case.

For example, cases designated as Interstate cases include the initiating or responding state's location identifier. Additional examples include utilizing these codes when identifying the location in which a court order is obtained and identifying the location for other state's disbursement remittance locations.

Our solution uses FIPS codes from the IRG for correspondences and payments. Based on FIPS types and sub-types, we determine payment FIPS' and correspondence FIPS.

(2.4.19) Tribal Case Management

REQUIREMENT: (#424) The system must manage responding tribal cases.
REQUIREMENT: (#425) The system must track and record dates to ensure compliance with federal timeframes.
REQUIREMENT: (#426) The system must document all case activity and provide updates to the initiating tribe as required by the federal child support certification criteria defined in Chapter III Section D-11 of the Guide for States.
REQUIREMENT: (#427) The system must manage initiating tribal cases.
REQUIREMENT: (#428) The system must track and record dates to ensure compliance with federal timeframes.
REQUIREMENT: (#429) The system must document all case activity and provide updates to the responding tribe and the parent residing in Nevada as required by the federal child support certification criteria defined in Chapter III Section D-12 of the Guide for States.

Our solution supports a flexible, easy-to-use referral system with tribal IV-D agencies and international child support agencies that recognize and apply different processing requirements and forms. To ensure that interstate users receive the most current information available, the system supports the Query Interstate Case for Kids (QUICK) application seamlessly. To ensure data reliability, the information returned from the interstate case reconciliation process is automatically processed.

Our processes for interstate cases (including tribal and international cases) emulate in-state case processes in a large extent to reduce duplicative services within the system and additional training needs for interstate cases.

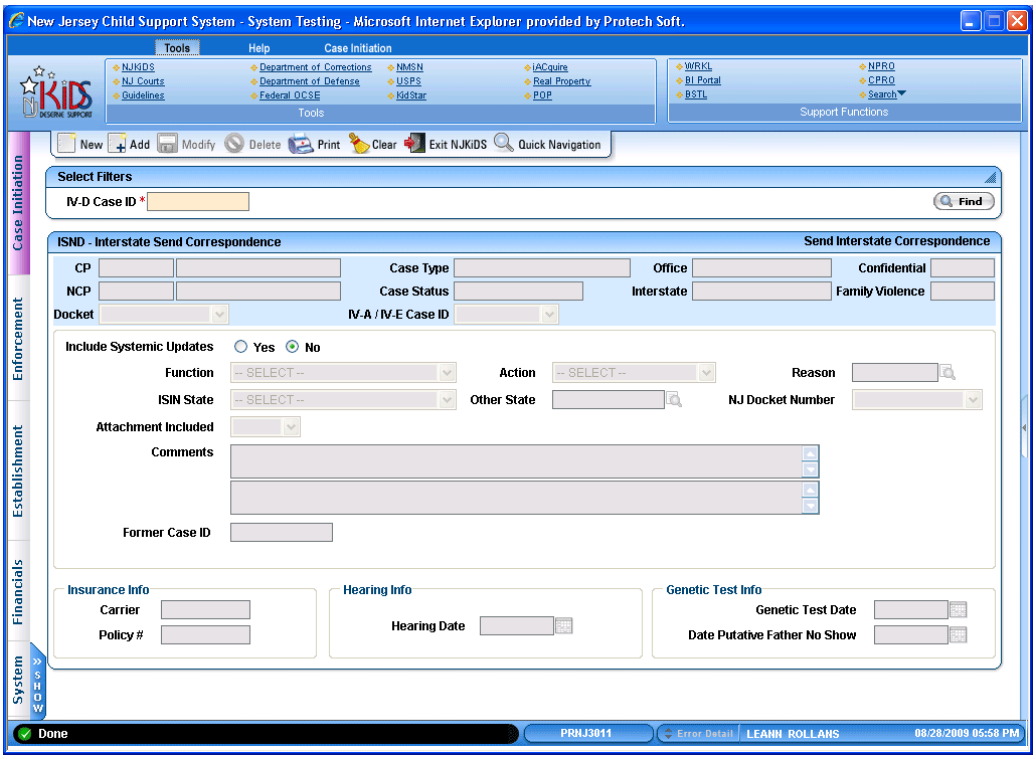

Figure 3.4 (2) - 78. Example Interstate Referrals Screen
Referrals from other states, tribes, and countries are reflected on the Interstate Referrals Screen

As shown in the figure above, Protech's proposed solution can accept referrals from other states, tribes or countries. Implementation of electronic referral acceptance and automated processing applies to other

state's referrals more than tribal IV-D and international referrals based on the other state's federally required use of UIFSA and CSENet, which standardize much of the data and processing. The tribal IV-D and International referrals require neither.

The interstate correspondence – ICOR screen within the interstate tab, can accept referrals from other states, tribes, or countries as well as all other interstate functions. Implementation of electronic referral acceptance and automated processing applies to other state's referrals more so than tribal IV-D and international referrals based on the other state's federally required use of UIFSA and CSENET which standardize much of the data and processing but neither of which are required of the tribal IV-D and international referrals. JAD sessions ensure that relationships are defined to integrate with the interstate screens functionality efficiently.

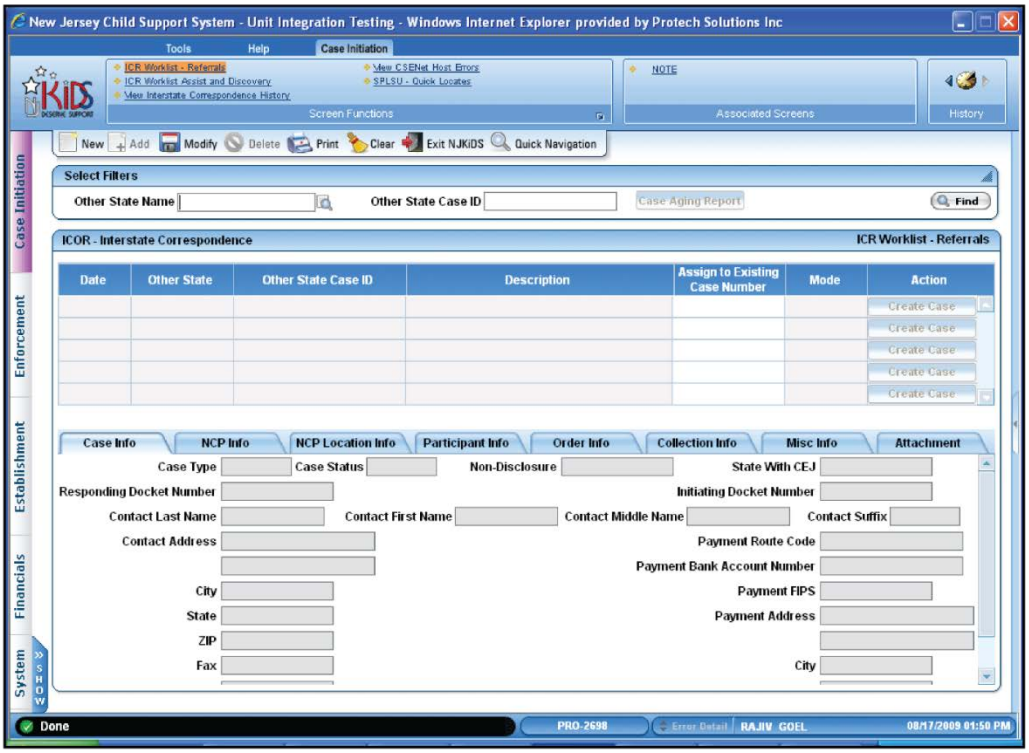

Figure 3.4 (2) - 79. An example of an interstate correspondence screen

New Jersey's Interstate Correspondence functionality allows the system to track and manage referrals from other jurisdictions, including tribal organizations.

(2.5) Enforcement

(2.5.1) Account Enforcement Monitoring

REQUIREMENT: (#430) The system must monitor all case accounts for circumstances and conditions requiring enforcement attention.

Our solution provides automated, real-time monitoring of all case accounts for circumstances and conditions requiring enforcement actions. It monitors case, member, and order data on the entire caseload to evaluate delinquency and other case conditions that could trigger enforcement actions.

Since collection data enters the system daily, the State could choose to implement this monitoring every day after all receipts have been processed, or in real-time 24/7. We will work with Nevada to evaluate the pros and cons of either approach and deliver an optimal solution.

Based on configurable rules and automated monitoring, the system can start some enforcement actions automatically, or alert workers to start enforcement actions manually. An example of a remedy that the system can start automatically would be an income withholding upon receipt of employers from FCR. When enforcement actions are started or progressed to the next step, notices and other tracking entries are generated for user review. Each remedy workflow identifies discrete procedures in a defined sequence using a workflow & steps-within-a-workflow model. Each step (minor activity) represents a step in the workflow (major activity), with a set of end points or 'reasons' for completing the step and taking the next step. Workflows and steps are addressed in our responses to the alerts and workflow management requirements of the RFP.

Our solution's case processor uses a user interface dashboard to organize data and business functions intuitively and to unify crucial elements of a business process into a single interface. Screen navigation as a separate concept is no longer relevant with the dashboard. Access to data and actions is represented by icons or selection options which allow the user to accomplish any task without navigating from the primary interface. The dashboard presentation eliminates data inquiry and display redundancy.

Income withholding, including all supporting functionality and activities, has been incorporated into an enforcement monitoring processor. The enforcement dashboard optimizes and simplifies all enforcement processes that may be required to initiate, monitor, and terminate income withholding. A single dashboard interface presents the user with case details, a history of activities, and options for next actions. Enforcement workflow will guide a case to the next logical action based on defined business rules and events. Certain enforcement remedies will progress by system default actions while other remedies will require a casework decision. To illustrate our experience in implementing enforcement processes, we provide the following overview schematic that shows how the various aspects of medical support functionality are organized in New Jersey:

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Remedy	New	Exempt	Active	Complete	Last Post
ACH Referral		No	0	0	
Arrears Payback Amount Increased		No	0	1	Activity Chain Closes by BATCH on 08/18/2016 12:40:38 PM
Administrative Review - Enforcement		No	0	0	
Bench Warrant Processing		No	1	4	Record Supervisor Approval of Warrant Issuance by BATCH on 07/08/2016 10:38:42 AM
Cost of Living Adjustment		No	0	4	Activity Chain Closes by BATCH on 05/17/2016 02:19:11 AM
Credit Reporting		No	1	0	Monitor Credit Reporting by BATCH on 05/19/2010 00:19:37 AM
Child Support Lien Network		No	0	0	
Financial Institution Data Match		No	0	7	Activity Chain Closes Funds Distributed by BATCH on 08/16/2010 10:47:10 PM
Immediate Income Withholding		No	1	20	Monitor For Payment And Changes to Obligation Or Arrears by BATCH on 09/14/2016 10:42:33 AM
Initiated Income Withholding		No	0	0	
Lottery Intercept		No	0	0	
License Suspension and Non Renewal		No	0	1	Activity Chain Closes by ROBIN WILLIAMS on 12/11/2012 08:20:09 AM
National Medical Support Notice		No	0	12	Activity Chain Closes by BATCH on 08/25/2016 12:08:11 PM
Project Save Our Children - Federal Criminal Non Support		No	0	1	Activity Chain Closes by ERICA THOMAS on 11/02/2010 08:39:28 AM
Qualified / Eligible Domestic Relations Order		No	0	0	
Relief to Litigant - Cash Support		No	0	1	Activity Chain Closes wage as in effect by MOSHEGA RAHMAN on 03/13/2013 09:35:15 AM
Relief to Litigant - Medical Support		No	0	0	
Source of Income Show Cause		No	1	0	Record Judge's Determination by DTHOMPSON on 07/20/2016 1:38:45 PM
Unemployment and Disability		No	2	0	Monitor For Payment And Changes to Obligation Or Arrears

Figure 3.4 (2) - 80. Case Processor Screen
Functionality available to initiate Enforcement Monitoring Process

Our process monitoring component examines cases for delinquency status, evaluates case conditions, and selects appropriate next actions for cases with actions in progress. Activities include document generation, referral and scheduling activities. The system facilitates the online display of notices at specific steps in the workflow and provides the ability to perform scheduling online at relevant steps.

List View | Process History | Graphic View | Plan View

Displaying All Activities

Group	Action	Status	Started On	Due On	Updated On	Days Elapsed
NEW SOI IDENTIFIED	New SOI Identified	COMPLETED PRIMARY SOI ALREADY EXISTS - ALERT NUMBER OF POSSIBLE SECOND SOI - Record Enforcement Worker's Response	06/21/2016	06/21/2016	06/21/2016	0
WORKERS RESPONSE	Record Enforcement Worker's Response	COMPLETED GENERATE IW - Record SOI Response to IW	06/21/2016	06/28/2016	06/27/2016	6
INCOME WITHHOLDING ORDER	Record SOI Response to IW	COMPLETED PAYMENT RECEIVED - Monitor For Payment And Change to Obligation Or Arrears	06/27/2016	08/11/2016	08/11/2016	45
NON COMPLIANCE LETTER	Record SOI Response to Non Compliance Letter					0
MONITOR FOR PAYMENT	Monitor For Payment And Change to Obligation Or Arrears	IN PROGRESS	08/11/2016	08/12/2016		39
CLOSE ACTIVITY CHAIN	Activity Chain Closes					0

In Progress | Completed | Remedy Closed

Figure 3.4 (2) - 81. An example of a case processor screen (list view)
Completed and In-Progress activities for the specific workflow

All steps in a workflow also have due dates associated with the step based on configurable rules. These rules include alert days, federal time frames, state time frames, and indicate whether the other state needs to be notified, in the case of interstate cases. Workflows can be progressed by the system based on automated monitoring of case conditions or through manual progression by caseworkers. Authorized workers can also cancel enforcement actions in an audited manner.

REQUIREMENT: (#431) The monitoring routines must monitor multiple accounts for a noncustodial parent individually and as a group regardless of the number of alias SSNs and Individual Taxpayer Identification Numbers (ITINs).

Our solution handles both case-based and NCP-based enforcement remedies. Where the remedy is constructed at the NCP level, the arrears are reviewed at the NCP level for all their cases regardless of the number of SSNs and ITINs. All the monitoring capabilities that are described for case-specific remedies in our response to requirement #430 are also available for NCP-level remedies. The caseworker implements NCP-based enforcement workflows using the same processes as for a Case-based workflow. We have implemented this for states such as Maine.

REQUIREMENT: (#432) The monitoring routines must link a frequency to the monetary or non-monetary order term being monitored since some conditions require daily, weekly, monthly, or variable attention.

Our orders provide a rich set of frequency capabilities to an order and for specific types of debt within an order. For each debt type within an order, the system allows a different frequency as per federal regulations. The frequencies currently include weekly, bi-weekly, semi-monthly, monthly, annually and one-time. Monitoring and accruals happen based on the frequency specified for the obligation. The one- time frequency is mainly used to record any one-time fees.

The system can enter same or different amounts and frequencies for each of the obligations. The accrual process calculates the next accrual date based on the last accrual date and the number of days as in the frequency for each of the obligations. For example, a weekly obligation that accrued last Monday accrues the following Monday again. The periodic amount and the frequency are applicable only until the end date of the obligation. Once the end date is reached, the obligations do not continue to accrue.

The accrual of debts are events that trigger the case monitoring process at matching frequencies. The process checks if the accrual affects the case conditions enough to warrant the start of new enforcement workflows or modifications of existing workflows.

REQUIREMENT: (#433) When monitoring activities require interfaces and those interfaces offer information that is inconsistent and could introduce data integrity errors, the system must present the proper worker with the decision to resolve the conflict.

Our solution interfaces with a variety of interfaces to monitor the status of a case. Examples of these are unemployment and workers compensation, credit bureaus, CSLN, FCR, IRS, and state tax agencies. Information received from these agencies is scrubbed for cleanliness and matched with information on the database. Inconsistencies and errors in the incoming data are routed through electronic reports and online screens to authorized caseworkers so that they can be examined and corrective action taken.

REQUIREMENT: (#434) Monitoring routines must allow for due process to operate on the initiation of remedies which in turn require service of process, reviews, and other appeal mechanisms to be part of the workflows.

Enforcement workflow processes, like any other process in our workflow, is a completely customizable set of steps that incorporates due process steps, reviews, scheduling, appeals, and rich case notes.

Each step can be associated with a set of notices that are generated on demand, and the nature of communication (service of process, registered mail, regular mail, e-mail notification and fax) is customizable. Additionally, each step can be integrated with the inflow of scanned documents; when a response is received and scanned into the system; steps of the workflow are progressed. As an illustration, when a hard copy of a request for hearing from one of the parties is received and scanned into the system, our solution progresses the establishment workflow to the next step of generating notices to the NCP and CST about the hearing.

REQUIREMENT: (#435) The results of service of process and the conclusion of any review must be documented in the case record.

Please refer to our response to #434. The service of process is customized as one of the steps in our workflows such as enforcement or establishment workflows. When the service of process is completed, either successfully or not, the result of this is recorded on our workflow results screen. Additionally, the system provides the ability for the caseworker to enter case notes, attach notes, and other files such as pictures and videos. Thus, the conclusion of a review can be documented on our system.

REQUIREMENT: (#436) The system must communicate the results of reviews and appeals to the parties and appropriate interested parties in the case.

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Please refer to our response to #434. Upon completion of a review and appeals, the workflow identifies the appropriate notification documents. The worker can review these documents online, which is prefilled with case notes entered by the worker and the result of the review and appeals. The worker can select the parties on the case and other interested parties on a selector screen. Upon selecting the parties, the system allows the worker to select the mode of communication: email, registered mail, regular mail or fax. One of these methods can be set as a default. Upon selecting these options, all appropriate parties are notified, and a log of these notifications along with a copy of the notification is available on the comprehensive case log.

REQUIREMENT: (#437) The system must initiate or request worker initiation of enforcement remedies based on parameterized thresholds subject to effective-dated regulations, the constraints of Nevada, tribal, interstate, and international jurisdictions, and the enforcement actions currently underway.

Using the rules engine, our solution provides the ability for enforcement administrators to create the rules and thresholds for the initiation of remedies. These include parameterized thresholds of arrears, specific arrears types, dates, and time frames. We will work with the State of Nevada to identify relevant, appropriate regulations that determine whether enforcement remedies apply to specific cases.

REQUIREMENT: (#438) The system must also allow an authorized user to initiate enforcement remedies if not prohibited.

Our solution allows authorized users to start enforcement remedies manually. It features the ability to exempt individuals and cases from enforcement due to a variety of reasons. Exemptions apply to inhibiting the initiation of a remedy based on the exemption condition, whereas exclusion is a component of eligibility determination. We include the functionality for authorized users to record enforcement exemption at the case and remedy levels manually. Exemption status is set on the workflow processor screens for authorized users.

REQUIREMENT: (#439) The system must initiate, restrict, or recall enforcement actions based on case type and status such as former public assistance, non-IV-D, or an application or intergovernmental request for limited services.

Please refer to our response to #437. The initiation and progression of enforcement actions are based on several case conditions based on state and federal regulations. Some remedies are applicable only to non-TANF cases; others can only be used for medical support enforcement. Our solution provides the ability to codify these rules in the rules engine and apply them each time a remedy is started or progressed to the next step. When progressing to the next step, if the case is no longer eligible for the remedy based on the automated recalculation of eligibility, the system will alert the caseworker and restrict the movement to the next step. Such restriction or recall is based on customizable business rules. We work with the state of Nevada in identifying these rules and codifying them into our solution for Nevada. We bring a rich baseline of these conditions and actions from the other certified systems that we have implemented in seven states.

REQUIREMENT: (#440) The system must include or exclude balances for enforcement based on type of arrears, such as spousal arrears, fees, or other states' interest.

Our solution stratifies case arrears in the following ways:

- *By child*
- *By debt type (child support, medical support, spousal support, and fees)*
- *By frequency of debt accrual*
- *By PRWORA buckets per debt per child*
- *Historical debt (debt at any point of time in the past)*
- *Owed to other states. A separate record for each state.*
- *Judgements and instant debt*

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- *Certified/adjudicated arrears (both current and point-in-time)*

Each of these categories of arrears is accessible to the enforcement rules (codified in the rules engine) that determine the eligibility of a case for enforcement. Balances are included or excluded depending on the specific regulations that apply to the implementation of an enforcement action.

REQUIREMENT: (#441) The system must assist in determining controlling orders and continuing exclusive jurisdiction.

Our solution uses OCSE-IM-01-02 and subsequent advisories for the determination of a controlling order (DCO). We use our rules engine to codify the DCO decision tree and the jurisdictional requirements for the DCO. We work with the IV-D agency to facilitate the DCO process for identifying all child support orders for the case by providing the ability to interview the service recipient, providing FCR & SCR search facilities, and using our workflow processes to notify parties and all states that issued orders for the case.

REQUIREMENT: (#442) The system must record and follow the terms of controlling orders plus any payment plans and diversion orders in effect. Examples of payment plans include agreements by the noncustodial parent to certain terms necessary for reinstating a suspended driver's license or occupational license. An example of a diversion order includes holding a child support obligation in abeyance during a period of incarceration, but resuming enforcement upon release from incarceration.

To follow terms of controlling orders our solution includes the ability to hold orders in abeyance, suspend enforcement by using the incarceration status on the participant to ensure that accruals do not occur during that period, or if they do, to not include that amount in the enforcement remedies that are applied to the case. Diversion orders to hold obligations in abeyance are implemented in our solution to meet restrictions on controlling orders. A separate payment plan process is used to address additional aspects of orders from states that do implement these, and override normal enforcement remedies when payment plans are met by the NCP. These plans are monitored by our case monitoring process that notifies caseworkers and NCPs on the progress of these plans.

REQUIREMENT: (#443) The system must issue documents, such as bills, delinquency notices, and requests for updated employment information according to parameterized business rules.

Using our integrated document generation and management platform, we generate many documents including billing statements, delinquency notices to NCP's at a case level, verification requests, update requests and changes to employment status (full-time, part-time, and contract). These documents are informed through our rules engine for the conditions/mode of generation for these documents.

REQUIREMENT: (#444) The system must issue modification, suspension, or termination documents upon case closure, suspension, or reinstatement.

Our solution automatically selects IV-D cases eligible for closure under federal and state closure requirements. Case reviews validate the eligibility of the applicable case data matched to the specific reason selected for closure. The system provides a case closure checklist that presents a consolidated view to the worker of the various data elements that are relevant to closure as configured based on requirements and business process flows. This feature assists in ensuring that all appropriate actions are completed as deemed necessary for the established business processes.

The system automatically reinstates a case if new information is received before closure resulting in the case closure criteria no longer being met. Workers can review case closure if an objection to closure is received. The supervisor can remove the case from closure as well. At any point a case closure process has been initiated and is then stopped before the case is closed, the system notifies the CST, NCP and, if applicable, the other state or agency, that the case is not closing and provides the reason for the decision. An illustrative case closure process flow is shown below:

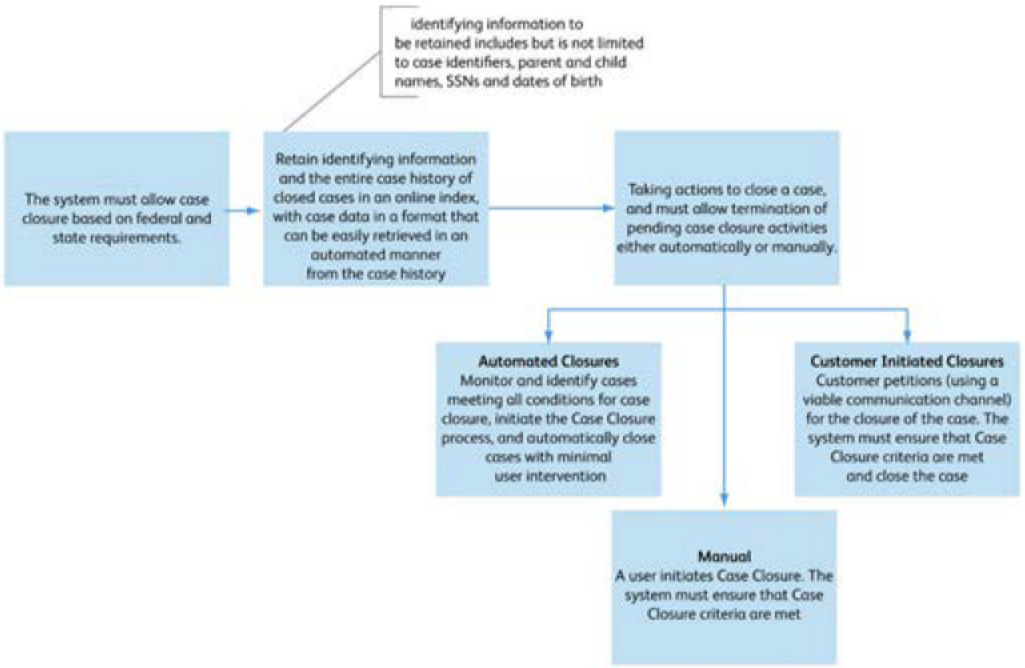

Figure 3.4 (2) - 82. Case Closure Process Flow

REQUIREMENT: (#445) The system must issue reminders to parties, agencies, and entities after given periods of non-responsiveness, either by hardcopy document, electronic transmission, or outgoing IVR call, and if these fail to trigger action, to initiate escalated enforcement actions.

The case monitoring and workflow management processes monitor for periods of inactivity that meet or exceed pre-defined time frames. Upon meeting or exceeding these, workers are alerted about the non-responsiveness, and the communication modules are initiated that generates outbound communications. The modes of these communications are configurable and defaulted to pre-defined rules at the time of case creation and party preference setup. Outbound communication modes include hard copy (along with mode of hard copy: registered mail or regular mail, and the address hierarchy to be used), IVR calls, SMS, CSENet transmissions, and outbound files. These actions follow a pre-defined escalation path, depending on the severity of the inactivity, and are configured into our rules engine.

A configurable supervisor approval step before sending these notices is also included in our solution. In this case, the supervisor receives an action alert notifying him/her that approval is requested. If the supervisor rejects the case, the worker receives an informational alert notifying him/her of the supervisor rejection.

REQUIREMENT: (#446) The system must re-execute enforcement remedies according to the business rules of each remedy's re-eligibility criteria.

Our continuous case evaluation and monitoring process evaluates case eligibility for every possible workflow when any data element related to the case changes. This is our inbuilt complex event processing module, based on evaluation of configurable business rules. These include re-execution of enforcement remedies when conditions for re-eligibility are met (for ex: a rule to show cause can only be reissued 60 days after the previous one for the same NCP).

REQUIREMENT: (#447) The system must distribute enforcement-related standardized forms, notices, and documents in accordance with judicial rules on due process and service of process to the parties, their attorneys, and the interested third parties including alternate payees currently active on the case.

Please refer to our response to #445 and our responses to the workflow management system section of the RFP. While configuring case workflows including establishment and enforcement workflows, an administrator configures all these parameters, forms, notices and messages by state policy, judicial rules, and service of process requirements. All related attorneys and third parties are also linked to the workflow step through the case id and case participant ids. Using this configuration process, we address this requirement.

REQUIREMENT: (#448) When due process rules do not dictate the correspondence delivery method, the system must use the contact method / address preferred by the recipient if established before using the default hierarchy.

Our solution provides the ability to override default delivery method (mode of communication) preferred by the recipient. This is the preferred method used for communication by any workflow process that executes a step resulting in the communication of information to a recipient.

The system provides the ability for administrators to override the default delivery method for specific steps in both automatic and manual steps during workflow configuration. The administrator can set the delivery method by recipient at the time of configuration. This method displays on the screen when it is a manual step to be reviewed by the caseworker.

REQUIREMENT: (#449) The system must be capable of sharing document images with other jurisdictions or agencies.

Please refer to our response to #445 and our response to the workflow management section of the RFP. Our automated case record features a comprehensive process history that includes generated documents, scanned-in documents, rich text notes and other attachments. Our solution (for instance, the version we implemented for iSupport – the international child support case management data exchange system that is built for data and document exchange between 40 countries) provides for the secure exchange of confidential documents between agencies of all documents related to a case record.

REQUIREMENT: (#450) Written communications to other state child support agencies must use the CSENet transactions when available and UIFSA standardized forms otherwise and must be targeted to the specific jurisdiction required.

Our solution features an exchange of interstate data through CSENet transactions when acceptable by the other jurisdiction. Additionally, the user can choose to send specific CSENet transactions through UIFSA when the other jurisdiction does not accept specific transactions.

When CSENet/UIFSA transmittals need to be reissued, our solution can generate these interchangeably. Thus, CSENet transactions can be regenerated as UIFSA transactions and vice versa, apart from being re-generated in their original formats.

REQUIREMENT: (#451) When monitoring payments for compliance to the various enforcement remedies, the system must recognize the different sources of payment and record in the case history the success or failure of each remedy.

Creation and maintenance of payment plans for NCPs who opt for these is a critical function in our solution. The workflow of each remedy could result in the implementation of specific payment plans. Our solution provides audited maintenance of these plans, together with the ability to monitor payments specific to these plans. It is expected that payments received through the SDU are specifically marked for these plans. If that is not the case, then priority is applied to the payments through customizable business rules.

(2.5.2) Enforcement Remedy Exemptions

REQUIREMENT: (#452) The system must provide exemptions from specific enforcement remedies.
REQUIREMENT: (#453) The system must record the establishment and removal of exemptions to the case chronology.
REQUIREMENT: (#454) The system must maintain bankruptcy, violence, good cause, incarceration, and deceased parties' information and apply state policy or court order for the suspension or exemption of cases from specific enforcement remedies that are sensitive to this information.

Protech's solution provides for two ways to stop remedies: exclusions and exemptions. Exemptions apply to inhibiting the initiation of a remedy based on the exemption condition whereas exclusion is a component of eligibility determination. Our system provides functionality for authorized workers to manually record enforcement exemption at the NCP, case and remedy levels.

For exemptions, the worker is required to select a reason for the exemption from a drop-down list of values and enter a date on which the exemption is to become effective. An exemption expiration date is not required; however, workers can enter the date, if known. Our monitoring programs automatically exclude cases and NCPs with active exemptions. The system precludes manual initiation of enforcement remedies when the case is marked enforcement exempt. The system also precludes manual initiation of specific enforcement remedies for which the case is marked exempt.

The setting or clearing of an exemption condition does not automatically impact remedies currently in progress. The worker is expected to conduct the actions necessary to suspend or close currently open remedies. This behavior is customizable in that the current remedies can be impacted based on State requirements.

Online edits are applied to prevent manual initiation of remedies for which an exemption is entered. The case monitoring programs review expiration dates and automatically resume consideration of the case for enforcement or, based on business rules, notify the enforcement worker to reevaluate the case.

The entry of a user defined reason code for the exemption that is recorded in the electronic case record provides an audit trail of actions taken on a case. Configurable business rules are defined for closing, suspending, reactivating, or continuing to pursue any remedies in effect at the time an exemption is entered. If an action is required by the worker, notice of a task is sent. Alternatively, exemption conditions are tracked by online reports.

(2.5.3) Income Withholding

REQUIREMENT: (#455) The system must accommodate immediate and initiated income withholding.

For obligated cases, when employment data is found, the system responds to the positive trigger created by the updated employment record and automatically initiates the income withholding workflow and generates the appropriate notices. Automated income withholdings are the foundation of the enforcement function in the California CSE system.

Income withholding remedies, including the defined sequence of activities required from initiation of the remedy to closure of the remedy, are viewable online. There are multiple enforcement remedies associated with income withholding to accommodate variations in processes and forms associated with the source of income.

Our solution supports income withholding remedies for multiple employers and consists of:

- *Initiated income withholding – employers, worker's compensation, Social Security, and retirement*
- *Immediate income withholding – employers, worker's compensation, Social Security, and retirement*
- *Unemployment & disability*
- *QDRO – Qualified Domestic Relations Order*

These remedies are automatically initiated when new employers are found and stopped when no longer applicable. These remedies interface with and inform the employer service portal and EIWO processes to ensure that changes to case conditions are correctly reflected in the status of these remedies. They can also be started manually. Changes to arrears result in amended income withholding notices.

REQUIREMENT: (#456) Initiated income withholdings must be initiated when the noncustodial parent obtains employment, becomes delinquent, or fails to abide by agreements holding wage withholding in abeyance.

The continuous case monitor checks daily for a change in the source of income information conditions that warrant the automated initiation of income withholding. Authorized workers can initiate income withholding remedies and execute specific actions online. Authorized workers can also manually update and suspend income withholding remedies online.

Open cases with debts collectible by income withholding, verified employment information, or approved income withholding sources of income, are considered for initiating the income withholding process. If income withholding is in abeyance due to previous agreements with the NCP and these agreements are not met, such cases are reconsidered for an income withholding order (IWO).

IWOs are initiated by the system without worker intervention for primary employment. IWO for secondary employment can be automatic or worker-initiated. When an income withholding remedy is initiated (automatically or manually) and the income withholding notice generates, a workflow process monitors the remedy. The system monitors the case for payment, changes to obligation, order, and arrears. If payments are not received within the defined period, a notice of noncompliance may generate to the responsible employer. If changes to obligation, order or arrears necessitate an amended income withholding, the case monitor triggers generation of an amended income withholding notice to active sources of income.

REQUIREMENT: (#457) When a new source of income is identified from the new hire interface, the wage data interface, or by child support worker update, the system must generate the appropriate, nationally and tribal accepted, income withholding forms within the given time limits.

Our solution defaults to automated generation of IWO for sources of income identified through New Hire, Wage, or CSEP worker updates. The system generates approved forms immediately for these sources. As always, these are customizable rules and can be configured to meet Nevada's needs.

REQUIREMENT: (#458) The system must accommodate the income withholding form variations necessitated by the nature of the income source, including employment, unemployment compensation, worker's compensation, Qualified Domestic Relations Orders (QDRO), and Social Security and other retirement benefits.

Please refer to our response to #455. Our solution supports a variety of IWO options. For each option, the generated notices and forms are customized to meet Nevada's requirements. The federally mandated notices generated by the system contain the mandatory instructional and informational language. Immediate mandatory income withholding is initiated and monitored by the system without worker intervention, and due dates are tracked. The income withholding notice generates with amounts due for current and past due support. The age of the arrears is calculated and the appropriate box checked on the notices by the document generation program.

REQUIREMENT: (#459) The system must permit withholdings from multiple income sources.

Please refer to our response to #455. We support income withholdings from multiple sources. If a source of income is identified when an income withholding is already in place, the case monitor initiates a workflow process which in turn alerts the user to validate the initiation of a secondary IWO.

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REQUIREMENT: (#460) The system must issue amended or cancellation withholdings when the obligation changes or ceases due to order modifications, payment agreements, dismissals, and case closures.

The case monitoring program continuously reviews IWOs to ensure that the effects of various events, such as changes to obligations, payment agreements, dismissals, and closures, are properly reflected in amended IWOs. When the arrearages are reduced to zero, a modified income withholding notice for current support is generated. The monitoring program identifies cases in which the order has ended, or the case has closed. When the condition is met, the income withholding activity chain provides for the generation of a termination notice.

REQUIREMENT: (#461) The system must also monitor compliance with the withholding order and issue the appropriate forms and letters when expected payments are not received.

Compliance monitoring is the key purpose of our continuous case monitor, and individual workflow processes for each of the enforcement remedies including IWOs ensure that compliance terms are met. Payments are monitored for regularity, sufficiency, and compliance to terms of agreements. When there are issues with this, the system generates customized notices to the NCP and the employer regarding deviations and scope for corrective action.

REQUIREMENT: (#462) The system must electronically issue and transmit income withholding notices to employers and agencies able to accept electronic data or forms.

Using our state-of-the-art employer portal services, much of the employer services is transacted through the web. The option to accept income-withholding documents electronically is offered along with online billing statements, transmittal lists, and payment history reports, and the employer may also authorize payments by credit card or electronic funds transfer through the portal. Employer bill suppression and on-demand billing are also available, for individual employees or all employees for the employer. We additionally provide the ability to send and receive electronic income withholding information to the federal agency that interfaces with employers who receive this information. We have fully functioning interfaces with EIWO for transmitting IWOs and accepting electronic data or forms.

(2.5.4) Federal Tax Refund Offset

REQUIREMENT: (#463) The system must frequently monitor cases for submission to the federal tax offset program using the required case type, exclusion indicators, and arrearage delinquency balance criteria for selection, submittal, update, and removal.

The California CSE system includes automated submissions to the federal tax offset program. Our solution implements the Federal Tax Refund Offset (FTRO) remedy including automated adjustments and exclusion processing.

For federal tax intercept, the eligibility criteria and procedures defined in OCSE-AT-99-14 and the Federal Offset Program User's Guide distributed as an attachment to DCL-00-26 are utilized. The IRS certification process applies the criteria for past due support and identifies and loads eligible cases for worker review online. The latest version of tax-offset functionality is based on AT 04-08, which finalizes the most recent rules for the federal tax offset process. The changes and clarifications include provisions for:

- *Removing the three months delinquent status for IV-A cases*
- *Clarify rules for combining like arrears for multiple cases to determine eligibility. Assigned arrears may not be combined with unassigned balances for this determination.*

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- *Clarifies, for collection processing, which offset collections may be applied to the balance certified at the time of the offset, since both increases and decreases to certified amounts may be submitted throughout the year.*

An FTRO monitoring program determines cases eligible for tax offset identification and processing. Usually, all in-state and initiating cases are eligible for tax offset process. For non-TANF referrals, the monitor checks for past due support equal or greater than $500 and TANF referrals the amount must be equal or greater than $150. Spousal support is included in the calculation of the past due support when the case is a Title IV-D case, and a child support obligation is included in the order. If the past due support is owed for a disabled adult who was legally disabled before emancipation, the non-TANF debt is submitted. The identification of assigned arrearages occurs at the time the batch determines eligibility for submittal. If a case qualifies for both TANF and non-TANF submittal, a separate record is created for each arrearage category. A file is created in the format required for the federal submittal file and is submitted to the federal OCSE, using Connect: Direct. The required data is included in the transaction file created. Based on State guidelines, a new file with additions, updates, and deletions is created and submitted biweekly, or on another frequency as the State may choose. Pre-offset notices are sent to NCPs directly.

Verification of NCP name and SSN combinations are accomplished through an automated interface with the Federal Case Registry. A history of all offset transactions is maintained and is accessible by tax year online.

The submittal record including the amount submitted and a TANF/non-TANF indicator is stored. Information regarding joint returns is provided by OCSE on the collection file and is stored by the system for use in the event of obligor refunds. Files are submitted for offset based on annual specifications provided by OCSE in an action transmittal or Dear Colleague letter. A new file with additions, updates, and deletions is created and submitted based on the desired frequency for Nevada. Files are sent to OCSE via Connect: Direct. Authorized workers can exempt a case from being included in the offset file. To exempt an NCP for tax intercept, the worker needs to exempt all of NCP's cases. Exemptions can be viewed on a tax offset information screen.

Our administrative review workflow is manually initiated when a request for a review is received. Time frames for the required activities are monitored, and the date of the review is recorded in the case diary. The outcome of the review is described by the reason code selected to close the review activity and is stored and displayed online for worker review. An automated notice of the results is sent to the other state in an interstate administrative review situation. Finally, all manual modifications and deletions are recorded on the screen and written to the comprehensive process history.

Recent Federal OCSE system enhancements (left optional for each state) can increase special collections by:

- *Eliminating unnecessary deferred processing.*
- *Allowing states to update a case in the same cycle in which the case is being added.*
- *Improving synchronization of data between state and federal files.*
- *Enhancing case tracking.*
- *Reducing the number of reject records returned to the states.*
- *Reducing the amount of undistributed collections.*
- *Getting money in the hands of the family at the earliest possible time.*

The following is an example of two of those optional enhancements should Nevada choose to pursue these options:

- *Debt check program – This program provides states with an enforcement remedy that may result in a collection from an obligor not available by any other means. The program alerts federal lending agencies (e.g., Small Business Association) when a loan applicant owes child support. States may elect to use the enforcement remedy to encourage obligors to satisfy child support debt for them to obtain a government-sponsored loan. Due process is the responsibility of the federal-lending agency. A state may also request a single state-specific dollar threshold be met before a case is considered for the debt check program. In the future, the program will have a major impact on increasing child support collections.*

- *Injured spouse indicator – This indicator will appear on the collection record on Non-TANF joint returns at the time of offset. If the indicator equals <Y>, the injured spouse claim has been resolved, and the collection is available for immediate release. If the indicator equals <N>, the spouse has not filed a claim, or the claim has not been resolved, and the collection should be held for six months.*

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(2.5.5) Liens

REQUIREMENT: (#464) The system must monitor real and personal property information on file for enforcement action.

Beginning with the California CSE automated case record, our solution includes detailed information on real estate, registered vehicles and financial assets of the NCP. These are obtained from a range of sources including third-party data services such as LexisNexis and Experian, from other agencies including DMV and the FIDM. All information required for effective enforcement is captured in the record. Any changes to this information, such as new assets, are also recorded.

REQUIREMENT: (#465) The system must provide legal document generation of the appropriate documents needed to register and remove liens.

Our solution provides workflows for judicial and administrative liens, as an effective mechanism for the collection of past-due child support. Based on the applicable law, our solution generates notices of administrative lien to NCPs and initiates the lien workflows. The NCP can object to the administrative lien and request an administrative review, or contest the validity of the lien in 30 days. Our enforcement monitoring processor initiates these workflows and conducts them by configurable business rules, while also utilizing imaging to record/retrieve images of evidence including images of payments, canceled checks, money order receipts, pay stubs, and other relevant documentation.

If past-due child support debt is deemed as a judgment, the judgment acts as a lien against the obligor in favor of the CST or DWSS. This includes past due and future accruals and encumbers all real and personal property and future rights to property of the NCP by Nevada laws. Our solution supports this process and generates the required notices as a part of the automated lien workflows. The system automatically tracks the time frames for issuance of the lien notice, and the lien notice process status is displayed in the case processor.

NCP responses to a lien can be recorded on the workflow and whether a mistake of fact or court process is initiated; the lien is automatically suspended until disposition of the review. Based on the review results, the lien is either resumed or if ordered by the court a block is placed on the lien.

Liens can also be blocked based on an agreement between the worker and NCP. If the block is set with the agreement as the reason code, the terms of the agreement are automatically monitored. The block is continued if all terms are met, and the lien is resumed if the NCP does not comply with the terms.

The solution features the ability to record assets, their verification status and categorize them as accounts or as property. Our solution features lien processes customized for Nevada based on specific business process requirements. As an illustration, in New Jersey, lien processing is addressed in a similar manner where cases that are identified as eligible for liens (based on eligibility rules which can be configured for Nevada) are sent to the Automated Courts Management System (ACMS) through a batch interface. In return, New Jersey's system receives a unique judgment number for each of these cases, which also serves as a lien settlement number or a recorded judgment number tracked by ACMS. For Nevada, a lien remedy is started in the system with notices generated to NCPs and other interested parties. Once the debts are settled, and the case is no longer eligible for a lien enforcement action, our solution sends a lien settlement record to the court system, which in turn releases liens on real and personal properties.

We propose to use our knowledge of successful construction and implementation of these processes in various states to enhance the California CSE system and build similar interfaces in Nevada, implement the processes and workflows for the initiation and closure of liens against real and personal properties. This process optionally interfaces with the imaging solution to store necessary records of liens and releases, so that these documents can be accessed from the comprehensive case history.

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As in other enforcement actions, our solution automatically generates notices using our forms technology and generates multiple notices related to securing and renewing liens. Demands for payments are automatically generated and a copy sent to the NCP. Illustrative forms generated in solutions for other states are provided below to highlight our experience in building complex workflows.

- *Notice to Obligor of Contest Resolution and Right to Appeal*
- *Notice to Obligor of Appeal Resolution*
- *Notice to Obligor of Withholding Insurance Assets*
- *Waiver of Right to Contest*
- *CSLN Contest Form*
- *Notice to Withhold Insurance Assets*
- *Notice of Release of Lien*

For the freeze/seize activities across state lines, our solution provides the ability to use Administrative Enforcement of Interstate (AEI) –limited service request, which allows Nevada to request another state (the assisting state) to provide location and seizure of assets. Appeals are handled based on the laws of the assisting state, and in some cases, a two-state action may be required. Multi-state options are also supported by our solution.

Built to assist in the location and lien processing of assets held by an obligor with past-due support in another state or jurisdiction, AEI is designed to take quick, limited action.

In our solution, Interstate requests, received from other states, electronically or manually, prompts the initiation of AEI workflows to seize obligor assets and send them to the requesting state. If AEI matches uncover any other information suitable for child support enforcement, this information is also sent to the requesting state. Our solution also facilitates sending requests to other states electronically or manually depending on the ability of the other state to receive such information. Necessary notices/documents are automatically generated.

When past-due support or current payments are met according to configurable business rules, our system generates necessary documentation to obligors and bondholders to release liens and restore bonds. Records of these are in the case enforcement diary along with necessary case notes. Our case monitoring function initiates the release of the lien when arrears are fully paid– the notice of release of lien is sent to the asset holder automatically. The case closure workflow process automatically closes any pending liens when a case is closed.

REQUIREMENT: (#466) For those county clerks that have automated property records, the system must search those property records, retrieve asset information, and record and release liens electronically.

Our solution provides the ability to check property records, retrieve asset information and inform enforcement workflows of lien eligibility based on case conditions and availability of the property. We will customize this ability to match the requirements of Nevada by interfacing with the automated property record repositories.

(2.5.6) Bonds

REQUIREMENT: (#467) The system must have the capacity to support state policy and regulation for the use of performance or security bonds to ensure regular payment of child support obligations.
REQUIREMENT: (#468) The system must monitor bonds established and request payment from the bondholder when current support is not paid timely by other means.
REQUIREMENT: (#469) The system must generate the appropriate legal documents needed to register and release bonds.
REQUIREMENT: (#470) The system must have the capacity to support state policy and regulation for the use of bail intercepts, sometimes called appearance bonds.
REQUIREMENT: (#471) The system must monitor bail bonds established and request payment from the court as needed.

Our solution can support performance and security bonds. For instance, in the State of Arkansas, we support the establishment of cash bonds for failure to comply with court orders. A payment plan for current and past due support may also be required with the stipulation that the bond may be executed for continued non-compliance.

When a case is not compliant, our workflow monitor initiates the generation of a notice to the court for the release of bond money. Similar requests are initiated for bail intercepts and bonds. When arrears are reduced to zero, and current support payments are regular, the bond may be released. A cash surety bond may be required as a performance bond or guarantee of future payments.

We support state regulations for using bonds; for instance, as the initiating activity for the bond remedy, the system generates a petition for bond and proposed consent order. Procedures for contesting the implementation of the remedy are incorporated in system-generated notices. Our case monitoring program reviews payments for compliance and initiates the next action if payment is not received.

Based on customizable design and configurable business rules, we will support Nevada's specific requirements for bond processing functionality.

Bonds are usually ordered as the result of an enforcement action and offset when a payment plan is not honored. Our solution includes the ability to end or suspend an enforcement action based on a performance bond posted by the delinquent obligor. The obligor is ordered to deposit a specific sum with the IV-D agency. When a repayment plan is not met, or when current support payments are missed, a bond offset process triggers according to configurable business rules.

(2.5.7) Unemployment Intercept

REQUIREMENT: (#472) The child support system must interface with the unemployment compensation system to find noncustodial parents with unemployment claims and to place wage assignments on unemployment benefits.

The California CSE system interfaces with the unemployment system. Our solution will enhance this feature by using state-specific mechanisms for interfacing with unemployment compensation systems. The flow diagram below shows the flow of information for New Jersey. We built similar flows for six other states.

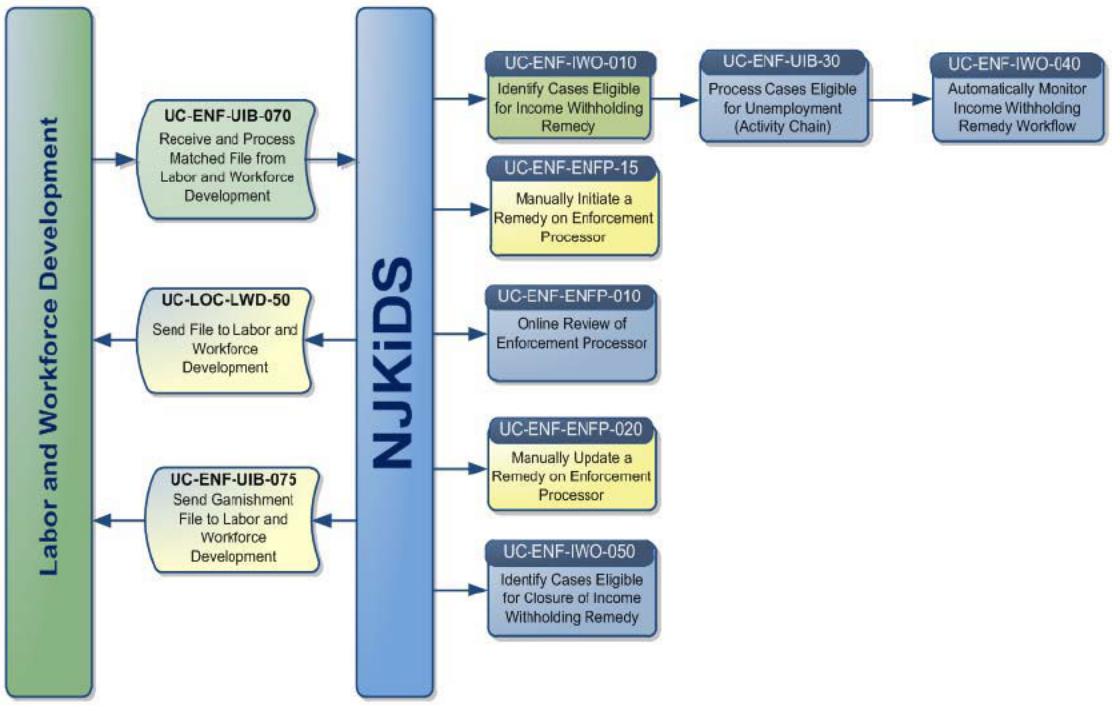

Figure 3.4 (2) - 83. Sample Data Exchange Process with State Employment Department

Our solution sends a set of NCPs to the unemployment compensation systems to find out if they are on these systems, and we record that fact in our database. When cases meet certain eligibility conditions and the unemployment indicator is set, a garnishment file is sent to that system, requesting intercept of unemployment compensation. An enforcement monitoring process manages this workflow and sends appropriate notices to associated parties and participants.

Our solution supports interception of unemployment insurance benefits (UIB), as illustrated in the figure above, and automatically receives unemployment information from the Department of Labor via electronic file transfer. The data provided by the agency is screened to determine if individuals who have applied or are currently receiving unemployment compensation owe support.

Cases matched with UIB in an open active status with debts collectible by income withholding are considered for the UIB income withholding process. For example, if unemployment is verified as an active source of income, the system initiates the unemployment enforcement action and includes the eligible IV-D Case IDs in the garnishment file transmitted electronically to the Department of Labor. If another State's unemployment is verified as an active source of income, the system initiates the unemployment Enforcement remedy with the other State, generating IWOs to the other state's agency if it is accepted, or sending custom notifications per the other state's requirements.

Our solution performs the initial match by sending all eligible cases to the unemployment agency for a match or receiving a weekly file from the agency for matching NCPs who receive unemployment compensation. Additionally, we also provide a web service to be consumed by the Unemployment Compensation Agency in Nevada or other states, to be invoked by that agency when an unemployment claim is filed, and update our solution that such a claim is filed. We will work with Nevada in reviewing the applicability of this service within Nevada.

REQUIREMENT: (#473) The system must generate income-withholding notices to a foreign state's unemployment office when that state allows income-withholding notices to be sent directly to their unemployment office.

Interstate unemployment intercept is highly effective in ensuring that NCPs across state lines continue to contribute to their child support obligations. Provided that the other states' unemployment offices allow income withholding notices to be sent directly to them, the NCSEAS system will provide the functionality to automatically perform this duty. However, in instances where states' unemployment offices do not have the authority and/or functionality to accept direct notices from another state, NCSEAS will generate an interstate transmittal to the state's child support central registry.

REQUIREMENT: (#474) The system must generate an interstate transmittal to the foreign state's child support central registry if the foreign state's unemployment office will not honor direct child support wage withholding notices.

Our unemployment workflow monitor includes a step for generating CSENet/UIFSA transmittals as the action when the other State's unemployment office does not respond to a direct request, or responds to the request but indicates that the intercept requests need to come through the other state's child support offices.

(2.5.8) Credit Reporting

REQUIREMENT: (#475) The system must monitor case account balances for selection of delinquent noncustodial parents for credit reporting.

Our solution monitors cases for delinquency and eligibility to report to credit agencies. The reporting of these cases is usually done monthly, including newly submitted cases and cases that have been previously submitted with current account information. This can be changed for Nevada's needs. Once an account is submitted to the credit-reporting agency, the program continues monthly reporting of updates to the account whether there is a change to previous data, arrears exist, or the account becomes current.

Sections 623, 1681s-1 and § 1681s-2 of FCRA specify the due process required for the reporting of an individual to a credit agency for the failure to pay overdue support. This includes the duty to provide notice of the dispute, notice to the consumer, notice of closed accounts, and the ability of the consumer to directly respond to CSE. Our solution for credit reporting provides the ability to provide comprehensive due process before submitting a delinquent obligor to a credit agency.

NCP responses can be recorded on the workflow along with a mistake of fact or court process that has been initiated; the credit reporting is automatically suspended until disposition of the review. Based on the review results, which are documented in the case processor, the credit reporting process is either resumed or if ordered by the court, blocked for current and future credit reporting.

Credit reporting can also be blocked based on an agreement between the worker and NCP. If the block is because of an agreement, the terms of the agreement are automatically monitored. The block is continued if all terms are met, and the credit reporting is resumed if the NCP does not comply with the terms.

REQUIREMENT: (#476) The system must provide notification to the delinquent noncustodial parent of the intent to report, the remedy, and appeal options.

Once a case qualifies, the Credit Reporting Agency (CRA) enforcement workflow provides notice of the referral to the NCP. A notice of reporting to credit agencies generates to the NCP before the referral to credit bureaus. The notice advises the obligor of the actions available to remedy or contest the accuracy of the information.

REQUIREMENT: (#477) The system must automatically submit eligible debt and payment information in the required format to participating credit reporting agencies.

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Our CRA enforcement workflow monitoring process evaluates the response to the notice of reporting to credit agencies and the appropriate next action. The user may manually record the response on the case workflow processor by selecting the next activity and therefore triggering the next activity. Alternatively, the system generates a default entry, and the debt is referred.

When the case is submitted, it is included on the monthly tape file created and sent to the credit reporting agencies. The member data required on the Credit Reporting Metro II format is stored in the system.

REQUIREMENT: (#478) The system must automatically notify participating credit reporting agencies when the case status or case balance changes.

Eligible cases are reported monthly, including newly submitted cases and cases that have been previously submitted with current account information. Once an account is submitted to the credit reporting agency, the program continues monthly reporting of updates to the account whether there is a change to previous data, arrears exist, or the account becomes current.

REQUIREMENT: (#479) The system must continue credit reporting until case closure, after which one final transaction must be sent to close out the credit reporting record.

When the case closure process results in the closure of the case, a final transaction is sent to the credit reporting agencies by the CRA workflow. This message is written to the automated case record and is available in an auditable manner. Then the CRA workflow is also closed.

(2.5.9) IRS Full Collection Services

REQUIREMENT: (#480) The system must support state policy for the use of IRS full collection services.
REQUIREMENT: (#481) The system must monitor submittal information and provide updates as required by the federal system certification criteria at Chapter III, Section E-8 of the Guide for States.

Our solution provides a fully compliant design for the IRS Full Collection services remedy. While this remedy is rarely used, it is still required for certification. Minimum federal criteria for IRS Full Collection must be met to use this remedy, but in practice, the State may define additional conditions for eligibility. Federal criteria for the IRS Full Collection process are defined based on the following conditions:

- *An order for support exists.*
- *There is a minimum arrear of $750.*
- *The case has not been referred to the IRS for full collection services in the previous six months.*
- *The case is receiving Title IV- D services.*
- *The state has utilized other collection methods without success.*

The system maintains all the data elements required for submittal to the IRS for full collection services.

The amount of the arrears on the date of the time of referral is tracked and stored, and full collection services involve due process activities such as schedules, documents, and hearings. Any changes to due support, the nature or location of assets or address of the debtor are automatically notified to appropriate ACF regional office.

(2.5.10) National Medical Support Notice & Medical Enforcement

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REQUIREMENT: (#482) The system must automatically generate the National Medical Support Notice in accordance with the below requirement for all support orders with a provision for health insurance coverage unless a court or administrative order indicates alternative health care coverage rather than employer-based coverage.

The system must automatically generate the National Medical Support Notice (NMSN) by the below requirement for all support orders with a provision for health insurance coverage unless a court or administrative order indicates alternative health care coverage rather than employer-based coverage.

Our process provides the complete National Medical Support Notice (NMSN) documents, Part A and Part B. We implement the NMSN remedy as a standardized enforcement action with a structured communication between employers and CSE. The Federal OCSE requires this form to be used by all state agencies in providing employers with instructions to enroll children in employee health insurance plans for ordered parties. Our process provides the ability to generate this notice through a configurable workflow with specified time frames for employers to respond from the time the notice is issued.

The NMSN notice provides information on the type of insurance ordered and coverage required for child support cases. The employer responds on Part A of the NMSN notice with the ability to provide insurance for the ordered party. Part B of the NMSN form is completed by a plan administrator within a configurable time frame, usually 40 days. The administrator provides information on the types of coverage available to the ordered party and notifies CSE of the employer's intent to act based on the order.

In other certified implementations, our process provides automated assessments of the eligibility of child support cases for the initiation of NMSN workflows. Typical conditions are:

- *Active order, open IV-D case.*
- *Medical insurance is ordered.*
- *The ordered party, ordered party's spouse, or an associate of the ordered party is not providing at least one of the ordered coverage types recorded with support order details.*
- *A verified employer is available for the ordered party.*
- *The source of income can receive NMSN notices (NMSN/eNMSN) indicators are set on the system for the employer/NCP).*
- *Dependent coverage is available at a reasonable cost.*
- *The order for medical support is not conditional, even if insurance is not available at reasonable cost.*
- *The case is marked responding interstate, or if the case is marked initiating interstate, the referral type is request registration of foreign support order for modification.*
- *The court has not disallowed employer-based coverage.*

Our solution provides for cases requiring medical support enforcement to be identified and loaded in the enforcement processor. Our continuous case monitoring process identifies eligible cases, based on defined case conditions, and prepares an interface file for matching with health care policy information. The information included in the file includes employers, custodial persons, and noncustodial parents subject to medical support provisions. Action initiates, including document generation, to enforce the provision of court ordered insurance coverage or payment of medical expenses. Compliance monitoring for insurance coverage is accomplished by a monthly monitoring report and the batch program. The worker is alerted to initiate follow-up actions. The system can exchange electronic match data with the Title XIX agency to

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determine if insurance coverage has lapsed or is no longer available. The National Medical Support Notice (NMSN) requests the employer to advise the IV-D agency if insurance coverage is unavailable or the NCP coverage status has changed.

State regulations usually address the medical support provisions and enforcement remedies for the support order. The new or modified order may require either or both parents to provide health insurance coverage for the child(ren) who is the subject of the child support. If the obligor is the covered person and fails to enroll the child, the statute further allows collection by income withholding of medical costs provided by a third party, the CST in non-assistance cases, or in Medicaid cases, the Division of Medicaid, and Medical Assistance.

REQUIREMENT: (#483) The system must, within two business days after entry of employment information in the State Directory of New Hire regarding an employee who is ordered to provide health care coverage in a IV-D case, automatically transfer the National Medical Support Notice to the employer.

Please refer to our response to #482. Our case monitoring process incorporates these and other business rules defined by the state into a configurable business rule to generate the NMSN notices. Upon receipt of new employment information and the evaluation of eligibility criteria at the time of receiving the employment information, the system starts the NMSN workflow process and generates the NMSN notice for worker/employer review.

REQUIREMENT: (#484) The system must automatically generate all notices and letters needed to support medical support activities, including enforcement forms and letters when employers / health insurance plan administrators are not in compliance.

During the medical support workflows, our solution generates multiple documents with specialized instructions on confidential data, choosing specific addresses for recipients based on the type of address and the nature of the document. These notices are displayed online, when required, to obtain additional input from caseworkers before being sent to the recipients. In some instances, these notices require manual inputs, including electronic signatures from users and supervisors as part of a workflow, which is handled automatically in our solutions. We provide these and other facilities in our document generation and management processes for Nevada. We integrate the automated generation of multiple notices during the steps of medical support workflows. A representative list of such notices is provided below. We will customize this list and provide a Nevada-specific solution for generating notices from medical support/NMSN workflows. Notices generated from the system are recorded in the case journal with the date of the request, the notice ID and the recipient.

Sample Notices Generated	
Documents Generated	**Function**
National Medical Support Notice for Confidential Cases (Initial) Cover Letter	The letter informs the CST that the health care provider may potentially provide the NCP with address information when NMSN compliance is required for confidential cases.
Health Coverage Provided	This letter advises the custodial parent that, as per the child support court order, medical coverage has been obtained or coverage has changed for the listed child(ren).
CST Military Letter	This letter informs the CST that it has been verified that the listed children are eligible for coverage under TRICARE, the military health care program and NCP who is the ordered party has been notified to include the children in the coverage.

Sample Notices Generated	
Documents Generated	**Function**
Advise Non-Custodial Parent of Responsibility for Continued Health Coverage	This letter informs the obligor of the requirement in the court order to provide medical coverage for the child(ren) on the case when the obligor is the ordered party to provide medical insurance.
Employer Non-Compliance Order	This letter informs the employer of the ordered party that they are non-compliant by not providing health care coverage to the child(ren) listed on the notice.
Change in Medical Coverage Requirement	This letter is sent to inform the employer that per the court order the employer is no longer required to maintain enrollment on the employee's health plan for the listed child(ren).
Annual Health Coverage Letter	This letter requests employers, unions, and health plan administrators confirm the dependent's continued enrollment in health insurance and provide an updated medical insurance policy and coverage data.

Figure 3.4 (2) - 84. Sample List of Notices Automatically Generated for Medical Support

REQUIREMENT: (#485) The system must alert the caseworker when information required to fulfill a medical support order has not been received, and must automatically generate required documents to secure the information.

Our NMSN enforcement monitoring workflow continuously reviews the case record for progress on the NMSN notice, regulated by state and federal time frames. The workflow process identifies situations where time frames for receipt of medical support information (NMSN Parts A & B) are not met or when the medical insurance information is incomplete or unverifiable. In such instances, the medical support workflow generates necessary documents and starts other compliance workflows as identified in configurable business rules and process maps.

REQUIREMENT: (#486) The system must automatically monitor employer, custodial party, and noncustodial parent compliance with ordered medical support provisions and prompt needed caseworker action when there is a failure to comply with such orders.

Once a medical order is issued to the employer or health plan administrator, the system monitors for policy and coverage information associated with that employer or pension plan administrator recorded on the member dependent insurance screen. If policy or coverage information is not recorded within a configurable duration, the system initiates employer non-compliance actions.

If the NCP is ordered to provide health insurance coverage and enforcement batch monitoring programs identify that policy and insurance information is not recorded for the dependents, the system automatically identifies the case as eligible for a court action. The system triggers generation of an alert to the worker advising of the case's eligibility for court action because of noncompliance with the terms of the order for medical support.

REQUIREMENT: (#487) The system must periodically exchange data electronically with the State Title XIX agency to determine if there have been lapses in health insurance coverage.

Our solutions have implemented the exchange of insurance information between Title XIX and child support enforcement systems on participants receiving public assistance where the CSTs or NCPs have been ordered to provide health insurance coverage. This includes information on the lapse of coverage for children. An automated process prepares and transmits a file to the State's Title XIX agency for all open obligated cases with or without health insurance information recorded on the system. In return, the Title XIX

agency provides information monthly or with other frequencies based on configurable business rules; the TPL file is used by our solution for matches against participants.

Insurance data is automatically loaded into our solution for user review and health insurance records automatically created for each new policy number/group number combination. Existing member dependent health insurance records update if the verification date of the State's Title XIX agency records is greater than the verification date in the system for the policy number/group number combination. Our systems also include the processing of a quarterly file from the state's Title XIX agency that includes general insurance carrier data. The system processes the file and loads the data into our solution to maximize the amount of insurance company information available and can be used as a potential source of insurance information. An illustration of the NMSN flow from the State of New Jersey is shown below.

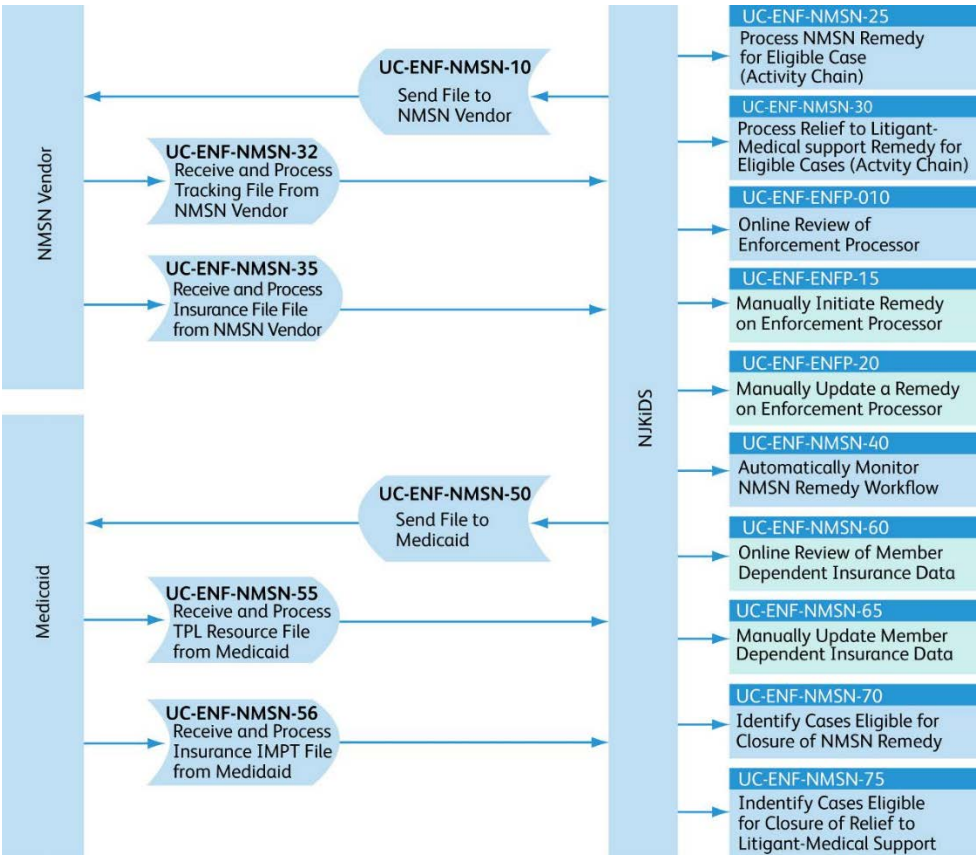

Figure 3.4 (2) - 85. Sample Data Exchange Process with State Title XIX Agency

REQUIREMENT: (#488) The system must be able to accept information on children eligible for Tricare coverage from the FCR's match with the Department of Defense's Defense Enrollment Eligibility Reporting System (DEERS).

Our systems process FCR matches with the Defense Enrollment Eligibility Reporting System (DEERS), located in the Defense Manpower Data Center (DMDC), to determine if participants are enrolled in or are eligible for military health insurance (TRICARE) coverage. Since military coverage does not use policy numbers, each participant is the policyholder; the participants SSN or other information is used as the policy number. The system generates a letter to the CST and creates a work list for follow-up before the next match cycle.

REQUIREMENT: (#489) The system must, at least once, request employers and other groups offering health insurance coverage to notify the IV-D agency of changes and / or lapses in health insurance coverage.

Please refer to our response to #484. As part of the set of NMSN forms generated for employers, this request for update is also sent.

(2.5.11) License Suspension and Non-renewal

REQUIREMENT: (#490) The system must accommodate withholding, suspending, or restricting the use of driver's, business, professional, occupational, recreational, or sporting licenses of participants who owe overdue support or, after receiving appropriate notice, fail to comply with subpoenas or warrants relating to paternity or child support proceedings.

When a match with the licensing agency is found, and the case meets the criteria established by State laws and policies, the license suspension process initiates. The process includes automatic document generation, tracking for compliance, and initiation of the next sequential action. The workflow design for the transfer system is based on the requirement to automate the process of license or certificate suspension or denial (professional and driver's) by:

- *Generating notices and follow-up petitions to any obligor when a delinquency exists in the support obligation with the following content: notify the obligor that he/she has 30 days from the date on which service of the notice is complete to pay the delinquency or to reach an agreement with the obligee to pay the delinquency. Further, the notice specifies that, if payment is not made or an agreement cannot be reached, the license or certificate may be denied or suspended under a court order.*

- *Monitoring for whether a delinquency continues to exist and for payments following completion of service of the notice of the delinquency.*

A license suspension enforcement action in child support systems is usually based on criteria like these:

- *The case should be open IV-D.*
- *A confirmed license should be available in the system.*
- *Arrears are equal to or greater than the support obligation due for two months.*
- *The case is not marked enforcement exempt.*
- *The case is not marked license suspension action exempt.*
- *If the case is marked initiating interstate, the referral type is request registration of foreign support order for modification.*
- *No conflicting workflows are in progress for any case for the NCP.*
- *There have been no regular payments in the last 30 calendar days.*
- *The system date is less than the original support order effective date plus 45 calendar days*
- *The member is not deceased or institutionalized.*
- *The system date is greater than or equal to 60 calendar days from the date the most recent license suspension activity chain closed upon user rejection of the remedy, or supervisor disapproval of the remedy, or judge disapproval or dismissal of the remedy.*

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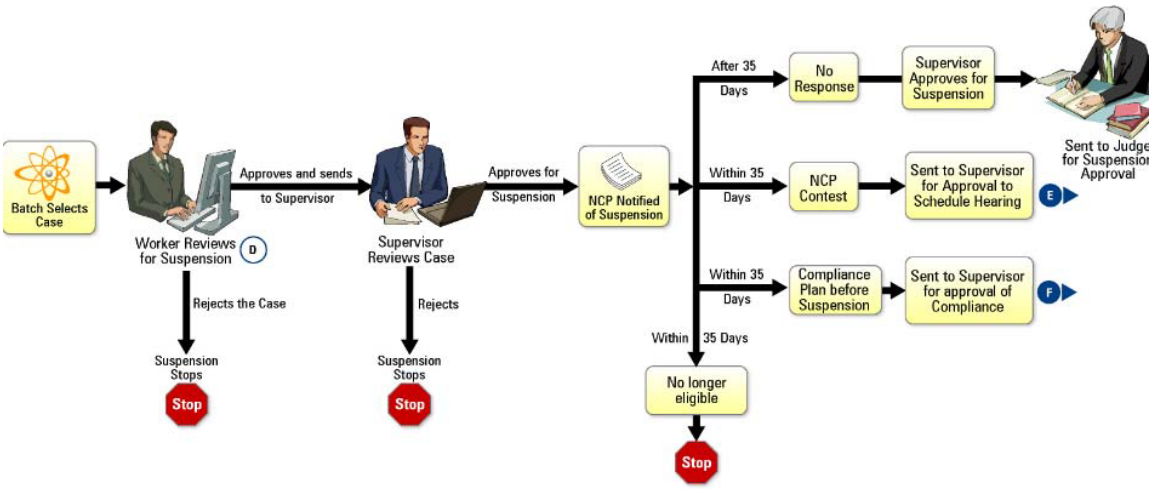
We illustrate our system's ability to initiate, track, and complete enforcement actions. The illustrations are for the driver license suspension action from New Jersey's workflow system. These are shown here for illustrative purposes only. The process begins with the selection of a case for suspension, through either a batch process or an event-driven process. Having reviewed this, a caseworker obtains supervisory approval before authorizing the workflow process to generate a notice of intent to the NCP. If the NCP fails to respond to the notice of intent within a defined duration, the system automatically proceeds with the activity workflow and generates the notice of suspension to licensing agencies if a verified license(s) exists. If the NCP does provide a timely response to the notice of intent, based on the indicated time frames and the potential responses, the worker manually selects a reason description within the license suspension activity workflow to advance the chain to the next appropriate action. The worker can record the date of receipt of NCP's response using the action date field on the case processor. If a hearing is required, the system schedules a hearing on the external court's mainframe system after an approval from the supervisor and generates the appropriate notices. Each of these steps is done entirely on the unified case processor interface illustrated previously.



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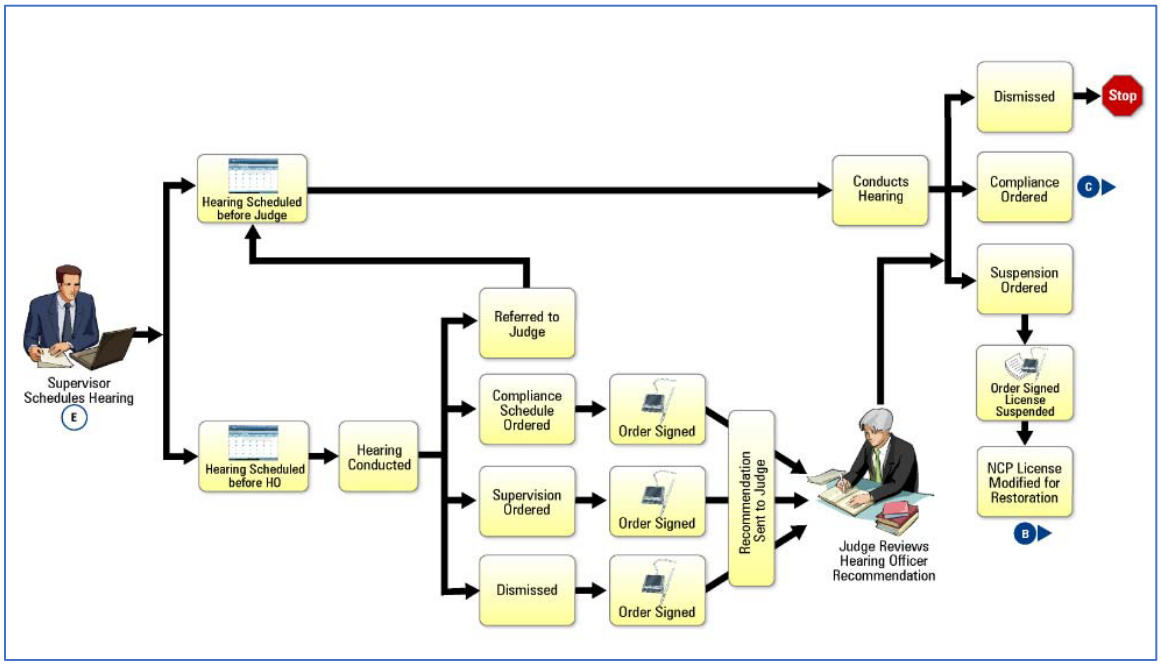
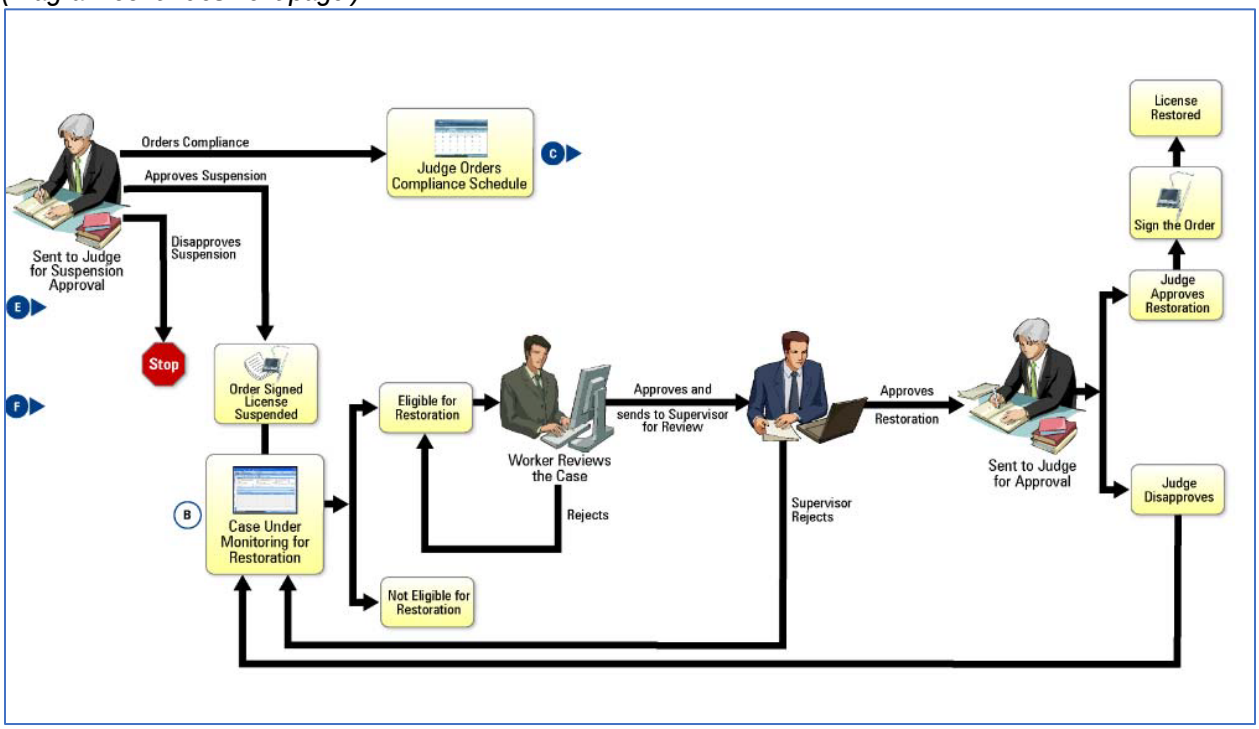


Figure 3.4 (2) - 86. Driver License Suspension Action Example from New Jersey's Workflow System

(Diagram continues next page.)



(Continued from the previous page.)

Figure 3.4 (2) - 87. Driver License Suspension Action Example from New Jersey's Workflow System

After our solution schedules a hearing from within the case processor interface and notifies the parties automatically, an assigned judge conducts a hearing on the suspension request and orders the suspension,

the judge or a designee electronically signs an order for license suspension. This order is generated by and recorded within the system including an image of the judge's signature. A compliance schedule is set by the court and is used to evaluate the restoration of the license through an event-driven monitoring process in our system. A supervisory approval step is included before license restoration.

REQUIREMENT: (#491) The system must retrieve professional and recreational license information electronically from automated licensing systems or use data entry for manual licensing agencies to record license information.

Our solution interfaces with licensing agencies, using batch and real-time interfaces to effect locate searches and suspension of licenses. For instance, a batch interface to the Department of Motor Vehicles (DMV) uses extracts of CSTs and NCPs and initiates electronic requests for locate and address information from the DMV. Once matches are found, the system starts workflows for license suspension. A similar process is used for other license types, based on configurable business rules built into the system tables.

A license screen holds information on various types of licenses including drivers, professional, occupational, and recreational licenses, each of which requires specialized interfaces with Nevada agencies. Users can enter license information online through these screens. Having built these interfaces in several other certified systems, we understand the complexities involved in successfully building such interfaces and bring this knowledge to the design of the solution.

Our systems in other states interface with several agencies to exchange license information: motor vehicle, professional licensing agencies, agencies that deal with recreational licenses in both real-time and batch mode. For example, the interface with the DMV in the Arkansas system is based on real-time queries for the locate portal, while it is based on a batch interface in New Jersey. Information obtained from licensing agencies is sent to the agencies that execute warrants against obligors. We leverage this expertise in building interfaces with licensing agencies in Nevada.

The proposed solution implements State-specific workflows based on the enforcement workflow patterns presented earlier. Having implemented these successfully in other states, we understand that the first step in this process is to generate a notice of intent, "license or registration suspension warning," followed by various actions depending on the response of the delinquent obligor. Our solution includes a compliance schedule process that tracks compliance with negotiated payment settlement schedules to address the delinquency that caused this enforcement action. Once the compliance is ascertained, the license or the registration is reinstated.

REQUIREMENT: (#492) The system must generate the appropriate legal documents or electronic transactions needed to suspend a license or advise the licensing agency about non-renewal.

In response to the notice of license suspension, the obligor may agree to a payment plan to preclude the suspension. The system monitors for compliance, and if compliant, the licensing agency is advised to reinstate the license, provided no other cases of NCP require the license to remain in suspension. The obligor must respond to the notice of suspension within 20 days. The suspension may be avoided or delayed by:

- *Paying the arrears in full*
- *Agreeing to a payment plan*
- *Requesting an administrative review*

The license suspension activity chain is modified to reflect correct events, the sequence of events, and time frames based on Nevada statutes and policies.

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NCP responses to a license suspension notice are recorded on the workflow along with whether a mistake of fact or court process is initiated. Based on the review results, the license is either suspended or, if ordered by the court, blocked.

License suspension can also be blocked based on an agreement between the worker and NCP. If the block is set with the agreement as the reason code, the terms of the agreement are automatically monitored. The block is continued if all terms are met, and the license suspension is resumed if the NCP does not comply with the terms.

REQUIREMENT: (#493) The system must automatically notify the DMV when driver's licenses should be suspended.

Please refer to our response to #490. The workflow process facilitates the notification to the DMV upon supervisory approval, if configured into the license suspension process.

REQUIREMENT: (#494) The system must automatically notify DMV, preferably real-time, when a noncustodial parent is eligible for reinstatement of a driver's license.

Our caseload monitoring process assesses the arrearage and eligibility of obligors who have their licenses suspended to determine if the suspended licenses can be reinstated. If this is the case, the system generates reinstatement instructions based on the type of license and the medium of data exchange (real-time XML message, batch file to be sent daily, etc.). Appropriate notices are generated, and suspension workflows are terminated.

The system also monitors for conditions that warrant reinstatement of the NCP's licenses such as arrearages of less than or equal to zero. The system can automatically generate a notice to rescind suspension to the licensing agencies and the NCP and alert the worker of the system initiated action. If manual intervention is required by Nevada business processes, the system can alert the worker of needed action.

(2.5.12) Contempt and Bench Warrant Processing

REQUIREMENT: (#495) The system must provide tracking of one or more bench warrants for either party of an order.

Bench warrants & contempt processing are key remedies in our solution's repository of enforcement remedies. The California CSE system will be enhanced with our bench warrant enforcement remedy, including activities required to monitor violation of the terms of a bench warrant stipulation and initiate bench warrant activities is incorporated into an integrated workflow, together with a compliance schedule.

The bench warrant workflow is usually manually initiated when an enforcement court order includes a bench warrant stipulation. A worker enters the stipulation terms in the first step of the bench warrant workflow. When the terms are violated, our workflow process automatically identifies the case as eligible to continue the bench warrant remedy. An assigned worker advances the workflow and seeks supervisory approval if that is built into the workflow. Upon supervisor approval, the warrant is electronically sent to a judge for signature. Workers can view a listing of bench warrants and view their details on an online screen.

The workflow guides a case to the next logical action based on defined business rules and events recorded by the system or manually recorded by a worker. The sequence of events identified in the bench warrant activity chain after filing the bench warrant order provides multiple options for the resolution of the warrant. If a payment agreement is reached, the system monitors for payment compliance.

The bench warrant process is composed of a sequence of activities that include:

- *Document generation activities that tell the system which forms or documents to generate*
- *Wait activities tell the system the duration allowed for an activity*
- *Scheduling activities can be either systematic or manual scheduling of events*
- *Alert generation advises workers of actions the system has taken or advises workers of the need to take an action*

Additionally, we prepare an online sheriff's quarterly collections report. The report totals collections that can be attributed to executed bench warrants by county credited for execution of the warrant. Data from this report is used by sheriffs in preparing a report of arrest services on a quarterly basis to obtain payments for services.

REQUIREMENT: (#496) The system must maintain an online listing of parties subject to a bench warrant.

Our solution provides the ability to maintain the list of parties subject to a bench warrant and provides this list to sheriffs who execute the warrant; this list is available as a comprehensive online report.

REQUIREMENT: (#497) The system must routinely monitor cases with outstanding bench warrants and interface with the court system and the jail population system to report and remove a bench warrant when the outstanding conditions for the warrant are resolved.

Please refer to our response to #496. When a negotiated compliance schedule is accepted on both sides, a process to track compliance is initiated in the system. We support a variety of compliance models: bond, lump sum, periodic amount, medical, and limited missed payments.

To facilitate the tracking of results of a contempt action, a compliance schedule is added for the case id/ordered party combination. The system monitors compliance or aids users in monitoring compliance by triggering an alert to the assigned enforcement user on the schedule end date (based on the compliance schedule type). Users can select a value to denote the disposition of the hearing. The enforcement monitoring process proceeds to the next step in the defined sequence of relief to litigant activities based on the entered disposition value.

An existing compliance schedule is updated to reflect the entered change to the status and/or end date fields. The overridden compliance schedule moves history viewable on a pop-up.

For those remedies, when compliance is identified, and the system date reaches the end date, the system automatically updates the status of the compliance schedule to ended, and an interface with the courts is invoked that provides information to report and remove a bench warrant since the outstanding conditions are resolved.

If the system identifies non-compliance, when the system date reaches the end date, the system automatically updates the status of the compliance schedule to non-compliance. The system identifies the case as eligible for an enforcement remedy. If the compliance schedule included a bench warrant stipulation, the case is identified as eligible for a bench warrant. For compliance type "other," the system triggers an alert to the assigned enforcement user when the system date reaches the end date. The user should review the case to evaluate compliance.

(2.5.13) Passport Denial

REQUIREMENT: (#498) The system must routinely monitor cases for submission to the federal tax offset program for passport denial using the required case type and arrearage balance criteria for selection, submittal, update, and removal.

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If qualifying arrearages exist and the case is submitted for tax offset, the case is automatically submitted for passport denial, unless there is an override from the State for the case. If the obligor does not qualify for tax offset submittal, the system qualifies the NCP for passport denial, if qualifying arrearages of $2,500 exist. The language addressing the passport denial restriction is incorporated in the tax intercept pre-offset notice to the NCP. This remedy is largely automated except for action required to dismiss the restriction. The final design reflects any added functionality required by Nevada to support the remedy.

As with federal tax offset, records are maintained of NCP inquiries, and mistake of fact reviews are tracked and disposals recorded on the system. Workers can release a passport from block by recording the reason with a feature to notify a customer service worker or the designated Program Specialist if an urgent release is necessary.

One total amount of arrears for TANF and one total amount of arrears for Non-TANF are submitted to the Federal Offset Program. The submission priority for the offset arrears amount is usually:

- *IRS*
- *Multi State Financial Institution Data Matching (MSFIDM)*
- *Passport denial*
- *Administrative offset*

When one program does not qualify, the other programs are still in contention for the NCP. For example, if a user excludes IRS, cases are still eligible for MSFIDM, passport denial and administrative offset provided that the cases meet the criteria. As always, these are based on configurable business rules.

REQUIREMENT: (#499) The system must timely generate and record in the case history the appropriate notices related to administrative reviews and appeals.

The California CSE system will be enhanced to include our solution featuring a rich array of notices and documents generated as part of the tax refund offset process and the accompanying administrative review process. These are generated at various points in the workflow of the tax offset process. For purposes of illustration, we list potential notices generated during this process, indicating the range of notices generated by our solution.

Sample List of Notices Generated by Tax Offset Workflow	
Documents Generated	Functions
NPA Tax Offset Notice	This notice is generated before the Federal Tax Offset Action to the NCP.
Notice of Administrative Review	When an NCP contests the tax offset, an Administrative Review workflow is triggered. This notice is generated as the first step of the Administrative Review.
Notice of Administrative Hearing	If the Administrative Review results in a judicial hearing, this notice is generated.
Notice of Withdrawal of Passport Denial Form	This notice is triggered through Passport Denial Action.
Injured Spouse Notarized Waiver	This form is used when a joint federal income tax refund is intercepted, and the injured spouses (and obligor) agree to release funds to the Child Support case.

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Sample List of Notices Generated by Tax Offset Workflow	
Documents Generated	Functions
Cover Document for Injured Spouse Notarized Waiver	This document is issued by Child Support Enforcement when the joint filer decides to waive their portion of the intercepted Federal Income Tax Refund.
Passport Denial Response to NCP	This letter is issued to the NCP advising that their recent correspondence concerning the denial of issuance was received.
Passport Denial Release Letter	This notice is sent to advise the NCP of the status of the passport denial release.

(2.5.14) Financial Institution Data Match

REQUIREMENT: (#500) The system must actively seek and match financial institution account data from instate and intergovernmental sources, such as the Electronic Parent Locator Network (EPLN) and Multi-State Financial Institution Data Match (MS-FIDM) system, and the FIDM Alliance for enforcement action.

The California CSE system identifies eligible cases for data matching with financial institutions based on the state and federal criteria. Our enhanced solution automatically opens a FIDM workflow, for each of the NCP's eligible cases, and triggers an alert to the assigned enforcement worker when financial asset information is available, and the case qualifies for FIDM. Workers can view eligible cases online and can request supervisory approval. If the remedy is approved, appropriate legal documents are generated, and the financial asset is marked to denote initiation of the lien process. If the lien process is not completed and the financial asset is not liquidated, the asset can be made available for another remedy and automatically unmarked.

REQUIREMENT: (#501) If the financial account and the child support case meet eligibility requirements, the system must generate the appropriate legal documents needed to place a lien on an account and interact with the financial institution regarding account seizure action.

The FIDM process is composed of a sequence of activities that usually include:

- ***Document generation activities that tell the system which forms or documents to generate***
- ***Wait activities tell the system the duration allowed for an activity***
- ***Scheduling activities can be either systematic or manual scheduling of events***
- ***Alert generation advises workers of actions the system has taken or advises workers of the need to take an action***

A file for matching with single state institutions is generated in the required format. The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) requirements allow states to designate the Federal Office of Child Support Enforcement as their agent for operating FIDM with financial institutions doing business in more than one state (MSFIDM). Our system prepares and transmits a weekly electronic file of eligible NCPs and cases for federal offset programs for matching against those financial institutions. The system also sends weekly additions, updates, and deletions electronically. Information on financial accounts, subject to Multi-State FIDM (MSFIDM), is automatically loaded into the system via an electronic file. The federal tax offset file is utilized for the submittal of records for matching with financial institutions doing business in multiple states. A flag on the Federal Income Tax Offset file identifies obligors who are eligible for financial institution data matching. If the exclusion indicator is not set, the NCP record is

submitted for matching. The system can generate and process match files according to the method chosen by the financial institution. When financial data is updated onto the system, a workflow is initiated, which sends an alert to an authorized caseworker for review and subsequent approval. The system generates notices required to "freeze" and "seize" individual bank accounts. The content of the documents is specific to the applicable state law defining the procedures for seizure of bank accounts to offset past due family support amounts.

Our solution for FIDM generates multiple documents at various steps of the FIDM workflow. The list below is from our FIDM implementation in New Jersey and is reproduced here to illustrate our document generation capabilities for FIDM implementations. Based on business rules, these documents are automatically or manually generated.

Document Generation Capabilities for FIDM
CS073 – Notice of Hearing
CS072 – Notice of Administrative Review
CS612 – Notice of Levy to Financial Institution
CS613 – Notice of Levy to Obligor
CS614 – Notice to Financial Institution to Remit Funds
CS617 – Notice to Financial Institution to Contest Resolution
CS618 – Notice to Obligor of Contest Resolution and Right to Appeal
CS619 – Notice to Financial Institution of Contest Filed
CS620 – Notice to Obligor of Contest Filed
CS608 – Notice to Obligor Acknowledgement of Appeal
CS621 – Notice to Obligor of Appeal Resolution
CS622 – Notice to Financial Institution of Overdue Remittance
CS600 – Notice to Obligor of Withholding Insurance Assets
CS601 – Waiver of Right to Contest
CS603 – Notice to Remit Assets
CS605 – Notice of Release of Lien
CS606 – Notice of Acknowledgement to Obligor of Contest Filed
CS607 – Notice to Obligor of Contest Resolution and Right to Appeal
CS608 – Notice to Obligor of Acknowledgement of Appeal
CS609 – Notice to Obligor of Appeal Resolution
SC624 – Notice to Obligor of Attempted Levy
CS623 – Lien/Levy Contest – Request for Additional Information
CS605 – Notice of Release of Lien
CS626 – Notice of Liquidation
CS625 – Notice to Obligor of Later Receipt of Contest
CS615 – Notice to Financial Institution of Adjusted Levy
CS616 – Notice of Obligor of Adjusted Levy

Figure 3.4 (2) - 88. Sample Document Generation Capabilities for FIDM

(2.5.15) Administrative Offset

REQUIREMENT: (#502) The system must routinely monitor cases for submission to the administrative offset program component of the Federal Tax Refund Offset Program using the required case type and arrearage delinquency balance criteria for selection, submittal, update, and removal.

The tax offset process is done primarily through a file interface with OCSE throughout the year.

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Additions, updates, and deletions are completed through weekly updates with the Federal Tax Offset Program. These additions, updates, and deletions are noted on the tax offset screen by the system.

As one of the case monitoring processes, a tax offset workflow process includes adds, updates, and deletes transactions for the weekly federal tax offset submission. This would incorporate monitoring for any of the following:

- *Manual exemptions or exclusions entered by users*
- *A reduction of arrears to below the threshold*
- *Increase of arrears equal to or greater than the $150 TANF and $500 Non-TANF*
- *threshold*
- *Increases and decreases in the arrearages already submitted by $25 increments*

One total amount of arrears for TANF and one total amount of arrears for Non-TANF are submitted to the Federal Offset Program. The submission priority for the offset arrears amount is usually as follows:

- *IRS*
- *Multi-state FIDM (MSFIDM)*
- *Passport denial*
- *Administrative offset*

When one program does not qualify, the other programs are still in contention for the NCP. For example, if a user excludes IRS, cases are still eligible for MSFIDM, passport denial, and administrative offset provided that the cases meet the criteria. As always, these are based on configurable business rules. Our solution provides the capability to submit records for administrative offset included on the federal income tax intercept files. Our system includes the ability to incorporate new federal programs. These records are viewable online.

(2.5.16) Child Support Lien Network and Other Claim Matching

REQUIREMENT: (#503) The system must routinely monitor cases for submission to the Child Support Lien Network (CSLN) using the required case type and arrearage delinquency balance criteria for selection, submittal, update, and removal.

Nevada participates in a reciprocal process with other state agencies to match with insurance companies through the vendor supported Child Support Lien Network (www.childsupportliens.com). Criteria for selection of this remedy include a verified SSN and a minimum of $1000 arrears. Defined exemptions are also allowed. When our solution finds a match, the NCP is given notice of intent to intercept and allowed 30 days to request an administrative review. Contingent on the response, and potentially, the outcome of the review, a notice is sent to release the hold on the settlement or to remit the funds to CSEP. Matches will be loaded into our database.

The CSLN workflow process prepares and transmits a monthly electronic file of all eligible NCPs and cases to the Child Support Lien Network (CSLN). The CSLN communicates with insurers to identify NCP assets, from claims, settlements, awards, and payments, which may be subjected to administrative levy. The system automatically opens a CSLN activity chain, for each of the NCPs cases submitted, and triggers an

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alert to the assigned CSLN worker when financial asset information is available, and the case qualifies for the CSLN remedy.

Our solution will enhance the California CSE system to provide the ability for workers to view all cases eligible for CSLN and other remedies on an online screen/report, select individual cases for supervisory approval, upon which the workflow monitor advances to the next step, marks the asset for review and start-of-lien. Then the system generates the necessary notifications and forms as required by regulations, to start the process. Hearings, appeals, and scheduling steps are part of the workflow process. If the lien process is not completed and the financial asset is not liquidated, the asset is 'unmarked' for future remedies that can reuse the asset for enforcement.

The CSLN process is composed of a sequence of activities that include:

- *Document generation activities that tell the system which forms or documents to generate*
- *Wait activities to inform the system of the durations allowed for each activity*
- *Scheduling activities – either systematic or manual scheduling of events*
- *Alert generation that advises workers of actions the system has taken or advises workers of the need to take an action*

REQUIREMENT: (#504) The system must use the proper communication channels to issue system-generated liens against insurance claims and the corresponding forms and transactions to recognize satisfaction either through payment or review.

Please refer to our responses in the Workflow Management section of Case Management (2.4.9) for details on the use of proper communication channels. We include a variety of channels such as registered/personal mail, process servers, email, fax, and SMS. For sending registered/personal mail, we specify address types to be used, and in the case of multiple available addresses, use a define address hierarchy.

These communication channels are customizable by workflow, and steps within a workflow. The channels, steps, and workflows are configurable by enforcement administrators. These are default configurations and can be overridden by authorized workers during the execution of the flow.

We use this capability of our workflow system and integrated communication channels to issue system generated liens, to entities such as the recorder's office, insurance company, other lienholders, and NCPs.

REQUIREMENT: (#505) The system must interface with the Social Security Administration to match and intercept disability payments with automatic case narration, appropriate worker alerts, and the production of documents to establish and release liens.

Interfacing with sources of income and establishing workflows to establish and release liens is a major function of CSE systems and our solution interfaces with SSA to establish liens on disability payments. In a manner like CSLN intercepts (refer to our response to #503) we provide the ability to intercept disability payments through an electronic exchange with SSA.

Our system starts disability intercept workflows for every matching, eligible NCP. The workflow does not issue income withholding notices before verifying the kind of benefit being received from the SSA. Such verification is one of the steps in the workflow. Only after the verification is the income withholding issued.

Disability is recorded as a source of income in our database and notices are generated through proper communication channels (refer to our response to #504). If the case is an interstate case, additional

documentation through CSENet/UIFSA is generated (for instance to close their portion of the case potentially).

REQUIREMENT: (#506) The system must interface with the Nevada Unclaimed Property Division for automated intercept of abandoned property claims.

Abandoned property in Nevada is mostly intangible properties such as bank accounts; uncashed checks and utility deposits among others. Our solution will be customized to interface with Nevada's Unclaimed Property Division for claimants who are delinquent NCPs. The California CSE system will be modified to meet Nevada's Business requirement and will start the claim intercept workflows for eligible NCPs according to applicable Nevada statutes. Please refer to our responses to #503 and #504 for more general information on such workflows.

(2.5.17) Federal/State Criminal Non Support Referral Tracking

REQUIREMENT: (#507) The system must support the documentation of referral for Federal Criminal Non Support. It must monitor submittal information and provide for reminder alerts as scheduled.

OCSE-AT-95-05 provides a framework for states to participate in submitting cases for criminal non-support enforcement. Cases are referred when any one of the following criteria is met:

- *The obligor lives in a different state from his or her child.*
- *The obligor has past-due child support greater than $5,000.*
- *Child support has remained unpaid for more than a year.*
- *The obligor has willfully taken steps to avoid support payments.*

Other enforcement actions must be exhausted without resulting in payment and the subjective criterion, willful avoidance of payment, must be well documented. States are encouraged to send potential referrals, and then a final decision regarding submittal is made by the US Attorney's Office.

Our solution will modify the California CSE system as needed to automate this workflow according to Nevada's requirements. Typically, this workflow includes caseworker assessment, research, and legal opinion before submitting the case. Our workflow determines residential and monetary eligibility and moves the workflow to the step of caseworker assessment and legal opinion. The workflow for this action is developed based on Nevada requirements while validating that federal requirements are met.

Our solution provides functionality to support Enforcement of Litigant's Rights (ELR) and Criminal Non-Support activities. The case monitoring process will identify eligible cases, automatically initiates workflows for these cases, monitors the workflows, and automatically identify cases eligible for the closure of the remedy. We have implemented this remedy in multiple states with customized workflow steps. Users initiate the remedy, and supervisory approval is usually required before a case, and associated documentation is manually forwarded to the US Attorney's Office.

(2.5.18) Administrative Enforcement-Interstate

REQUIREMENT: (#508) The system must be able to accept and work Administrative Enforcement-Interstate (AEI) requests (e.g., Income Withholding Order (IWO) issuance for another jurisdiction).
REQUIREMENT: (#509) The system must be able to initiate AEI requests to other jurisdictions.

Built to assist in the location and lien processing of assets held by an obligor with past due support in another state or jurisdiction, Administrative Enforcement Interstate (AEI) is designed to take quick, limited

action. In our solution, Interstate requests received from other states, electronically or manually, prompt the initiation of AEI workflows to seize obligor assets and send them to the requesting state. If AEI matches uncover any other information suitable for child support enforcement, this information is also sent to the requesting state.

Our solution also facilitates sending requests to other states electronically or manually depending on the ability of the other state to receive such information. We also provide the ability to interface with financial institutions across the country for assessing liens on accounts through MSFIDM.

For the freeze/seize activities across state lines, our solution provides the ability to use AEI – limited service request, that allows Nevada to request another state (the assisting state) to provide location and seizure of assets. Appeals are handled based on the laws of the assisting state, and in some cases, a two-state action may be required. Multi-state options are also supported by our solution.

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(2.6) Financial Management

(2.6.1) Order Entry and Obligation Maintenance

REQUIREMENT: (#510) The system must monitor for the receipt of court orders.
REQUIREMENT: (#511) The system must record the terms and conditions of the order, including, but not limited to, the current support obligation, the payment toward arrears obligation, medical support obligation and any fee obligations.
REQUIREMENT: (#512) The system must record the terms of the medical support provisions of the order.
REQUIREMENT: (#513) The system must record any judgment amounts.
REQUIREMENT: (#514) The system must record the legal effective date of the order, the end date of the obligation, payment commencement date and the signed date of the order.
REQUIREMENT: (#515) The system must record the court-ordered provision for direct payment.
REQUIREMENT: (#516) The system must maintain a history of all previously established orders.
REQUIREMENT: (#517) The system must be capable of supporting orders issued by foreign countries by capturing the currency and the exchange rate at the time of the entry of the order.
REQUIREMENT: (#518) The system must prorate obligation amounts when circumstances require a partial period amount.
REQUIREMENT: (#519) The system must identify obligations as voluntary, administrative, or court ordered.
REQUIREMENT: (#520) The system must automatically create obligations and associated accounts and designate to whom they are owed based on recipient and case status data.
REQUIREMENT: (#521) The system must document child-specific terms within a court order, including the establishment of paternity.
REQUIREMENT: (#522) The system must record the type of obligation, the date adjusted (if adjusted), the amount of the order, the payment frequency, the arrearage, the method of payment, the payment due date, and the issuing state of the order.

Financial processing originates with the creation and maintenance of support orders and obligations. Our solutions are distinguished by the re-design of the data structures from their mainframe roots into flexible, relational entities that provide information not only on the current order and obligations but also a detailed audit trail, easy access to retroactive arrears, automatic arrears calculation online, and automatic retroactive arrear recalculations online. This is important when the CST's assistance status changes retroactively, or when support modifications are retroactively ordered. A preview option with export to Excel allows the user to comprehensively review the modifications before committing them to the database, providing unprecedented flexibility and comprehensive historical information that enhances auditability.

Our solution can receive order information electronically from the Courts system and create order information within the Child Support system without the need to re-key information. These orders are automatically processed by workflows to start financial and enforcement processes, including income withholding. We offer the ability to accrue, adjust arrears retroactively, or demand and maintain balances based on assistance status for distribution and other purposes.

Orders received electronically or entered by users as either blanket orders (case level), or non-blanket (child-specific) orders are recorded in Order Details table. When blanket orders are created manually, the information entered by the user at the case level for the debt type is used by the system to create records at the obligation level for all eligible dependents. Eligible dependents are determined by the members associated with the Case ID entered. In case of non-blanket orders, the obligations are entered at the member and debt type level.

Our child support implementations in other states have been dependent-based and obligation-based systems that were converted from case-based systems. We implemented the conversion of the case-based processing to the dependent-based COMETS FM in the state of Massachusetts, based on the transfer system from Maine. Arrears are recorded and tracked at the child level, providing the ability for users to review arrears at debt level, dependent level, case level and NCP level. The individual assistance status of children is used to track un-reimbursed assistance and the PRWORA arrears buckets that depend on the current and

historical assistance status of the children. Accruals are at the obligation and child levels, where arrears are accrued into categories that correspond to the assistance status.

Our solution offers the capability to capture financial and non-financial terms of an order. When a judge electronically signs a new court order, without user intervention the system automatically creates new order and obligation records, where the data input is well defined, and business rules for unambiguous updates are available. Using extensively organized, user-friendly interfaces, the system allows the user to enter the order and obligation details manually and the information in the further ordered clause where automated capture is not possible.

The non-financial terms of an order include the following information:

- *Docket Number*
- *Ordered By*
- *Order Type (Court, Administrative, Voluntary, Temporary, Stipulation, Contempt, Paternity order, etc.)*
- *Direct Payment Indicator (to indicate if the order allows for direct payment from NCP to CST without directing through IV-D office)*
- *Order Signed Date*
- *Effective Date*
- *End Date*
- *Judge*
- *Hearing Master*
- *Continuance*
- *Intergovernmental Order ID*
- *Controlling Order Status*
- *CEJ FIPS*
- *CEJ Status*
- *Issuing Order FIPS*
- *Direct Pay*
- *Guidelines Followed*
- *Deviation Reason*
- *Income Withholding Order (Immediate, court ordered, both parties agreed, not ordered)*
- *Insurance Ordered Party/Parties (NCP, CST or both and their level of responsibilities regarding percentages)*
- *Insurance Coverage Ordered (Medical, Prescription drug, Behavioral Health, Dental, Vision, etc.)*
- *Parenting time*
- *Date Adjusted*
- *Currency at the time of entry of the order for intergovernmental responding cases*

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- *Exchange Rate at the time of entry of the order for intergovernmental responding cases*

All support orders, once entered into the system, become a permanent record and can be modified but not deleted. All order entry and modifications made to the order are captured for audit purposes and is displayed as history on the order maintenance screen.

The system has the capability to enter instate/intergovernmental (interstate/tribal/international) orders. In the case of intergovernmental orders, the initiated country/state's identification is recorded on the individual obligations using the Federal Information Processing Standard (FIPS) code. For tribal/international cases, the OCSE approved tribal/international identifier code is used.

In case of international orders, the system is set up to allow entry of order amount in foreign currency. An equivalent amount in dollars is also entered in the system to allow for accruals and arrears maintenance in U.S. dollars. Financial transactions (such as accruals, billing, distribution, disbursement, and arrears adjustments) are maintained as U.S. currency. The conversion rate at the time of order entry can be entered by the user along with the entry of order amount in foreign currency and U.S. dollars.

The financial terms of an order include the following information:

- *Blanket (Case-specific)/non-blanket (child-specific) Order*
- *Variation amount*
- *Variation time frame*
- *Dependent member ID*
- *Debt Type (Child Support, Medical Support owed to Medicaid, Cash Medical owed to CST, Spousal Support, NCP fee obligations)*
- *FIPS Code (to maintain intergovernmental obligation amounts)*
- *Periodic Amount*
- *Frequency*
- *Judgment Amount*
- *Effective Date*
- *End Date*
- *Payment Due Date*
- *Initial Arrears at the time obligation entry*
- *Funds Recipient ID*
- *Funds Recipient Type (CST, Medicaid, Intergovernmental FIPS, State)*
- *Arrears Payment Amount*
- *Last Accrual Date*
- *Next Accrual Date*

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The obligations recorded in the system can have an effective date of past date, current date, or future date. The system calculates accruals up to current date immediately when a past dated obligation is recorded in the system either by the user or by the batch process.

The Funds Recipient is recorded as Medicaid for Medical support debt types, out-of-state FIPS for the obligations created with Intergovernmental FIPS code, CST for child support, Cash Medical and spousal support obligations and state for fee obligations. Though the Funds Recipient is recorded as CST, the amount applied to Foster Care arrear bucket is disbursed to Foster Care agency. The amount applied to permanently assigned arrears, temporarily assigned arrears, conditionally assigned arrears (in case of federal tax payments) is disbursed to TANF agency after the secondary distribution.

When a new obligation is added, or financial terms of the existing order are modified in the system, it results in the generation of income withholding documents with the amounts derived from the latest financial terms.

Our solutions address partial period charges when obligations end or start at the middle of the period. The accrued amount for the partial period is derived by prorating the periodic amount based on the number of days included versus the number of days in the frequency specified for the obligation. For example, if a weekly obligation accruing on Fridays ends on a Wednesday, the last accrual is calculated for five days out of seven days. This scenario could also occur when the order is modified to have an effective date in the middle of the week.

(2.6.2) Future Obligation Setup

REQUIREMENT: (#523) The system must accommodate future obligation changes as provided for by the court order allowances for custody changes, seasonal or other known employment changes, and other directed changes as specified by the court order.
REQUIREMENT: (#524) The system must monitor the future obligations daily and update the current obligation on the designated date.

Our solution meets Nevada's requirement for future obligation setup. The system enables users to enter known changes to obligations that will occur in the future and as provided for by the court order. For NCPs with seasonal employment or employment change or custody change, it is possible to specify multiple effective dates and end dates and the corresponding ordered amounts and frequencies for current and future periods

Seasonal obligations are helpful in instances when NCP has varying incomes at different times of the year due to the nature of his/her work (for example lawn services) or when the dependent stays for a part of the year with the NCP. A seasonal obligation may be in effect for one the year, whereas the standard obligation is in effect for the balance of the year. The system manages the recurring shifts automatically. The financial terms of an order in these circumstances involve specifying the overall effective date, end date of the obligation and different periodic amounts and frequency for different periods of the year. For example, the obligation overall effective date and end dates could be 01/01/2016 and 12/31/2033, and the periodic amount is $100 a week from September to May and $25 a week for June to August. The system checks to find the seasonal period into which the current accrual date falls and uses that periodic amount for accrual calculation.

The obligations can be set up by specifying the different obligation payment amounts for different non-overlapping contiguous intervals of time. The system calculates and stores the next accrual date each time an accrual occurs. If the next accrual period is totally within one interval of the obligation, the accrual calculations are based on the obligation payment amount and frequency relating to that interval. However, if

the accrual period falls into more than one interval, then the accrual is based on each of the obligation payment amounts prorated by the number of days in each of the intervals.

The system continuously monitors for the future obligation becoming a current obligation. The accrual batch process records next accrual dates each time an accrual happens for the obligation. If the next accrual date matches the effective date of the future obligation, the next accrual calculations consider the new periodic amount for the accrual. Otherwise, the accrual for part of the period is calculated with the old periodic amount and the rest with the new periodic amount.

(2.6.3) Retroactive Obligation Management

REQUIREMENT: (#525) The system must calculate the amount of the adjustment when new or modified obligations are entered that have a prior period legal effective date.
REQUIREMENT: (#526) Once approved, the system must update the appropriate case arrearage balances.

When a new obligation is added with an effective date of a past date, the system calculates at the time of entry of the obligation, the charges up to the current period and adds them to the balances. Retroactive changes, made to the order, results in a recalculation of arrears balances and increasing/decreasing the existing balance by the difference in the arrears balance between the original and recalculated amounts for each of the months affected. In addition, the transaction amounts of the retro months need to be carried forward to all later months up to the correct month. The arrears are moved to the appropriate buckets based on the program type in each of the following months up to the current month. A preview option with export to Excel allows the user to review the modifications comprehensively. The supervisor gets an alert to review the details before committing them to the database, providing unprecedented flexibility and comprehensive historical information that enhances auditability.

The process involves calculating support amounts in correct buckets in the retro month based on program type. While carrying forward these balances to later months, the system considers the program type for each of the accrual periods, in determining to which bucket to move the balances from the current arrears buckets. The logic can be set up as configurable business rules. The accruals calculated for prior months are carried forward until the current month. The new arrears balances of each month are reclassified into appropriate arrears buckets based on existing grant balances.

For example, a child support obligation accrues under the permanently assigned arrear bucket in case of TANF program type, Non- TANF bucket in case of Non-TANF program type, Foster Care bucket in case of IV-E, Non-IV-D arrear bucket in case of Non-IV-D case type, etc. In case of Cash Medical obligation, the accrual is always in Non-TANF bucket irrespective of the Program Type. All interstate responding cases accrue in the Non-TANF bucket. Similarly, in case Medical support to Medicaid, the accrual is always under Medicaid arrears bucket. The logic can be set up as configurable business rules.

Financial transactions, such as obligation modification and arrears adjustments, require approval from supervisors. Approval or rejection of the request by the supervisor is handled using a financial note, as shown in the figure below. The requestor sends a financial note requesting the supervisor for obligation modification or arrears adjustment. The supervisor receives an alert and can forward the request to another user, approve the request and process, reject the request and ask for more information from the requestor, or cancel the request and end the process. The requestor/supervisor receives an alert when the request is made or when the request is responded.

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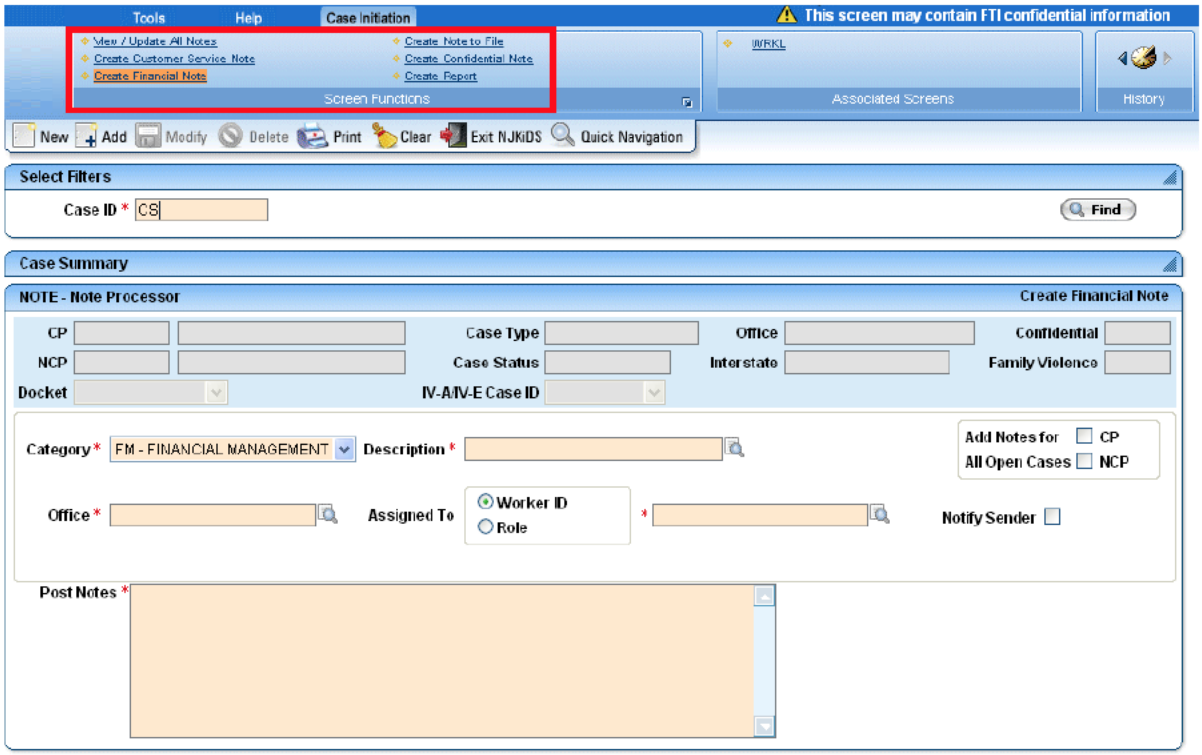

Figure 3.4 (2) - 89. Financial Note Screen

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(2.6.4) Debt Types

REQUIREMENT: (#527) The system must provide debt types including, but not limited to:

- Child Support
- Spousal Support (used for IV-D and non IV-D cases where a current child support obligation or child support arrears exists)
- Medical Support
- Cash Medical
- Interest
- Genetic Test Costs
- Other State IV-D Agency Arrearages with Pay-To FIPS

REQUIREMENT: (#528) The debt types must be maintained in a parameter table with distribution priority data clearly established for use in collection processing.

REQUIREMENT: (#529) The system must be able to automatically segregate and report amounts owed to multiple recipients within a debt type within a case.

Our system allows the creation of multiple obligation types and frequencies based on configurable rules. Obligation types include Child Support, Spousal Support, Medical Support owed to a client, Medical Support owed to Medicaid agency Cash Medical (Medical Expense Judgment). Some states add an NCP genetic testing fee or other fees owed by NCP as a one-time obligation. Obligation types are table-driven; therefore, all obligations relevant to the state can be added, and the distribution priorities for the newly added obligation types can be identified up to the arrear bucket level.

The frequencies currently include weekly, bi-weekly, semi-monthly, monthly, annually and one-time. The accruals happen based on the frequency specified for the obligation. The one- time frequency is mainly used to record any one-time fees, so that the system does not charge the NCP on a regular basis by accruing frequently.

The system has the flexibility to enter same or different frequencies and amounts for each of the case members' obligations. The accrual process calculates the next accrual date based on the last accrual date and the number of days as in the frequency for each of the obligations. For example, a weekly obligation that accrued last Monday accrues the following Monday again. The periodic amount and the frequency are applicable only until the end date of the obligation. Once the end date is reached, the obligations do not continue to accrue.

The system has the capability to enter in state/intergovernmental (interstate/tribal/international) orders. In the case of intergovernmental orders, the initiated country/state's identification is recorded on the individual obligations using the Federal Information Processing Standard (FIPS) code. For tribal/international cases, the OCSE approved tribal/international identifier code is used. The obligation key includes the Case ID, Member ID, Debt Type, FIPS code of the in state/initiating state's FIPS. For example, if initially the case is in state, and then the CST moves out of state, the system allows for one Child support obligation for the member with in-state FIPS where the arrear balances are maintained to be paid directly to the CST and another child support obligation for the member with the interstate FIPS where the current support accrues and has arrear balances owed to the other state. The obligations entered in the system contain important information such as the member, FIPS code of the Instate/Intergovernmental (to allow for maintaining balances for different states within the same debt type), the periodic amount, frequency of accrual, effective date, end date, funds recipient ID, etc. For interstate responding cases, the funds recipient is set up as the initiating state's SDU.

The obligations are set up with the funds recipient defined at the obligation level. The funds recipient is recorded as Medicaid for medical support debt types, out-of-state FIPS for the obligations created with Intergovernmental FIPS code, CST for child support, cash medical and spousal support obligations and state

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for fee obligations. Though the funds recipient is recorded as CST, the amount applied to permanently assigned arrears, temporarily assigned arrears, conditionally assigned arrears (in case of federal tax payments) is disbursed to TANF agency after the secondary distribution occurs and the amount applied to assigned buckets is validated against URA to make sure that amount disbursed to TANF agency does not exceed URA at the IV-A case level. Similarly, the amount applied to foster care arrear bucket is disbursed to Foster Care Agency.

The distribution priorities are maintained on a parameter table and are used for distributing payments received from various sources. Parametrization allows for taking care of changes in policy or federal guidelines relating to distribution. Debt types can be added, or existing types can be changed based on Nevada requirements. Business rules for the processing associated with each debt type must be defined.

Distribution priorities may vary based on the debt type, receipt source and the program type of the member, arrears type, age of the balances, instate or interstate debt type, etc. to match the testdeck. For example, federal tax intercept payment has distribution priority of zero under PRWORA rules for current support and has higher priority for assigned arrears than for unassigned arrears irrespective of the program type. Regular receipts have higher priority for current support balances than for arrear balances in different buckets. Within arrear buckets, the priority is determined based on the program type of the member.

(2.6.5) Account Charging

REQUIREMENT: (#530) The system must monitor and charge accounts daily based on the court order frequency, debt type, account type, and charge date as established by the court order.
REQUIREMENT: (#531) When determining the obligation amount, the system must prorate the obligation when a change of obligation occurs within the charging period.
REQUIREMENT: (#532) The system must be capable of charging interest and maintain separate interest balance data.
REQUIREMENT: (#533) The system must allow for interest to be charged or not charged at the individual docket level.
REQUIREMENT: (#534) The system must be capable of charging penalties and maintain separate penalty balance data.
REQUIREMENT: (#535) The system must allow for penalties to be charged or not charged at the individual docket level.
REQUIREMENT: (#536) The system must allow for automated Cost of Living Adjustments to obligations.

Financial processing originates with the creation and maintenance of support orders and obligations. Our solution offers the capability to capture financial and non-financial terms of an order using an interface with the court or user entry manually. The financial terms of the order are entered for each type of obligation (child support, medical support, spousal support, cash medical, medical support, etc.) at case level or member level depending on the terms of the order whether the order is case specific or member specific.

The obligations recorded in the system can have an effective date of past date, current date, or future date. The system calculates accruals up to the current date when a past dated obligation is recorded in the system. The system calculates the first accrual for the effective date of the obligation when a current obligation is entered into the system. From that time, the number of days, as in the frequency, are added to the last accrual date to calculate next accrual date and see if the date is still a past or current date. If so, accrual continues until the next accrual date calculated happens to be a future date or the next accrual date has reached the obligation end date whichever is earlier.

The frequencies currently include weekly, bi-weekly, semi-monthly, monthly, annually and one-time. The accruals happen based on the frequency specified for the obligation. The one- time frequency is mainly used to record any one-time fees, so that the system does not charge the NCP on a regular basis by accruing frequently. In addition to accruals, the current monthly support obligation is calculated for the entire month on the last day of the month for the following month. However this amount is not added to the account balances. This is the amount used for distribution purposes for current support amount of each of the obligations.

If the frequency is weekly, seven days are added to the current accrual date to calculate the next accrual date. If the frequency is bi-weekly, 14 days is added. In case of semi-monthly, 15 days are added. If adding 15 days results in a day that does not exist for that month, the system automatically moves the date to last day of the month. For example, if accrual occurred on February 14th of a non-leap year, the next accrual date calculates to February 29th, which does not exist. Consequently, the system adjusts the date to February 28th. For a monthly frequency, the accruals occur on the same day each month. As explained earlier, if that date does not exist for a month, the last day of the month is considered. The accrued amount is added to the account balances.

The system calculates accruals up to date at the time of obligation entry, and from then on, the accruals are calculated by the batch process daily for cases eligible for accrual that day. The balances are updated in support log by recording the entry for each month up to a current month. The amount calculations consider the program type of the member related to the obligation to ensure balances are placed in the correct buckets. Also, the financial transactions are logged in event log master in the reverse chronological order. If for example, a financial note is entered, accruals occurred for two consecutive months after which there was an obligation modification; the transactions are displayed in the reverse order of occurrence with the latest event on the top.

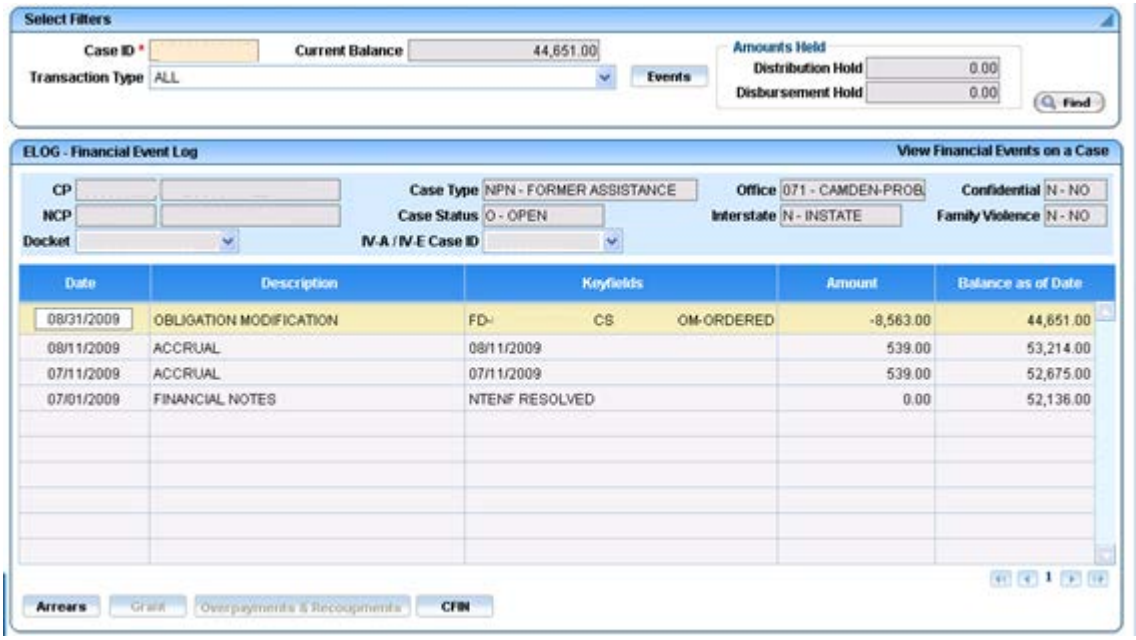

Figure 3.4 (2) - 90. Financial Event Log

The accrued amount is added to Medicaid balances if the debt type is medical support owed to Medicaid debt type, is added to Non-TANF balances if the debt type is medical support to client, added to permanently assigned account if the client is on assistance and the debt type is child support or spousal support, added to Non- TANF account if the client is off- assistance or never on assistance, and the debt type is child support or spousal support, added to foster care balances if the case type is foster care, or added to the Non IV-D bucket if the case type is Non IV-D. All interstate responding cases accrue in the Non-TANF bucket.

Our solutions address partial period charges when obligations end or start at the middle of the period. One example of this situation is when the court orders a modified amount in the middle of the period of accrual.

The accrued amount for the partial period is derived by prorating the periodic amount based on the number of days included versus the number of days in the frequency specified for the obligation.

Interest on arrears and penalties are calculated at the obligation level. Certain conditions can make a case or debt type exempt from an assessment of interest. The exemptions and the rules for charging interest and penalties can be configured to the state's requirements. For example, the state may choose not to charge interest on interstate cases. The Screen allows entry of exemption codes for the system to automatically exempt interest/penalty calculations. In addition to these exemption codes, the system allows for manual exemption by the authorized user for interest/penalty at the individual obligation level. Interest adjustments can be made in the same way as arrear adjustments.

Interest is stored as a separate sub-account rather than recorded as an obligation. When receipts are backed out, or retroactive modifications and adjustments are made, the appropriate interest and arrears balance are adjusted accordingly. Distribution to interest balances is paid to the family if the interest calculation is based on unassigned arrears or to the IV-A/Foster Care/Medicaid agency if it is based on an assigned arrears balance.

Cost of Living is calculated each year automatically for IV-D cases in our New Jersey system based on the COLA rate if the case has an active child support order. The case is exempted if there was order modification within the year since the last COLA. Notice is sent out to both parties. If there is contest from the NCP, administrative review is conducted, and the results of the review are recorded, and the next action is taken based on the review results. The whole process of Cost of living can be pre-defined based on the Nevada rules for Cost of Living as a workflow containing a set of activities and next activities based on the outcome of the current activity. The activities can be completed by the worker manually or be monitored by the system to move the activity chain forward. The process has appropriate notices printed at various steps as necessary.

(2.6.6) Obligor Billing

REQUIREMENT: (#537) The system must automatically generate billing statements, including the amount of current and past due support, the due date, and the bill generation date.
REQUIREMENT: (#538) The system-generated bill must support varied payment / collection cycles (e.g., weekly, monthly, etc.).
REQUIREMENT: (#539) The system must be capable of generating obligor bills on demand.
REQUIREMENT: (#540) The system-generated bill must provide payment identification (e.g., return stubs or coupons supporting various payment frequencies).
REQUIREMENT: (#541) The system billing statements must include system-generated or caseworker-defined narrative notices / comments to obligors.
REQUIREMENT: (#542) The system must provide bill suppression upon entry of an allowable reason.
REQUIREMENT: (#543) The system must provide supervisory-authorized review either prior to or following billing suppression or adjustments.
REQUIREMENT: (#544) The system must notify the worker of the decision not to suppress or adjust billing.
REQUIREMENT: (#545) The system must record and display a history log of any billing suppression activity by date and worker.

Our solution automatically generates bills to NCPs when billing has not been suppressed. The billing function is used to notify NCPs on a timely basis of the support amounts/fees that are due for the following month/quarter. Billing coupons are generated per configurable business rules and are printed and mailed out or can be sent as an e-mail or displayed on customer portal and employer portal. In general, NCPs are billed only if there is no income withholding order for the case. The statement of account is designed based on the requirement. The statement of account gives information to the NCP of the current charges, expect to pay (ordered on arrears), arrears balance, etc.

Cases having obligations with mixed frequencies within an order are handled in a variety of ways based on the individual state's requirements. An example of mixed frequency is a case having a child support obligation with a frequency of weekly while having the medical support obligation with a frequency of monthly. The billing amount can be converted to minimum frequency, maximum frequency, converted to monthly or may generate different billing coupons for different frequencies. Our solution meets the requirement to automatically generate billing notices to noncustodial parents, including a Statement of Account containing the amount of current and the past due support, interest, penalties, and fees and many billing coupons based on the due dates. The billing cycle is determined based on configurable business rules.

On-demand generation capabilities ensure that the authorized workers can print a bill manually if required. The billing notice generated on-demand is for one case at a time. The worker who generated the bill is recorded in the audit log. The billing notice generated on demand contains the same information and number of coupons as is generated by the system.

The billing notice contains the amount due towards support, arrears and fees and billing coupons. The billing coupon contains the date generated, Case ID, NCP ID, owed amount, provision for the NCP to enter the amount being paid, and the bar code to easily scan and identify the case ID or Payor ID associated with the payment. Support and fees can be placed in a single billing coupon or separated based on the State's practice. Billing coupons are generated monthly or quarterly or on demand as required by the state.The number of coupons generated is based on the number of cycles in that period. The cycle is matched with either NCP's pay frequency or the obligation charge frequency depending on the state's requirement. The Billing History (BHIS) screen is used to view current and historical billing coupons and maintain the suppression of bills for specified periods of time.

The billing batch process is run at the end of the month for the following month. The accruals for the following month/quarter are calculated in advance, and a file is created with the details such as Case ID, Amount Charged, Due Date, Payment on Arrears, and arrears balance. If all the obligations are weekly, the file contains four or five due dates and corresponding amounts charged. The number of coupons will accordingly be four or five. In case of monthly frequency, there is one amount charged and one due date. In case of mixed frequencies within a case, all amounts can be either converted to a monthly, the lowest frequency of the obligations of the case or the maximum frequency of the obligations of the case or have as many coupons as the different due dates based on different frequencies.

The billing file generated in batch is used to print the coupons containing the Case ID, NCP ID, bar code to identify the coupon, due date, amount due, and provision for entering the amount paid, billing message. Billing message screen is provided where the worker can enter a message at the case level, county level or state level to be printed on the bill. This is helpful when any new program service availabilities or changes to program services need to be informed to NCPs or employers. The billing file is sent to the central printer or SCaDU or third party for printing depending on the state processes.

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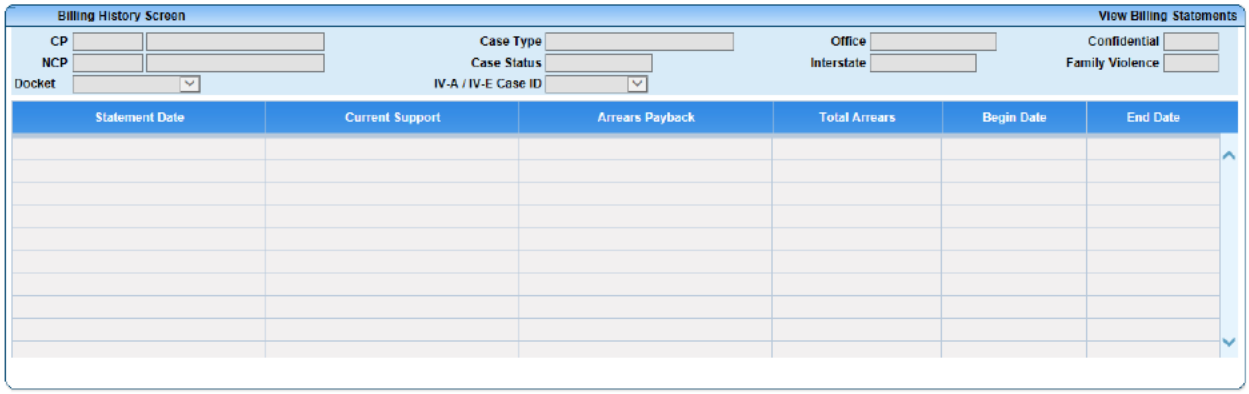

Figure 3.4 (2) - 91. Billing History
View billing statements

Billing can be suppressed manually by authorized users at the member or case level or employer level. An effective date and end date can be specified for any billing suppression so that the system can automatically start generating bills after the end date is reached.

Our solution features automatic billing suppression based on configurable business rules in addition to manual billing suppression. One example is that billing is automatically suppressed for initiating Interstate cases. Other reasons where billing suppression may be required include NCP bankruptcy, deceased NCP, or imprisoned NCP. However, a supervisor can override the suppression and include these cases unconditionally in the next billing run. The billing suppression request and the processing of the request, either accepting or rejecting or requesting more information can be handled using financial note which alerts the requestor and the supervisor appropriately. The system records and displays the history log of billing suppression or override activity by date and worker.

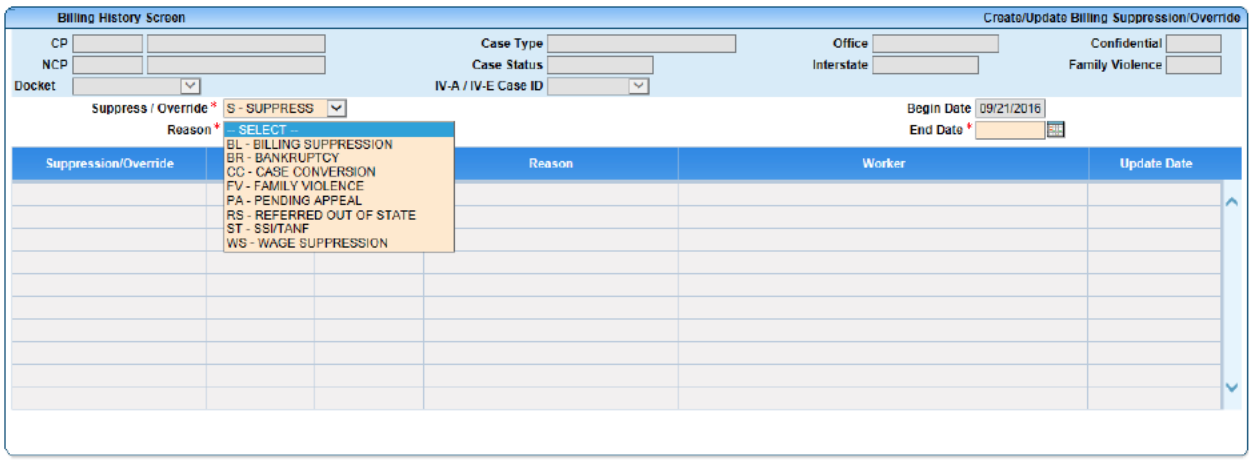

Figure 3.4 (2) - 92. Billing History
Create or update billing suppression or override

(2.6.7) Payment Processing

REQUIREMENT: (#546) The system must provide receipt identification, including, but not limited to:

- Collection sources including
  - obligor
  - employer

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  - other state IV-D agency
  - Federal Tax Offset intercept
  - federal administrative offset
  - state tax intercept
  - unemployment compensation intercept
  - worker's compensation intercept
  - lottery intercept
  - bonds
  - FIDM
  - CSLN account seizure
  - bench warrant
  - direct payment etc.
- Collection types including
  - check
  - money order
  - EFT
  - cash
  - credit card etc.
- Collection date
- Check routing number and account number
- Unique system-assigned receipt number

Our Solution supports multiple receipt sources including NCP, Employer, State Agencies, Intercepts, FIDM, CSLN, Out-of-State Payment, Out-of-State Cost Recovery, Bond payment, Unemployment, Worker's compensation agency, Bench Warrant money from the Court, and CST Recoupment. These receipt sources recorded in the system are used to distribute the payment to the eligible cases properly.

Payors can make remittances via a variety of payment modes including cash, check, credit card, debit card, money order, cashier's check and EFT, and payments can be collected at various locations. The locations where the payments are collected are identified during JAD sessions. The remittance type and the location are recorded in the system.

The following chart is an example of the batch sources and receipt sources maintained in our child support system (NJKiDS) in New Jersey.

Batch Sources and Pay Sources Maintained	
Batch Source Description	Receipt Source Description
IRS	Administrative Offset (Retirement)
	Administrative Offset (Salary)
	Administrative Offset (Vendor Payment)
	Federal Tax Refund Offset
NCP	Regular Payment
	Bonds
	Judgment
	Jail/Release Payment
	Direct payment to CP
	Voluntary Payment
Employer	Disability Insurance
	Wage Payment
	QDRO Payment
Interstate	Interstate Regular Payment
	Interstate Cost Recovery (treated as collection)

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Batch Sources and Pay Sources Maintained	
Batch Source Description	Receipt Source Description
Financial Institution	Levy/ FIDM
Lottery Agency	Lottery
State Tax	Homestead Rebate
	Savers Rebate
	State Tax Refund Offset
Unemployment Agency	Unemployment Compensation
Worker's Comp Unit	Worker's Compensation/ Insurance (CSLN)

Electronic files received from some of the sources may be processed in the batch directly while most of the sources send the payments to SCaDU. SCaDU collects and posts payments in a separate system and uploads a collection file. The file received daily from SCaDU is processed in the child support system.

Other payment details recorded in the system include the Receipt/Payment ID, Batch Source (if received from SCaDU or by Batch or online posting), Obligor ID, Case ID, amount collected, date collected, receipt date (the data used for distributing collections), Receipt Source (as explained above), Collection method (as explained above), routing account number/account number, out-of-state FIPS in case of interstate payments, cost recovery amount if provided by the other state, Employer ID in case of employer payments, payor address where available and the URL for the image path of the payment image.

REQUIREMENT: (#547) The system must support the allocation of obligor payments to individual cases according to state policy.

The receipts posted in the system can have one of the three statuses – identified (ready for distribution), unidentified (not able to identify the obligor or the case ID), or held (the receipt is held from distributing for a reason). When the receipt is held, the reason for the hold is maintained.

When the batch is reconciled, the receipts with identified status are ready to go through the distribution process. A case level receipt means that the receipt is designated to be applied only to that case of the payor. An example is a jail payment when the payor specifies that the entire amount should be applied to a specific case. The receipts posted at case level are distributed to the case directly. The receipts posted at the payor level will be allocated to the payor's cases based on the configurable rules applicable to the state and then is distributed within each case.

When the payment cannot be identified, additional details on the instrument are entered into the system, and the item is researched to find the payor. Until such time, the receipt remains unidentified. These unidentified receipts are researched, and payor information is updated.

A distribution batch process uses the receipt date to determine the month to which the payment should be applied. The receipt source is used to determine proper distribution rules.

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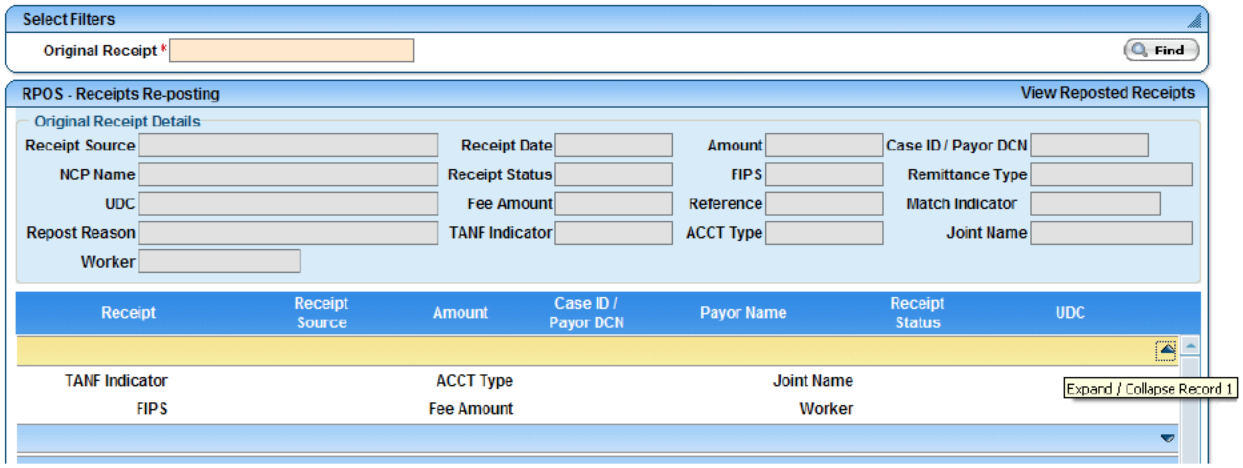

Figure 3.4 (2) - 93. Receipt Details

The Receipt details recorded include Receipt Source, Status, Remittance Type, Receipt Date, Payment Amount, etc.

The EFT file contains collections received from other States and large employers. The file contains an addenda record (of Type 7) for each collection which contains the identifying information of the receipt. The Case ID field is used to identify the Case ID for receipts to be posted at the case level, to identify the payor for receipts to be posted at the payor level. When receipts where the payor cannot be identified, the receipt is placed in the system as an unidentified receipt, and the research group researches the payment by reaching the employers or the other State and identifying the payment.

REQUIREMENT: (#548) The system must accommodate the receipt of a voluntary payment before the establishment of an order.

Voluntary payments can be specially marked by SCaDU or classified as voluntary by the system when certain conditions are validated, e.g., no order for the case. When the voluntary payment from an NCP is processed in the system, the system automatically creates a voluntary order and an obligation with zero-dollar periodic amount, so that the payment allocation details can be maintained in the system. Design alternatives for the State of Nevada will be discussed with during Joint Application Design (JAD) sessions.

REQUIREMENT: (#549) The system must record and track collections associated with a posted bond.

Based on the pay source, the logic for posting and processing the receipt may differ. The logic is defined based on the business rules of the State. Bond payments are placed on hold at the time of the payment.

Bonds are usually ordered as the result of an Enforcement action and offset when a payment plan is not honored. The Enhanced Solution includes the ability to end or suspend an Enforcement action based on a performance bond posted by the delinquent obligor. The obligor is ordered to deposit a specific sum with the IV-D agency. When a repayment plan is not met, or when current support payments are missed, a bond offset process triggers according to configurable business rules.

Our solution generates necessary documentation to the NCP and the bondholder and applies a re-specified amount of money from the bond amount to the current support or past-due payments. When the system tries to draw an amount to cover the prior month's support obligation/arrears payback, and the amount in escrow is not sufficient, the system alerts the case worker that the bond amount is not sufficient to cover the Monthly Support Obligation (MSO)/arrears payback.

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The system captures the name of the NCP, the court ordered performance bond amount, the effective date of the order, and any reductions to the amount of the performance bond. Advance notice to the NCP is generated intimating the delinquency and advising the NCP of his/her rights to contest the bond imposition.

When past-due support or current payments are met according to configurable business rules, the system generates necessary documentation to obligors and bondholders to remove liens and restore bonds. Records of these are in the Case Enforcement diary along with necessary case notes.

REQUIREMENT: (#550) The system must be capable of receipting and posting collections through electronic funds transfers for all sources.

The EFT file contains collections received from other States and large employers. The file contains an addenda record (of Type 7) for each collection which contains the identifying information of the receipt. The Case ID field is used to identify the Case ID for receipts to be posted at the case level, to identify the payor for receipts to be posted at the payor level. When receipts where the payor cannot be identified, the receipt is placed in the system as an unidentified receipt, and the research group researches the payment by reaching the employers or the other State and identifying the payment.

Our solution automatically generates a unique receipt number, based on business rules, for each collection. Whatever the status of the posted receipt, the system assigns a unique receipt number. The receipt number includes the batch posting date, deposit source (source from which the collection is received), batch number (a sequence number assigned to each batch of receipts), and a receipt sequence (a sequence number assigned to each receipt with the batch). The combination of this information uniquely identifies the payment and tracks the receipt through other stages of the financial process.

REQUIREMENT: (#551) The system must provide financial controls for posting and balancing all payment transactions.

The system facilitates online posting of collections either in batches or individually. These payments are grouped in small batches to facilitate the daily balancing of funds that are received. The batches require control counts and control amounts entered for the batch being created before posting the payments. The batch remains unreconciled until the control count, and control amount matches with actual count and actual amount posted. The user checks all the payments posted and corrects the actuals or controls until the batch is reconciled. Once the batch is reconciled, the receipts are ready to be included in a file to be sent to SDU.

The user who creates batches is not allowed to post payments; the separation of duties creates a strict financial control. The matching of actual count against control count and actual amount against control amount help in identifying most of the problems at the time of posting rather than after the distribution and disbursement of the receipt.

REQUIREMENT: (#552) The system must generate documents required to support the deposit of payments / collections to financial institutions.
REQUIREMENT: (#555) The system must include an online-receipting component that will include the entry of payments and issuance of receipts to payers.

NCPs may make cash/check payments at the offices directly instead of sending the payment to SCaDU. In such instances, the system allows the user to log payment details online on the Payment log (PLOG) screen and generate and print a receipt to be handed over to NCP immediately. Payments collected at each office are posted under different batches than payments received from SCaDU.

After posting, the checks and cash collected at the individual offices need to be deposited to the financial institutions. This requires a deposit slip that contains the batch numbers, batch counts, amounts in each of the batches, and total amount to be deposited. The current solution allows local printing of deposit slips

based on configurable business rules. A deposit slip is generated by the user, for each district office, at the end of the day for all reconciled batches and is attached to the payments to be submitted to the financial institution. A report containing similar information is produced to help SCaDU properly account for the collection and process the receipts.

A batch process runs at the end of the day, and all reconciled batches are extracted to a file which is sent to SCaDU. SCaDU posts these receipts in their system and sends the details in the collection file along with other collections.

REQUIREMENT: (#553) The system must process injured spouse indicators received for collections in the federal tax offset file, and treat those collections as "individual", not subjecting them to the six months non-assistance joint tax hold.

In case of a collections file received from the Internal Revenue Service (IRS), details such as Payor SSN, payor's name, collected amount, offset year, case type (arrears type certified), payment address, fee amount, injured spouse indicator, zero balance delete indicator, and top trace number are maintained in the system. The tax collections file is processed, and the receipts are uniquely identified based on the details in the tax collection file. A similar process handles identifying collections from the State Tax Offset file.

Based on the pay source, the logic for posting and processing the receipt may differ. The logic is defined based on the business rules of the State. For example, Joint tax Federal tax payments are held for six months in anticipation of an injured spouse claim. These types of receipts are distributed, and the non-assistance portion of the receipt is held for six months.

In scenarios where the injured spouse indicator is received on the payment, the payment can be distributed and disbursed like individual tax payment. There is no need to place the non-assistance payment on disbursement hold.

REQUIREMENT: (#554) The system must accept and process unidentified and / or suspended payments and must support the identification of such payments.

Our solution supports the identification of unidentified and/or suspended payments. At times, payments intended to be sent to someone else may be received in error and posted in the system. These unidentified receipts are researched and released to other parties. The rules governing identifying the payment, refunding the amount to other parties, and holding the payment for supervisor approval are based on the State's policies and procedures.

When the payor is not identifiable, the system classifies the receipt as unidentified. These receipts are constantly researched either by the user or by the system using the past research details to identify the payment. The identified receipt is placed on hold for a supervisor's approval so that there is a two-tier process for the manually identified money.

To facilitate the identification of payments by SCaDU, a batch process generates case validation files and sends them to SCaDU daily. Also, a monthly refresh file is generated containing case and member data for all open or closed cases, with or without court orders. The daily file contains case and member data for all newly added open cases with/without court orders, which have not previously been sent to SCaDU. SCaDU uses this information to identify the payments received.

Wherever the payor is not identifiable, the system classifies the receipt with an unidentified status. These receipts are constantly researched either by the user or the SCaDU staff using the past research details to identify the payment. The identified receipt is placed on hold for supervisor approval so that there are two tier processes for the manually identified money.

All available information is captured from the financial instruments or coupons in case of unidentified receipts. This information helps in identifying the payor. Sometimes the Payor ID/Case ID is incorrectly provided on the instrument, but SCaDU submits the name on the instrument, routing number, account number, remittance type, check number, bank name, the amount on the check, pay source, and/or payment date.

The current solution provides unidentified receipts information in the Unidentified Receipts (URCT) screen. URCT allows the user to filter receipts by date range, name (exact, beginning with, or Soundex), routing number, account number, remittance type, pay source, reference ID, and payment amount. This screen is used by SCaDU staff and State users that have specific security access to view and identify the payment. Users can view currently unidentified receipts, history of unidentified receipts, or all receipts. These filter options are useful for the user to find previous research information for a receipt. Finally, the identified information is saved and displayed in a grid. The following screenshot highlights the overall view of Unidentified Receipts screen concerning history, filters, and unidentified receipt information.

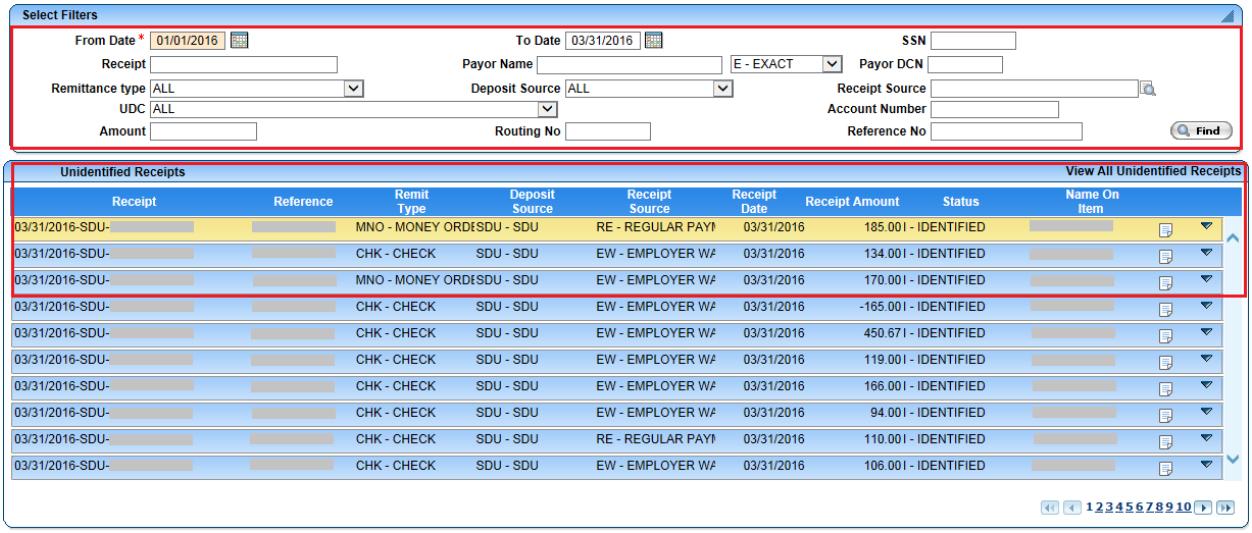

Figure 3.4 (2) - 94. Unidentified Receipts Screen

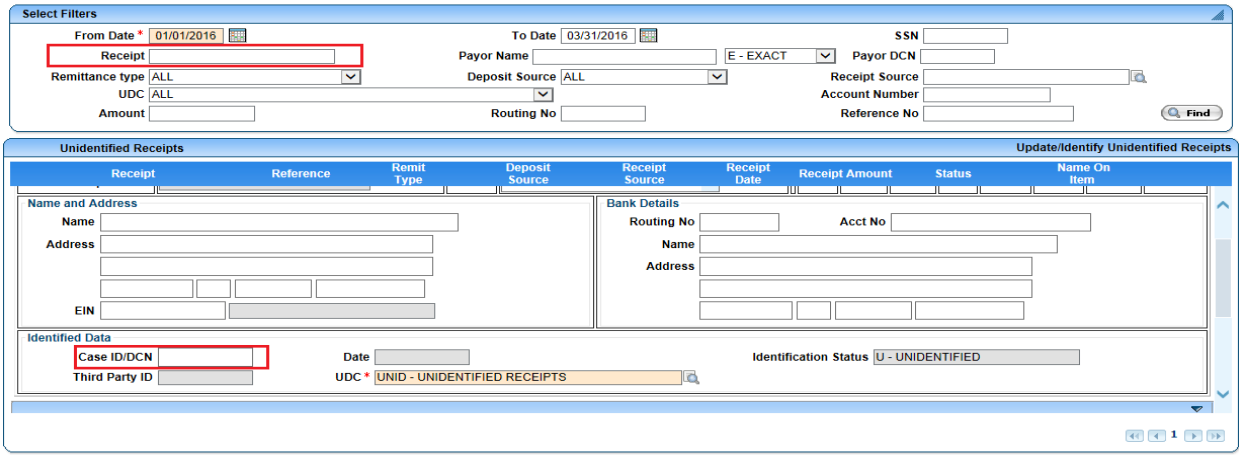

Figure 3.4 (2) - 95. Unidentified Receipts (URCT) Screen

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REQUIREMENT: (#555) The system must include an online-receipting component that will include the entry of payments and issuance of receipts to payers.

See our response for #552

REQUIREMENT: (#556) The system must process and post all payments, including unidentified payments, to the system promptly so that the State meets the two-day timeframe for distribution and disbursement of payments.

The receipts posted in the system are classified with a status of identified, held, or unidentified. Identified receipts go through the distribution process. Based on the business rules configured for system holds, some of these receipts go on hold either fully or partially. Receipts ready for distribution are distributed to eligible cases based on the configured business rules for distribution priorities.

The held receipts are released from hold based on the configurable business rules. The released receipts are ready for distribution and go through the process explained above. Held receipts are managed using alerts to users, automatic release if left unattended for the maximum period, and extensions to hold for a specified number of days.

The unidentified receipts are researched by a specialized group. These users try to identify the payor by looking at the other information on the financial instrument or collection file or by reaching out to the source of the payment (employers in case of wage payments, out-of-state contacts in case of an Interstate payment, etc.). The identified collection is ready for the distribution process.

Most of the receipts are in 'identified' status at the time of posting in the system. A Held Receipts report is provided for users to see system hold conditions such as Case Closed and No Obligation and to correct the case conditions to release and distribute the payment. The receipts originally identified go through distribution the same night they are posted. The released receipts go through distribution on the date they are released from hold.

Receipts distributed to unassigned buckets are available for disbursement immediately except in the instance of collections from IRS involving joint tax returns. In these cases, the distributed non-assistance amounts are placed on a six-month hold. The amounts applied to assigned buckets go through another level of distribution. Some States receive grant information or board amounts towards the end of each month for the following month. When this occurs, welfare distribution can be run immediately after regular distribution and amounts applied to recoup unreimbursed grants and disburse the payment to either the IV-A agency or to the family in case of excess over the grant. If the States do not receive grant/board information in advance, the States hold the applied amounts from regular distribution until the month end and process at the end of the month.

The overpayment is recouped from the amounts ready for disbursement based on configurable rules, and the balance is disbursed to the fund's recipient.

REQUIREMENT: (#557) The system must maintain a payment history containing, but not limited to, the following information for each payment:

- amount of the payment
- date of collection
- method of payment
- date of receipt
- date of disbursement

The system displays receipts by Case ID, NCP ID, or date range on the Receipts History (RHIS) screen. These receipts contain information such as the receipt ID, Payor ID, payor name, payment type, payment mode, receipt date, receipt status, disbursement date and receipt source. Filtering receipts by Case ID for a specific

date range can be achieved using the Receipt History screen. Receipts can further be filtered further to view completely distributed receipts, partially distributed receipts, completely held receipts, partially held receipts, unidentified receipts, fully refunded receipts, partially refunded receipts, reversed receipts (adjusted or backed out receipts), escheated receipts, etc. The receipts displayed in the grid can be viewed as a Payment History report in either PDF or Excel format.

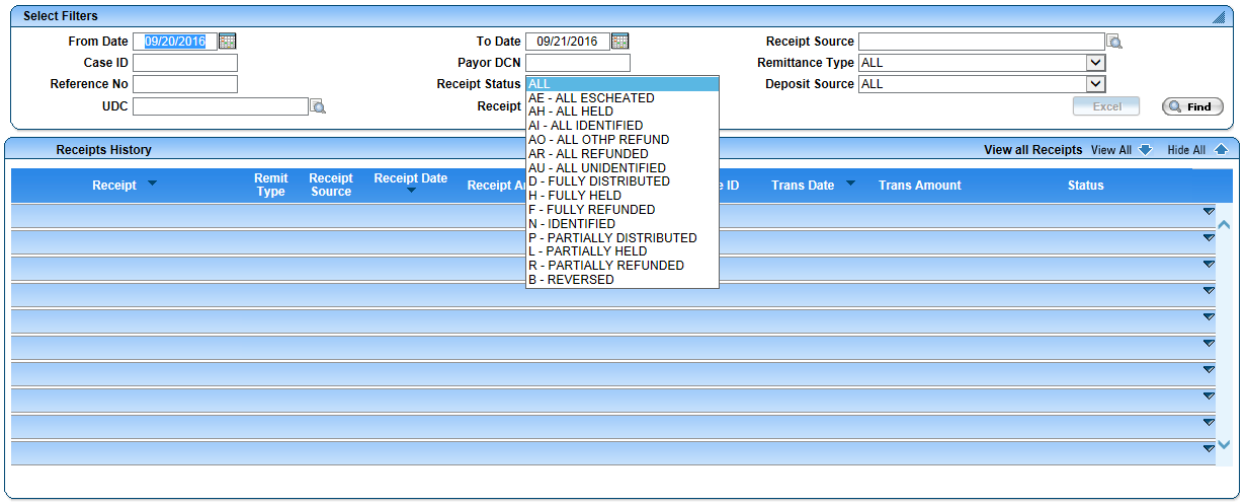

Figure 3.4 (2) - 96. RHIS screen for Payment History

Page 2 of 3

Date	Payment	Debt Types	Charging Amount	Payment Amount	Receipt Number	Remit Type	Check/Control Number
10/14/2009	REGULAR PAYMENT FROM NCP						
10/14/2009	REGULAR PAYMENT FROM NCP						
10/27/2009	REGULAR PAYMENT FROM NCP						
10/27/2009	REGULAR PAYMENT FROM NCP						
11/13/2009	REGULAR PAYMENT FROM NCP						
11/13/2009	REGULAR PAYMENT FROM NCP						
11/13/2009	REGULAR PAYMENT FROM NCP						
11/18/2009	EMPLOYER WAGE						
11/25/2009	EMPLOYER WAGE						
11/30/2009	REGULAR PAYMENT FROM NCP						
11/30/2009	REGULAR PAYMENT FROM NCP						
11/30/2009	REGULAR PAYMENT FROM NCP						
12/01/2009	Monthly Charges						
12/02/2009	EMPLOYER WAGE						
12/10/2009	EMPLOYER WAGE						

Figure 3.4 (2) - 97. Distribution Detail Pop-up

The details of a disbursement can be viewed on a pop-up which displays the funds recipient ID, receipt number, Case ID, debt type, receipt date, and amount disbursed.

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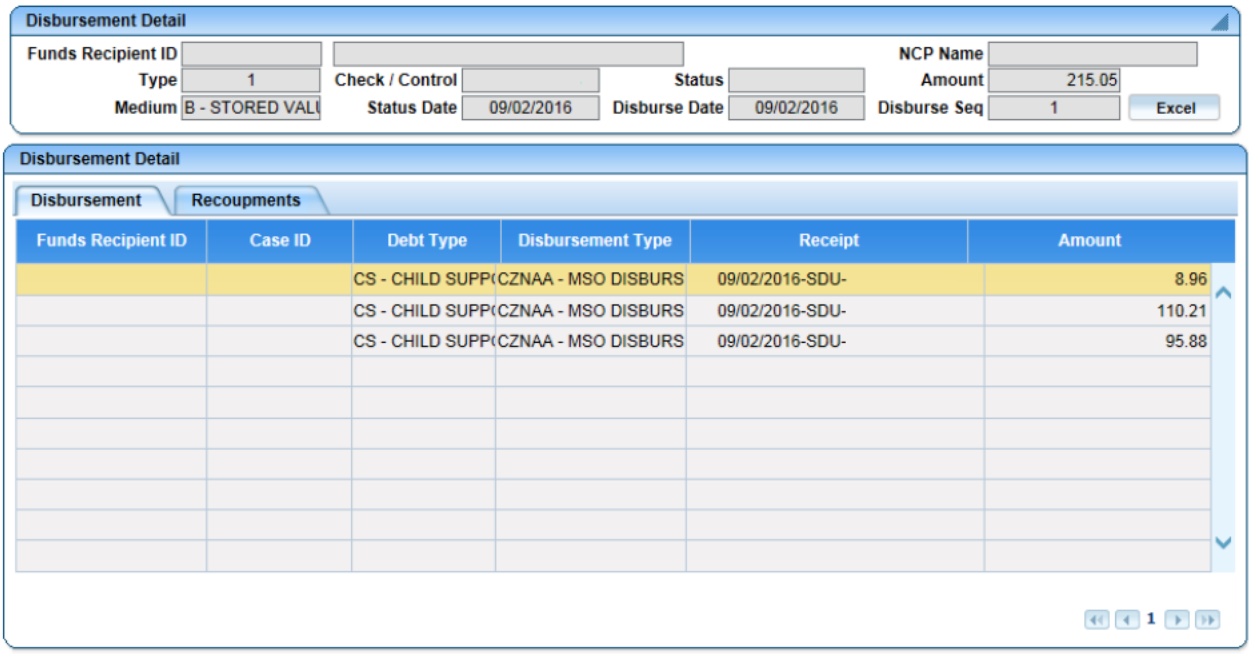

Figure 3.4 (2) - 98. Disbursement Detail Pop-up

View details of a disbursement.

REQUIREMENT: (#558) The system must provide direct access to internal users to view images of payments processed through SCaDU.

Our solution features an interface with SCaDU where the images of payment instruments are received on a daily basis and are stored in our EDM system. These images are hyperlinked to financial logs so that the user can review the image of the financial instrument received while they review the distribution and disbursement of the collection. The image view also helps in identifying unidentified receipts or incorrect posting of payments and immediately take corrective action.

(2.6.8) Held Collections Management

REQUIREMENT: (#559) The system must allow the placement of a hold at the payer, payee, case, or collection source level.

Our process allows users to place a distribution hold at a case, NCP level or collection source level before a receipt can be distributed. The system automatically alerts/ releases holds after a specified period based on the configurable rules. Additionally, the system places receipts on hold for several reasons and automatically releases these when the release conditions are met, and there are no other system reasons for which the receipt needs to be placed back on hold. Receipts that are released from distribution hold are immediately eligible for disbursement and are disbursed the same night unless there is a disbursement hold impacting the receipt disbursement. Disbursement hold reasons include CST request disbursement hold, TANF beneficiary change, and pending escheatment action. An example of collection source level hold is the bond payment which when posted is automatically placed on hold.

When collections are received and posted at case level or payor level, the receipt may be placed on hold for the reason of excess balances. There are similar instances where the collection may need to be held/refunded fully or partially.

Undistributed/un-disbursed collections are maintained at distribution hold and disbursement hold levels. Each of the held payments has a UDC code associated to specify the reason for holding.

REQUIREMENT: (#560) The system must be capable of placing an automatic hold and release on designated collection sources while allowing other collections to distribute and disburse without delay.
REQUIREMENT: (#565) The system must provide the capability for automatic and manual release of individual items from hold and provide distribution of the released funds.
REQUIREMENT: (#566) The system must automatically release receipts from certain hold types based on case conditions.

The system places receipts on hold based on conditions set up to conform to business rules. Some examples of system holds, the applicable conditions for the specific system hold, and the release conditions, are provided below. The system checks for conditions at the time of posting payments, at the time of releasing from holds and at the time of distribution. If the conditions are satisfied for placing a receipt on a hold, the system automatically places the payment on hold using the parameters defined for the UDC codes. Similarly, the system also checks for release conditions where applicable and releases the hold when the conditions are satisfied.

Examples of System Holds		
UDC Code	System Hold Conditions	System Release Conditions
Federal tax offset Joint tax return	When joint tax payment received is distributed to Non-assistance amount	Release the amount after six-month period
Payee incarcerated	Payee is currently incarcerated	Release when the release date is reached
History of nonsufficient funds checks	Existence of a bounced check in the past	When the user clears the bad check indicator in the system
First personal check by NCP towards child support	First personal check	Release after five business days
Arrears paid in full	Arrears-only case with < = 0 balance	Release if there are any adjustments that resulted in positive balance
Bond payment	Any bond payment	Release is manual (when required)
Futures hold	When arrears are all paid off on an accruing obligation and payment is received on a TANF case	Release on first of the next month or when there are balances on the case
Federal tax offset excess	Payment is federal tax refund offset, and the payment is more than current arrears balances	Release when there are balances or when there is a request to apply to other cases (which are not certified) of the payor
No obligation	No obligation exists for the payor/case	Release when an obligation is added for the payor/case
Unidentified receipts	Not able to identify who the payor is.	Release when the receipt is identified

The UDC codes have set parameters as per the State's business rules. Batch processes validate these held payments for release/refund using the UDC parameters such as hold duration, release, refund, refund duration, and extend for research. The UDC parameters are updateable based on configurable business rules. Hold instructions can be placed on any pay source and can be removed by setting up configurable business rules. These parameter changes do not require programming efforts.

If the business rules allow for release by the system at the end of the hold period, the system automatically releases the payment. The system continuously monitors the payments for release. Releases only occur when release conditions are satisfied or when the expiration date is reached. When a user tries to release or refund a payment manually, the process is validated to ensure the user can release or refund the payment. If the parameters are set up to allow a designated user to release/refund the payment, the system allows the user to release the payment.

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In addition to system holds, our solution allows for manual holds by the users. Users can place distribution hold instructions on payments at the case level or payor level for a specified period. These are called manual holds. The payments can be manually placed on distribution hold specific to a receipt, pay source, case level or payor level. To place receipts on hold, the user creates manual hold instructions which may have a specified effective date and expiration date. All posted receipts are placed on hold if the payment satisfies the conditions of manual instructions. Following the initiation of the hold instructions, the system automatically places all receipts on hold and releases them after the specified period based on the manual hold instructions.

REQUIREMENT: (#561) Each held collection must be assigned to a category.
REQUIREMENT: (#563) The system must categorize held collections according to the reason for the hold. Held collections categories must include but are not limited to:

- Obligee bad address
- Obligee deceased
- Disputed arrears
- Obligor bad address
- Obligor deceased
- Future (escrow)
- Held by court order
- Non-Sufficient Funds (NSF) check history
- Unidentified
- Non-assistance joint returns
- Federal tax
- State tax
- Less than $1
- Stop payment on disbursement
- Check cancelled
- Payee incarcerated
- Administrative hold
- Excess tax offset collection
- Change of custody
- Tribal IV-D case
- Closed case
- FIDM payment
- No active order
- Suspend flag set

REQUIREMENT: (#567) The system must have a table to maintain all hold types and attributes, and the table must contain a parameter that indicates whether manual override of each hold type by a specific worker role is allowed.

The system holds, and manual holds are assigned an Undistributed Collection Code (UDC). These UDC codes help in easily classifying the holds for the federal report OCSE-34A. Receipts are placed on system hold when certain conditions are met and released when conditions to release are met. If the same receipt is eligible for a different hold, the receipt goes back on hold for the valid reason. Manual holds are created by the users manually, and the users can release manually, or the system releases based on the rules defined in UDC parameter table.

Payor/case level hold instructions are placed by selecting a UDC code and specifying the effective date and end date. When the end date is reached, the system takes the receipt to the next step based on the parameters defined on the Maintain UDC Instructions screen. To illustrate how the attributes are associated with the UDC code, we provided the following overview to support the hold functionality.

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Select Filters

Hold Level * ALL

Find

Maintain UDC Instructions

View Existing UDC Instructions View All Hide All

UDC	Hold Level	Initiated By	Hold Duration	Release		Refund			Extend for Research		Alert	
				Manual	System	Manual	System	Duration	Ind	Duration	Ind	Duration
MDCB - MANUAL HOLD - TANF	DISB	MANUAL	180	Y - YES	N - NO	Y - YES	N - NO	0	Y - YES	180	Y - YES	30
Amount to Hold			0.00		Reverse Manually		Y - YES		Schedule UDC Line		7	
MDCR - MANUAL CP HOLD - CF	DISB	MANUAL	90	Y - YES	N - NO	Y - YES	N - NO	0	Y - YES	90	Y - YES	30
MDDM - MANUAL HOLD - AWAI	DISB	MANUAL	180	Y - YES	N - NO	Y - YES	N - NO	0	Y - YES	180	Y - YES	30
MDPD - CONVERSION HOLD	DISB	MANUAL	180	Y - YES	N - NO	Y - YES	N - NO	0	Y - YES	180	Y - YES	30
MEPE - MANUAL ESCHEATMEN	DISB	MANUAL	0	Y - YES	N - NO	Y - YES	N - NO	0	N - NO	0	N - NO	0
MNCD - CUSTODY / ADOPTION	DIST	MANUAL	180	Y - YES	Y - YES	Y - YES	N - NO	0	Y - YES	180	Y - YES	30
MNCO - COURT ORDERED HOL	DIST	MANUAL	180	Y - YES	Y - YES	Y - YES	N - NO	0	Y - YES	180	Y - YES	30
MNEI - EMANCIPATION ISSUE	DIST	MANUAL	180	Y - YES	Y - YES	Y - YES	N - NO	0	Y - YES	180	Y - YES	30
MNFN - FINANCIAL REVIEW (AF	DIST	MANUAL	45	Y - YES	Y - YES	Y - YES	N - NO	0	Y - YES	45	Y - YES	15

1 2 3 4 5 6 7 8

Figure 3.4 (2) - 99. Maintain UDC Instructions Screen

Select Filters

Payor DCN Case ID Find

Manage Hold Instructions

View Distribution Hold Instructions

Distribution Hold Instructions | Disbursement Hold Instructions

Receipt Source Effective Date Expire Date

UDC --SELECT-- Notes

NSF Status

Payor DCN	Case ID	Receipt Source	UDC	Notes	Effective Date	Expire Date	Status	Worker

Figure 3.4 (2) - 100. Manage Hold Instructions Screen – Distribution Tab

The distribution hold amounts are viewed by Payor ID or Case ID. The payments can further be filtered by pay source, batch source, remittance type, UDC code, or receipt ID. An illustration of the Distribution Hold screen is provided below. This screen allows payment view, full or partial release of payments to the same case or a different case, setting of a future date of release, hold duration extension or hold establishment for an already released payment. If the specified date of release is the system date, the payment is released immediately. If the release date is a future date, a daily batch process identifies these payments as eligible for release on the specified date and releases these receipts from hold. Users with specific security access can release payments before the expiration date based on configurable business rules.

The Hold Instructions screen is used to view, create, and extend/end disbursement hold instructions. When the expiration date is reached, the system automatically releases the payment for disbursement. Now, if other hold instructions are valid for the payment, the payment returns to hold for a different reason. An authorized worker can release the payment for disbursement before the expiration of the manual hold instruction.

The Disbursement Hold Management screen is used to view, extend, and release payment from disbursement hold. Payment on disbursement hold because of a system generated hold is released by the

system when the underlying condition has been corrected. Payment on disbursement hold because of a manual hold instruction can be released manually or is automatically released at the end of the defined hold period. The release period can be extended on the held disbursements by the duration specified for the UDC code.

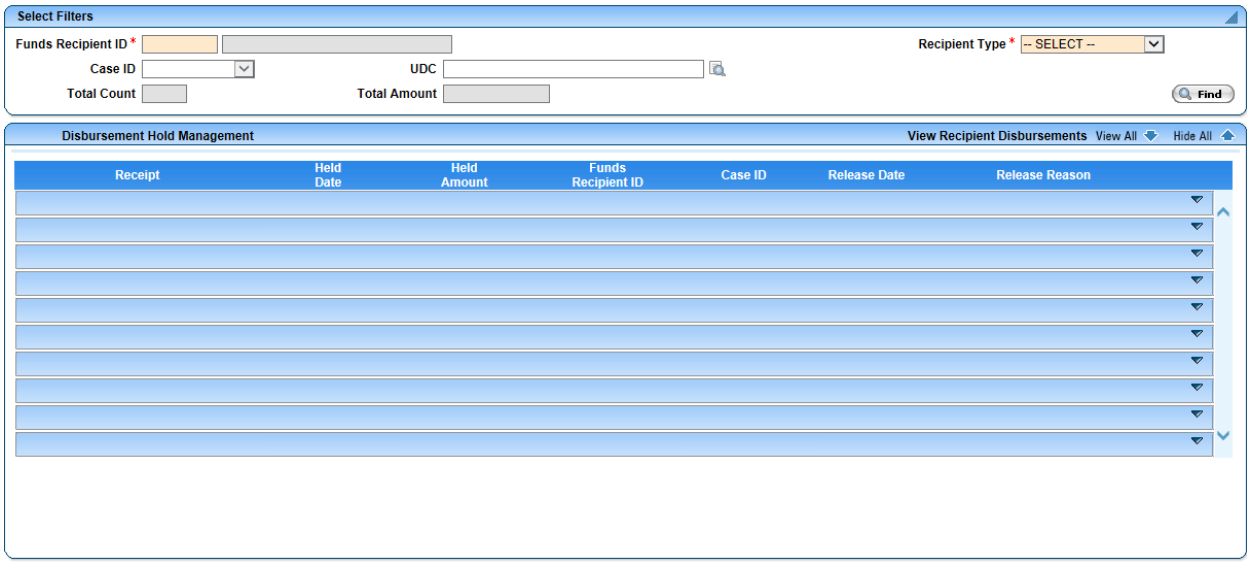

Figure 3.4 (2) - 101. Disbursement Hold Management Screen

REQUIREMENT: (#562) The system must report the summary and detail of the held collections.

The Distribution Hold Receipts report displays a summary and detail report of held receipts. The report is split into to two sub reports. The summary report displays the total of held collections by UDC category. The details report displays the list of held collections by the Receipt ID.

The screen in the view transactions mode displays the total number of receipts that were placed on hold for the inquired date. The View Balances mode of the Distribution Hold Receipts screen displays the inventory of receipts that remain on hold on the inquired date.

The views can be filtered by Office, UDC Code, Case ID, or NCP ID. The transaction option allows the view to be filtered by the status of the receipt.

The Distribution holds report Summary and Details tabs are displayed as an example. A similar set of summary and detail reports are available for Disbursement holds.

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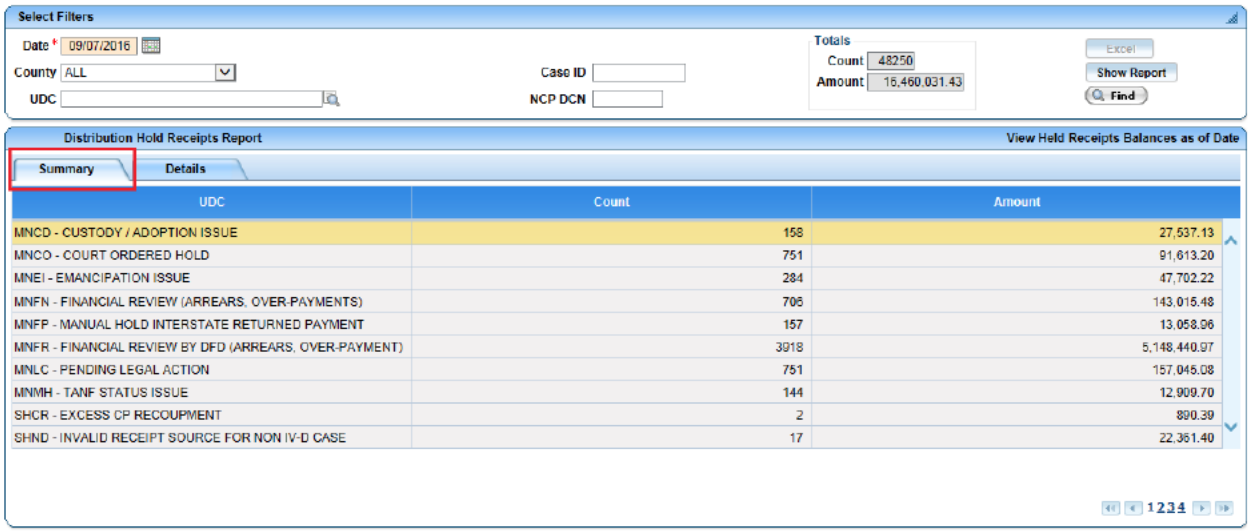
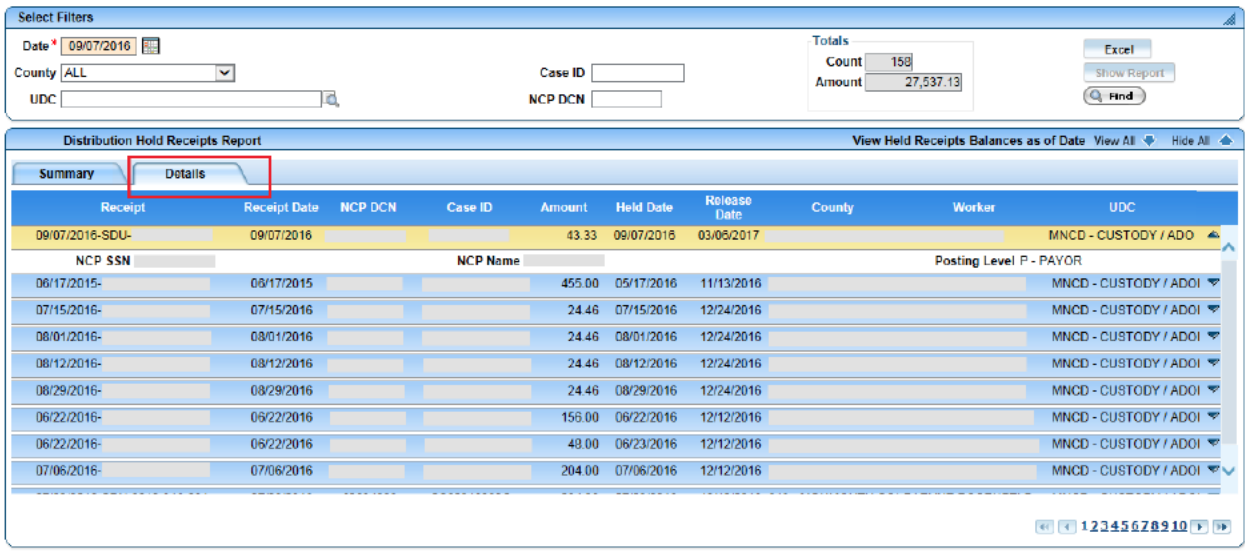


UDC	Count	Amount
MNCD - CUSTODY / ADOPTION ISSUE	158	27,537.13
MNCO - COURT ORDERED HOLD	751	91,613.20
MNEI - EMANCIPATION ISSUE	284	47,702.22
MNFN - FINANCIAL REVIEW (ARREARS, OVER-PAYMENTS)	706	143,015.48
MNFP - MANUAL HOLD INTERSTATE RETURNED PAYMENT	157	13,058.96
MNFR - FINANCIAL REVIEW BY DFD (ARREARS, OVER-PAYMENT)	3918	5,148,440.97
MNLC - PENDING LEGAL ACTION	751	157,045.08
MNMH - TANF STATUS ISSUE	144	12,909.70
SHCR - EXCESS CP RECOUPMENT	2	890.39
SHND - INVALID RECEIPT SOURCE FOR NON IV-D CASE	17	22,361.40

Figure 3.4 (2) - 102. Distribution Hold Receipts Report Screen – Summary Tab



Receipt	Receipt Date	NCP DCN	Case ID	Amount	Held Date	Release Date	County	Worker	UDC
09/07/2016-SDU-	09/07/2016			43.33	09/07/2016	03/06/2017			MNCD - CUSTODY / ADO
NCP SSN			NCP Name					Posting Level P - PAYOR	
06/17/2015-	06/17/2015			455.00	05/17/2016	11/13/2016			MNCD - CUSTODY / ADOI
07/15/2016-	07/15/2016			24.46	07/15/2016	12/24/2016			MNCD - CUSTODY / ADOI
08/01/2016-	08/01/2016			24.46	08/01/2016	12/24/2016			MNCD - CUSTODY / ADOI
08/12/2016-	08/12/2016			24.46	08/12/2016	12/24/2016			MNCD - CUSTODY / ADOI
08/29/2016-	08/29/2016			24.46	08/29/2016	12/24/2016			MNCD - CUSTODY / ADOI
06/22/2016-	06/22/2016			156.00	06/22/2016	12/12/2016			MNCD - CUSTODY / ADOI
06/22/2016-	06/22/2016			48.00	06/23/2016	12/12/2016			MNCD - CUSTODY / ADOI
07/06/2016-	07/06/2016			204.00	07/06/2016	12/12/2016			MNCD - CUSTODY / ADOI

Figure 3.4 (2) - 103. Distribution Hold Receipts Report Screen – Details Tab

REQUIREMENT: (#564) The system must provide prompt disposition of held collections with the necessary fiscal controls to provide a clear audit trail for distribution.

All financial transactions are completely audited in our solution. Using an event model, our financial processes provide detailed audit reports at various reporting levels. These audit reports are integrated into our financial reporting solutions and provide users with flexible views of financial processes across various levels of reporting.

Our solution features audit trails that provide information across multiple financial processes that occur in a case, participant, or other entity. This allows users to view financial transaction audit trails across different processes in a unified manner. Thus, our solution facilitates the display of the payment process—starting

from collections to being held before distribution, released for distribution, subsequently distributed, and applied to arrears, reimbursed assistance, and disbursements in a single unified view.

The Financial Event Log screen shown below displays the financial events of a case. The screen displays three levels of information. The main screen displays transaction summary. Details are displayed by selecting any individual transaction. The details pop-up differs based on the type of financial transaction selected in the summary. Also, the arrears balance view shows before and after balances of the financial transaction selected.

Each of the financial events such as holding a receipt, releasing a receipt are recorded in the system with the details that include the Receipt ID, Transaction date, the worker ID that placed the receipt on hold or released from hold, the UDC Code, Receipt amount, etc. If there are multiple events of alternate holds and releases with different hold codes, the transactions are displayed in the chronological order on the Financial Event Log screen. The details pop-up of the event has the information on the details of the worker and date updated.

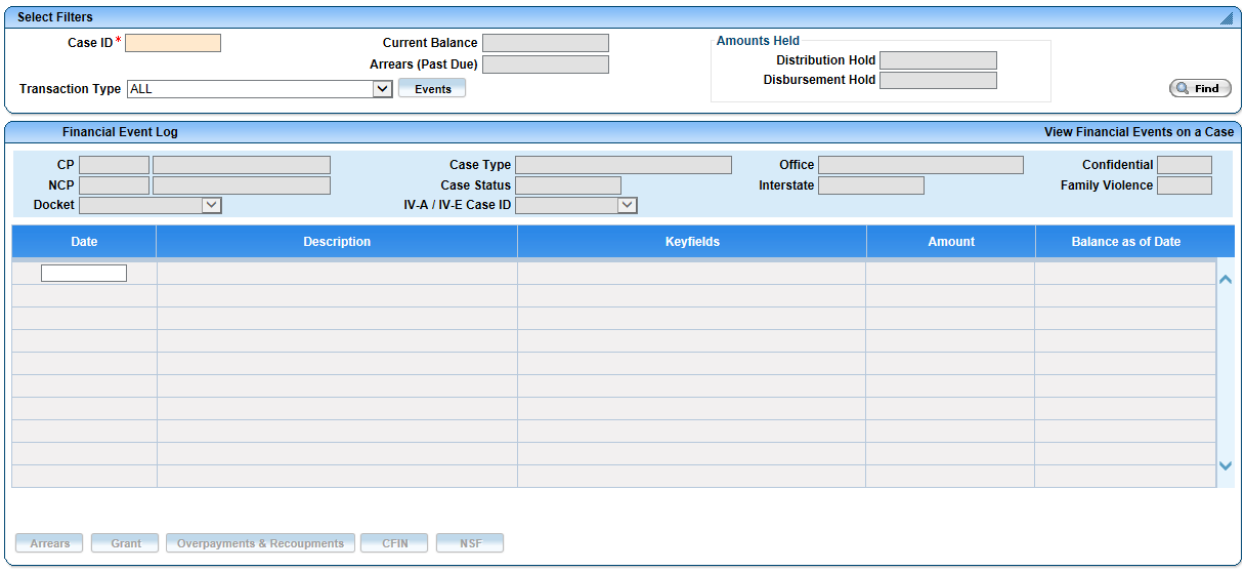


Figure 3.4 (2) - 104. Financial Event Log Screen

REQUIREMENT: (#565) The system must provide the capability for automatic and manual release of individual items from hold and provide distribution of the released funds.
REQUIREMENT: (#566) The system must automatically release receipts from certain hold types based on case conditions.

See our response to #560 above.

REQUIREMENT: (#567) The system must have a table to maintain all hold types and attributes, and the table must contain a parameter that indicates whether manual override of each hold type by a specific worker role is allowed.

Please our response to #561 above.

REQUIREMENT: (#568) The system must generate a permission letter automatically to the obligor for redirection of excess offset funds when additional obligations exist.

Our solution will automatically generate a permission letter to the obligor when excess offset funds are expected to be distributed to additional obligations that are not certified.

REQUIREMENT: (#569) The system must allow for changes to the reason for the hold without releasing the hold currently in place while retaining a history of prior hold reason codes.

Based on case, payor or payee conditions, the receipts are placed on distribution hold or disbursement hold by the system. These system holds are released by the system when the release conditions are met. Though the condition is met to release this system hold, there may be another system hold the receipt is eligible for and the receipt may go back on hold with a different UDC reason.

The Hold Instructions screen is used to view, create, and extend/end manual distribution hold/disbursement hold instructions. When the expiration date is reached, the system automatically releases the payment for disbursement. Now, if other hold instructions are valid for the payment, the payment returns to hold for a different reason. An authorized worker can release the payment from distribution hold/disbursement hold before the expiration of the manual hold instruction. The release period can be extended by the duration specified for the UDC code.

(2.6.9) Escheatment Management

REQUIREMENT: (#570) The system must provide identification of items as abandoned property which have been reported for escheatment.
REQUIREMENT: (#572) The system must support an audit trail listing the date and status change of the collection.

Undistributed collections are maintained at the distribution hold and disbursement hold level. Each of the held payments has an associated UDC code to specify the reason for holding. The UDC codes have set parameters as per the state's business rules.

Batch processes validate these held payments for release/refund using the UDC parameters such as hold duration, release, refund, refund duration, and extend for research. When a user tries to release or refund a payment, the process is validated to see if the user can release or refund the payment.

Unidentified receipts, disbursements returned due to lack of address of the payee and un-cashed stale dated checks are considered abandoned/unclaimed property. Many attempts are made to identify the payor in case of unidentified payments or to retrieve payee address in case of unclaimed disbursements. A notice of escheatment is generated to the owner of funds at least sixty days before these payments are marked for escheatment as 'Escheatable.' The notice is sent to the last known address. The number of attempts, time to generate escheatment notice, and a number of days to wait until ready for escheatment are all configurable business rules.

The escheatable payments are processed in batch at specified intervals (typically once a year) and are all marked with a new status, "Escheated," and a report is generated. The General Ledger is automatically updated with the transaction. The amount is manually transferred from the child support account to the state's abandoned property management, state treasury.

Our solution features audit trails that provide information across multiple financial processes that occur on a case, participant, or other entity. This allows users to view financial transaction audit trails across different processes in a unified manner. Thus, our solution facilitates the display of the payment process—starting from collections to being held prior to distribution, released for distribution, subsequently distributed, and applied to arrears, reimbursed assistance, and disbursement holds, disbursements, escheatment (if not able to identify the payment, not able to disburse) in a single unified view.

The Financial Event Log screen shown below displays the financial events of a case. The screen displays three levels of information. The main screen displays transaction summary. Details are displayed by

selecting any individual transaction. The details pop-up differs based on the type of financial transaction selected in the summary, but the common elements such as update date and updated worker are displayed on the pop-up for all events. Also, the arrears balance view shows before and after balances of the financial transaction selected. Each of the financial events relating escheatment will be displayed on this screen. This includes escheatable events and escheated events.

The Payment History screen also displays the list of receipts escheated by means of a filter. The receipts displayed in the grid can be viewed as a report in either PDF or Excel format.

REQUIREMENT: (#571) This process must be integrated with the OCSE-34A so that escheated funds are reported as undistributable.

The unidentified collections, amounts on disbursement hold, stale dated checks that exceed specified number of days is marked 'escheatable'. Attempts are made to identify the unidentified, send undisbursed payments to payee, if not to payor. If all the attempts fail, the payments are marked 'escheated' and the funds are transferred to the state treasury. These funds are reported on line 9a of the federal report OCSE-34A.

REQUIREMENT: (#572) The system must support an audit trail listing the date and status change of the collection.

See our response to #570

(2.6.10) Financial Distribution

REQUIREMENT: (#573) The system must be able to properly maintain account balances, allocate receipts, and distribute all support collections according to federal requirements.
REQUIREMENT: (#575) The system must provide prompt distribution and disbursement of collections as required by federal requirements recording the amount, date of distribution, date of disbursement, and the recipient.
REQUIREMENT: (#579) The system must maintain TANF and non-TANF arrearages and distribute collections according to federal and state distribution hierarchy.

The collections file received from SCaDU, FMS, or State tax agency is posted in the system, and the receipts are assigned a unique receipt ID. All identified receipts are ready for distribution unless the receipts are held due to manual hold instructions or system hold conditions. The receipts are posted at either case level or payor level. Receipts posted at a case level are allocated to all obligations of the case. Receipts posted at payor level are allocated to obligations of payor's cases based on the configurable rules. For example, income withholding is allocated among cases with income withholding, and a regular payment is allocated to all the cases of the payor. Unidentified receipts are researched, and once identified, the receipt goes through distribution on the same day.

Receipts are ordered by the receipt date so that the receipts are prioritized with reposted receipts distributed first and then the original receipts. Recoupment is set to 100% on reposted receipts against a lesser recoupment percentage on original receipts. Thus, the overpayment recovery is higher if the order of distribution is reposted receipts first and original receipts next.

The distribution hierarchy rules are maintained on the debt type table viewable on the Debt Type Priority Table screen. The rules are set to comply with State rules and with federal PRWORA distribution regulations. The distribution hierarchy may differ based on the collection source. For example, federal tax offset collections do not follow the Family First rule and instead are applied to assigned arrearages regardless of case type. Support collections receipted in the IV-D system are allocated, distributed and disbursed daily to comply with the federal requirement for distribution and disbursement within two days of receipt of the collection.

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Distribution priorities are set up based on the debt type, program type of the member, receipt source, and age of the balances, etc. Distribution entails allocating and applying support payments to satisfy the NCP's obligations in the system.

Debt Type

The distribution hierarchy rules are maintained on the debt type table viewable on the Debt Type Priority Table screen. The rules are set to comply with state rules and with federal PRWORA distribution regulations. The distribution hierarchy may differ based on the collection source. For example, federal tax offset collections do not follow the Family First rule and instead are applied to assigned arrearages regardless of case type.

Program Type

The member status (program type) of an individual also drives the allocation and distribution process. The Member History screen displays a history of the member's program type, by begin and end dates and IV-D case. This data is used for the system to derive the correct case type and is essential to accurate distribution of collections, as well as the determination of the appropriate obligation arrearage accrual. Maintaining obligations at an individual member level allows the system to accurately accrue arrears even for those individual cases that have multiple dependents with varying program types (e.g., TANF and non-TANF). The program type determines the priority level for different arrear buckets. For example, the priority is high for Non-TANF arrears bucket if the member is currently in program type Non-TANF (unless the payment is federal tax offset) and is permanently assigned arrear bucket for a member on current assistance.

Source of Collection

Receipt Source is a factor in determining the distribution rules. Federal tax offset collection is not distributed to current support or applied to futures while collections from other receipt sources allow both distribution to current support and to futures.

Age of Balances

The age of the obligation balances is important in determining where the money is applied. For example, the current support has priority over the Adjudicated arrears. Adjudicated arrears have higher priority over unadjudicated arrears.

The PRWORA arrears buckets are PAA (Permanently assigned arrears), TAA (Temporarily assigned), CAA (Conditionally assigned), UDA (Unassigned during assistance), UPA (Unassigned prior assistance) and NAA (never assistance arrears). Also, there are IVEF (Federal foster care balances), NFFC (Non-Federal foster care balances), and MEDI (Medicaid balances). Fee obligations accrue under the NAA and have lower priority than regular support obligations. Each of the buckets is given a priority based on the receipt source and program type.

The system maintains arrearage balances at an order level or an obligation level for each type of arrear bucket. Arrearages are categorized according to arrears type determined by the type of obligation and the case type at the point the accrual occurred. The Support Log screen provides a snapshot view of arrearage balances by month as shown below.

The amounts applied to assigned buckets go through secondary distribution to assess the amount that needs to be reimbursed to IV-A/IV-E. The amounts applied to unassigned buckets and the excess over grant are disbursed to the recipients after recovering the overpayments according to configurable rules.

REQUIREMENT: (#574) The system must be able to perform and demonstrate all the OCSE test deck distribution scenarios.
REQUIREMENT: (#578) The system must allocate and distribute collections down to the member/provision (debt type) level according to federal and state regulations.

Federal Test Deck - The system is in full compliance with the distribution regulations published in OCSE-AT-97-17, OCSE-AT-98-24. The Protech Team has successfully executed the Federal (PRWORA) Distribution Test Deck in multiple states with the expected results, including Arkansas, Maine, Massachusetts, Michigan, New Jersey, Delaware and New Hampshire.

Arrearage totals by month are viewable on the Support Log screen where the arrear balances are displayed at the member + obligation level. The allocation and distribution process uses the receipt date on the collection to derive the correct obligation balances and allocate to cases of the payor based on configurable rules. The allocated amounts are then distributed within each case among different buckets of the obligations.

REQUIREMENT: (#575) The system must provide prompt distribution and disbursement of collections as required by federal requirements recording the amount, date of distribution, date of disbursement, and the recipient.

Please see our response to #573 above.

REQUIREMENT: (#576) The system must provide retroactive distribution when unidentified and misapplied funds are directed to the correct case or account.
REQUIREMENT: (#577) In order to accomplish retroactive distributions, the system must provide prior TANF assistance status.

The receipts identified from unidentified or released from hold may have a past receipt date. These receipts distribute to the balances of the receipt month. The program type of the member during that month is considered to derive the priorities for distribution. The balances of later months are corrected based on the transactions in the receipt month and the program types of the later months. When distributed to the receipt month, the system ensures that the collection is applied to balances of receipt month and not to exceed the balances in the current month.

The distribution rules are different for current assistance, former assistance and never assistance members. For this reason, the program type needs to be maintained for the CST and dependents of the cases for current and past periods. The family first rules apply for former assistance member obligations while assigned arrears take priority for current assistance members.

REQUIREMENT: (#578) The system must allocate and distribute collections down to the member / provision (debt type) level according to federal and state regulations.
Please see our response to #574 above.

REQUIREMENT: (#579) The system must maintain TANF and non-TANF arrearages and distribute collections according to federal and state distribution hierarchy.
Please see our response to #573 above.

REQUIREMENT: (#580) The system must provide the capability for refunding collections.
There are instances where the NCP, employer, or responding state sends payment even after the last dependent on the case has stopped accruing, and there are no balances left. Another situation involves holding receipts due to manual hold instructions where the receipt needs to be refunded automatically to the payor when the conditions are met.

The conditions for refund can be placed as configurable business rules. Refunds are recorded like any other disbursement in the system. The funds recipient in this case is the payor. The refunds can be viewed on disbursements view screen.

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Our solution allows for the system refund and manual refund. Separation of duties is intended when the refund is manual, and the refund is to a third party (e.g., check not intended to child support case), to give additional control in securing the payments or accuracy of data. Refunding a payment to payor or third party requires a two-tier approval. Based on established protocols, separation of duties can be set up as a set of configurable business rules to drive the process.

In case of identified payments where the payment needs to be returned to the payor, the system allows refunds. The Refund/Returns screen allows refunds to an employer, FIPS, or another party. Refunds also require approval from a supervisor before the disbursement record can be created.

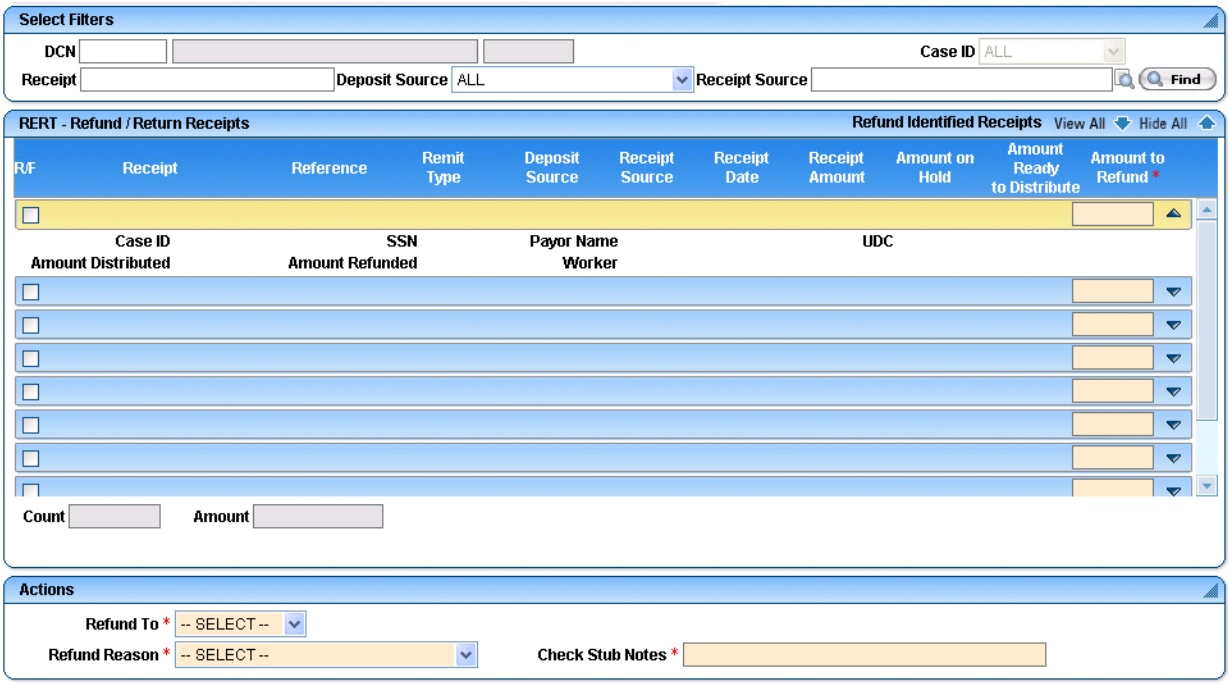

Figure 3.4 (2) - 105. Refunds/Returns Screen

Refunds and returns of identified and unidentified receipts is displayed here

(2.6.11) Electronic Fund Transfer Management

REQUIREMENT: (#581) The system must provide managing account information to support electronic fund transfer to and from other state agencies, to obligees, and to support automatic withdrawal from participants.
REQUIREMENT: (#583) The system must have a viewable history for all EFT data actions.
REQUIREMENT: (#584) The system must support stored value card application and the issuance of payments to financial institutions.

When the obligations are entered into the system, the financial details, such as the member, funds recipient, the periodic amount, frequency, funds recipient, etc., are recorded in the system. The system maintains the disbursement method for each of the funds recipients. If the disbursement method is EFT or direct deposit, the instructions are maintained in the system. For example, our system maintains EFT instructions on the EFT Instructions screen. FIPS code is defined for all the in state agencies, for interstate offices, and international offices. The EFT Instruction screen for FIPS recipient is displayed in the following screen.

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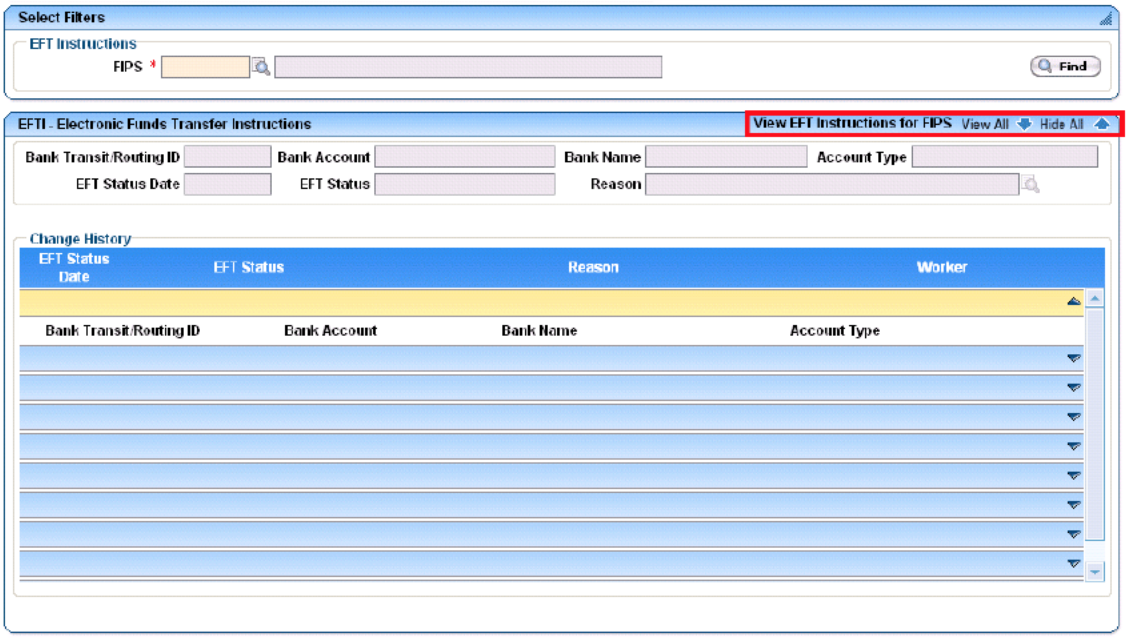

Figure 3.4 (2) - 106. Electronic Funds Transfer Instructions Screen

This screen illustrates EFT instructions for FIPS.

The EFT instructions screen for CST contains the same details as that of FIPS, except that information related to a participant is also displayed.

Direct deposit instructions are maintained on the Stored Value Card Instructions screen. At any time, a participant has either EFT instruction or direct deposit/stored value card active. The screen for stored value cards is displayed below for reference.

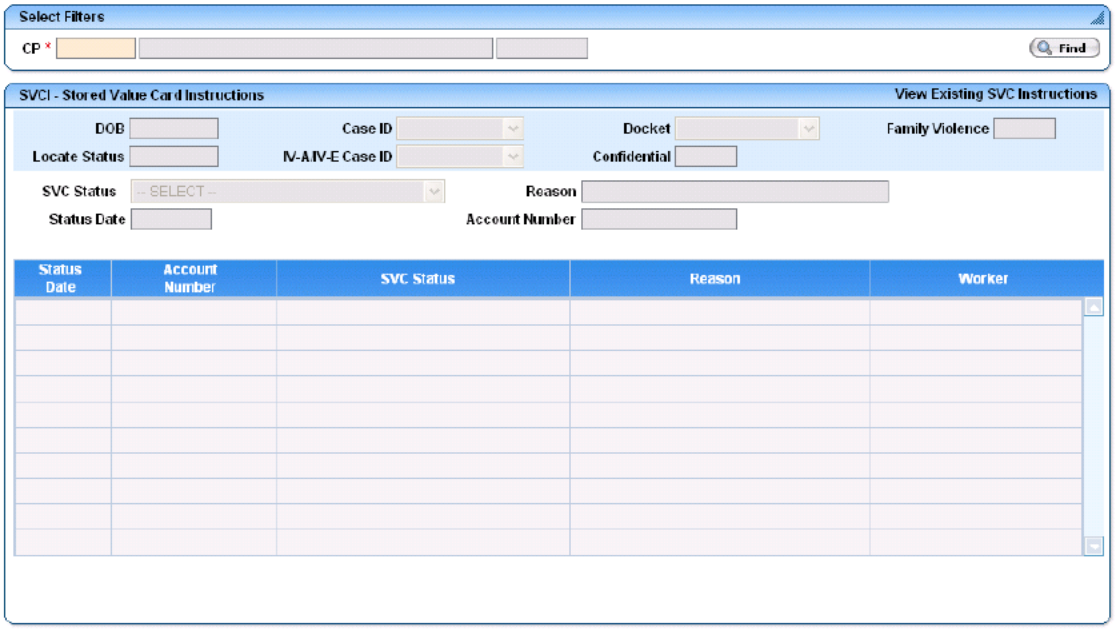

Figure 3.4 (2) - 107. Stored Value Card Instructions Screen

Direct deposit instructions are maintained on this screen.

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The system monitors for EFT or stored value card information for the custodial parent. If no information exists, the system sends the CST a direct deposit authorization form. When the financial user receives the financial institution information and a signed authorization from the CST, the user enters the information into the system.

The batch process automatically sends a prenote to the financial institution. If the prenote is rejected, the date it was rejected and the reason description are recorded on the EFT Instruction screen. If the prenote is not rejected by the bank within seven business days, the system deposits subsequent disbursements into the financial institution selected by the CST.

If the CST does not respond within the specified period, the disbursements default to a specified method based on the state's business process.

REQUIREMENT: (#582) The system must support the efficient research, rejection, or recovery of EFT transactions.
REQUIREMENT: (#583) The system must have a viewable history for all EFT data actions.

When initial disbursement of EFT is made to a funds recipient, the disbursement has a status of 'EFT issued.' If the EFT is rejected by the bank for reasons such as 'Account Closed,' the batch process voids the EFT disbursement and automatically either closes the EFT instructions for the recipient and reissues a check or alerts the worker to do further research and determine the next action. In the instance where check is reissued, the system links the original disbursement to the reissued check number. The worker can manually void an EFT disbursement and reissue a check on the DSBV screen.

In our other certified systems, the Protech team developed the EFT/EDI interfaces using the NACHA format to process incoming payments and to send disbursements electronically. Each implementation meets individual state requirements. We will apply this experience to the implementation of EFT functionality to the NCSEAS.

The Disbursement View screen, shown below provides the ability to review the payment issue date, check/ control number, disbursement status, void reason if the check is voided or an EFT is rejected, and the reason for the void action and replacement details are provided. Thus, all the EFT data actions are shown on the screen providing a viewable history.

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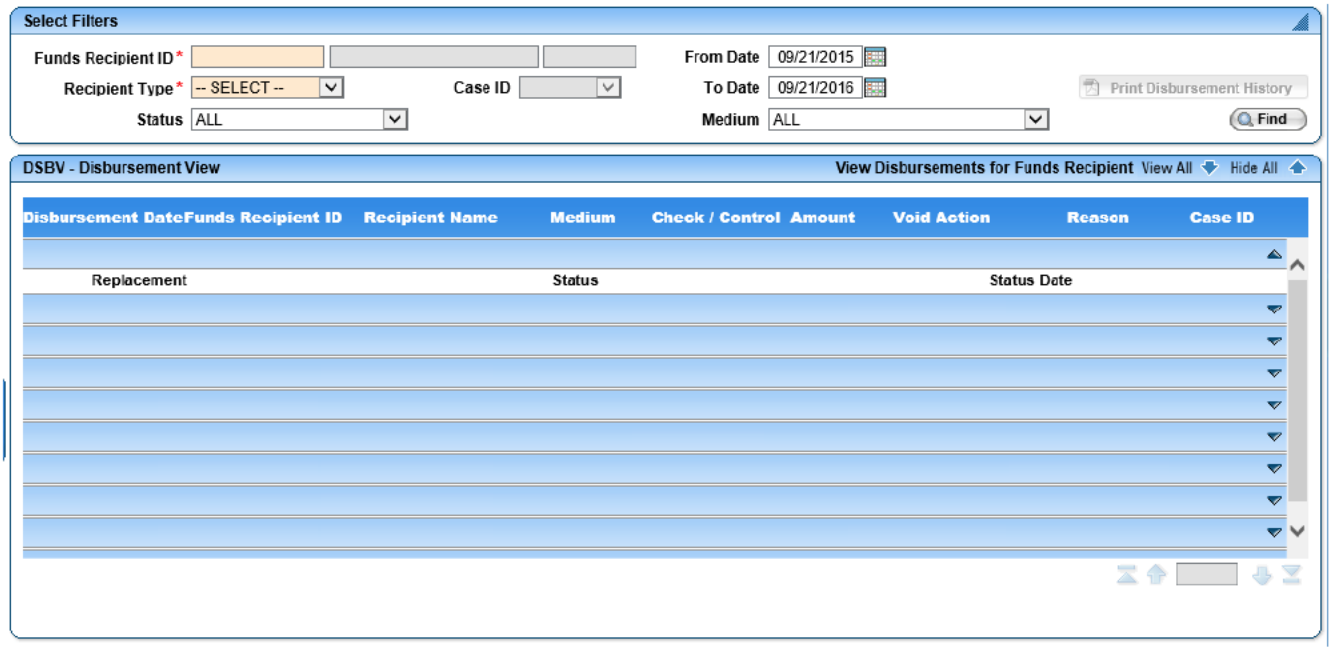

Figure 3.4 (2) - 108. Disbursements View Screen

This screen displays disbursements for funds recipient with various filters.

Our solution will process collections, including income withholding and interstate child support transmitted in the Cash Concentration and Disbursement Plus (CCD+) and Corporate Trade Exchange (CTX 820 remittance format) NACHA payment formats. We identify the pay source based on the values of an application indicator in the file. Application indicators include:

- ***II - Interstate Income Withholding***
- ***IT - Interstate State Tax Offset***
- ***IO - Interstate All Others***
- ***RI - Interstate Cost Recovery Income Withholding***
- ***RT - Interstate Cost Recovery State Tax Offset***
- ***RO - Interstate Cost Recovery***
- ***IF - FIDM funds from a non-cost recovery State to another State***
- ***RF - FIDM funds from a cost recovery State to another State***
- ***CS - Income withholding from employers***
- ***FD - FIDM funds from financial institution***

For example, our Arkansas system in support of cost recovery sends payments using the CCD+ format. This format identifies the total amount collected and the amount that is transmitted to the bank. The system posts the total amount that was collected to the NCP and tracks the cost-recovery amount separately. The system gives full credit to the NCP for the total collection from an EFT payment. However, only the net collection (the amount that was sent to the bank) is disbursed to the payee. The difference between the two is the cost-

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recovery amount and is retained by the state or another state. Disbursements to other states follow EFT/EDI rules.

REQUIREMENT: (#584) The system must support stored value card application and the issuance of payments to financial institutions.

Please see our response to #581 above.

(2.6.12) Bank Account Reconciliation

REQUIREMENT: (#585) The system must provide bank account reconciliation of deposits and expenditures.

After posting, the checks and cash collected at the individual offices need to be deposited to the financial institutions. This requires a deposit slip that contains batch numbers, batch counts, amounts in each of the batches, and total amount to be deposited. The solution proposed allows for printing the deposit slip locally based on configurable business rules.

Whether the funds are received in a local office and deposited in the bank or the funds are deposited electronically via EFT, SCaDU receives notification that an electronic file has been received. The electronic files received are processed in two steps. The first process checks for validity of data and the existence of required record types, identifies data, and calculates counts and amount totals. This amount is matched to the actual deposit placed in the bank with the corresponding EFT. If these amounts match, the system proceeds to the second step, which is to post receipts in the system based on the data in the file. If the amounts in the file do not match the deposit in the bank, an exception report is generated for manual intervention. Then the supervisor calls the employer or local office that received the over-the-counter payment for clarification. Until the discrepancies are resolved, the file is not processed in batch.

Our financial accounting solution features an integrated double-entry ledger system for all transactions and allows manual adjustment entries. We have experience implementing similar solutions in other states, providing our team with a deep understanding of the complexities of double-entry accounting in the context of child support systems. Our solution features automated and manual bank reconciliations.
A nightly batch process records general ledger entries for collections based on the payments posted in the system by various deposit sources. When the depository reconciliation file is received from the bank, the balancing entries are made. For the accounts having a mismatch, the appropriate staff will be able to research and identify the differences. The research could identify that incorrect amount is posted in which case the receipt needs to be reversed, reposted and an adjustment made for the difference in the amount in general ledger. If the bank makes an error, the bank needs to send a credit/debit adjustment which will be handled in the general ledger system to balance the accounts.

In our solution, the general ledger batch processes will run daily and create double entries for the collections based on the source of collections and disbursements. The general ledger system contains a daily transaction log displayed on the Daily Transaction Log screen, where the daily entries made either by the batch process or by the user on the adjustments screen can be viewed.

All transactions about an account for a specified date interval can be viewed on the Ledger screen. The screen displays the transaction date, the other account associated with the transaction, the amount in debit/credit column, and the running account balances.

Any mismatch identified between the amount posted in the system and the amount written on the check is corrected by reversing the receipt, making a general ledger entry, and obtaining an appropriate debit/credit adjustment from the bank. Manual entries are created by the users on the Adjustment Entry Transaction screen. The adjustments can be made directly or using preset templates.

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We will work with the State of Nevada to identify the expenditures and have a screen to enter the expenditures. When the bank file is received, the bank entries will be reconciled with these expenditure entries in the system.

REQUIREMENT: (#586) The system must provide disbursement status updates for recording cancellations, voided payments, stale dated payments and cashed payments.
REQUIREMENT: (#587) The system must facilitate the management and re-issuance of lost or stolen checks.
REQUIREMENT: (#588) The system must automatically trigger a notice to the payee for a disbursement that has been voided or cancelled.

When initial disbursement is made, the disbursement has a status of 'outstanding.' When the bank reconciliation file is processed by batch, the status is replaced with a cleared status for the checks cleared in the bank. The stale date process marks outstanding checks as stale-dated. Some states get the file from the financial institutions to record stale date on disbursements while other states automatically record stale-dated status if the check is outstanding for more than six months.

For disbursements made as EFT, the initial status is issued. When the EFT reject file is processed, the status changes rejected. When EFT is rejected, the system automatically reissues a check. When a check issued to the funds recipient is damaged, for example, the system can void the check and reissue the check when required. If the check is returned to child support office due to the incorrect address of the recipient, the check is voided/canceled until a new address of the funds recipient is recorded in the system. In all these instances, the system links the original check or control number to the funds recipient. The reissued check gets printed along with the regular checks in the batch print.

In case of lost or stolen checks, our solution requires an affidavit of lost/stolen checks signed by the funds recipient before another check could be reissued. A notice is sent out notifying the funds recipient when the check is voided or canceled.

The Disbursement View screen, shown below, allows for the void or reissue process. The original disbursement is updated with the status of void or void reissue, and the new disbursement is created with the status of outstanding. The reason for void needs to be specified. Depending on the reason, appropriate notices will be generated which is configurable based on the state's requirements.

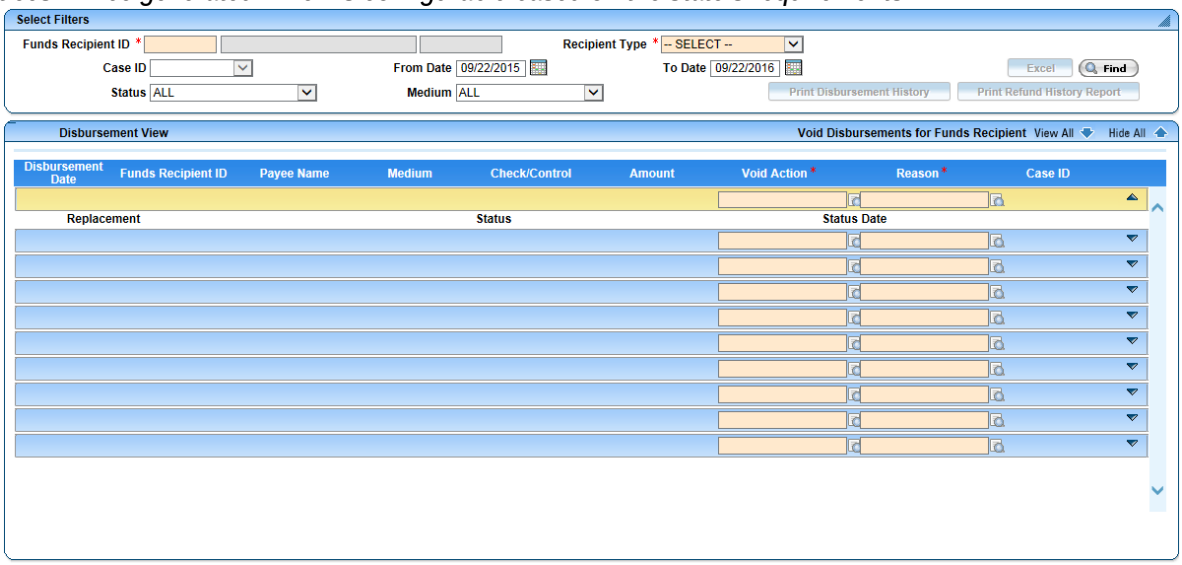

Figure 3.4 (2) - 109. Disbursement View Screen
This screen allows workers to void and/or reissue a disbursement.

Valid disbursement statuses and valid disbursement reasons used are displayed in a table below. These void actions and reasons may vary depending on the business rules of the State of Nevada.

Valid Reason Codes
Description
Bad Address
Damaged Check
Lost Check
Issued in Error
Stale Check
EFT System Reject
Returned from Post Office
FIPS Agency returned check
CST returned check
CST deceased
Stolen check

Valid Disbursement Status
Disbursement Status
Outstanding
Cashed
Rejected EFT
Stop EFT
Stop/No Reissue
Stop/Reissue
Transfer EFT
Void/ No Reissue
Void/ Reissue

REQUIREMENT: (#589) The system must provide bank account reconciliation of deposits and system collections posted.

Please see our response to #585 above.

REQUIREMENT: (#590) The system must provide deposit controls, the management of insufficient funds returns, make-whole accounts when funds are disbursed to the incorrect payee, and the transfer of collections to the disbursement account.

Our solution provides an accurate audit trail and deposit control when collections are posted online or in batch. All collections are posted in the system in batch by processing the SCaDU file, IRS tax intercept file, State tax intercept file, etc. These files are processed initially to check if the count and the amount reported in the header or trailer record of the file matches with the count and the amount reported in the detail records. If the count/amount matches, the file processes for posting payments in the system. Otherwise, the state contacts the vendor or agency to get a corrected file for processing.

The Collection Batch Posting screen provides functionality for the creation of new batches for original payments, as well as payments that need to be reposted. Creating batches on Collection Batch Posting screen with control count/amount and posting payments to those batches on a different screen provides control. In our other certified systems, the same user cannot both create a batch and post a payment. Separation of duties is intended to give additional control in securing the payments posted. Identifying an unidentified receipt or refunding a receipt to the payor is also restricted by utilizing two-tier approval.

After a batch has been created, the payments are individually posted to that batch. If the control count and amount entered matches the actual count and amount calculated from the posting of receipts for the batch, the system reconciles the batch, and the receipts are released for allocation and distribution. After a batch processes through distribution, the system will not allow data modification. Additionally, un-reconciled batches are not processed through the system until they are reconciled by the user. Any updates or

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deletions on the screen during the process of reconciling the batch are recorded in the system as logical updates, thereby maintaining the audit trail.

Receipts from reconciled batches posted by the SCaDU, batch, or online go through the distribution and disbursement process on the same day the receipt is collected and posted unless the receipt is placed on hold for a valid hold reason or the receipt is posted as unidentified. Receipts collected through some remittance instruments, such as a check, may result in the bank returning the check for insufficient funds. A bad check indicator is set for the remitter in such instances so that the system no longer accepts checks from this remitter. The user can override the bad check indicator.

If the bad-check remitter is a member of a case, the system can hold/reject any check payments in future. If the remitter is an employer/out-of-state FIPS, the process to stop accepting checks from the remitter is possible when the SCaDU submits information relating to the remitter.

For example, when the bank reports that the account relating to the child support payment has insufficient funds, the receipt already posted in the system is backed out or reversed. If the receipt is on distribution hold (held before distribution), no arrears updates are done since the receipt has not been distributed. If the receipt is on disbursement hold (distributed but not yet disbursed), the arrears balances are increased by the same amounts as the original receipt distributed, and the disbursement hold record is end-dated.

Overpayment balances are created against the payor (not the CST) if the original receipt is already disbursed. A special receipt source of Insufficient Funds Replacement is entered, when the replacement check is presented by the remitter. This receipt is treated as a regular receipt for distribution purposes. The amount is then applied towards the overpayment balance, and any amount more than the overpayment balance is disbursed to the CST or Agencies, as required. The amount applied to overpayment is retained by the State and can be viewed on the Funds Recipient Recoupment screen.

When the payment is posted to an incorrect case or payor, the receipt is reversed and reposted to the correct case/payor. If the receipt is on distribution hold (held before distribution), no arrears updates are done since the receipt has not been distributed. If the receipt is on disbursement hold (distributed but not yet disbursed), the arrears balances are increased by the same amounts as the original receipt distributed, and the disbursement hold record is end-dated.

If the original receipt is already disbursed, overpayment balances are created against the CST of the original posting for the amount disbursed. In our other certified systems, if the incorrect posting is caused by the SCaDU, then SCaDU makes the account whole by depositing the amount of the receipt in the state deposit account and sending the information in a file to balance the accounts. This allows the state to be able to disburse the payment to the correct payee. Whenever the overpayment is recouped from the original CST, the amount is adjusted in the accounts of SCaDU.

When the checks are received by the bank, the bank calculates the amount of disbursements that need to be cleared on that day. Accordingly, the bank transfers the amount from the collection account to disbursement account. At the end of the day, the balances in the disbursement account are always zero. The amount needed for EFTs and Direct deposits and Stored Value cards are transferred to separate disbursement accounts automatically.

The transfer of collections is recorded in the general ledger system when the bank statement is received for the disbursement account. The process of transferring collections to disbursements and the rules can be configured for the state of Nevada.

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REQUIREMENT: (#591) The system must create a positive pay file to be sent to the disbursement bank to reduce check cashing errors.

Banks use positive pay file to match the check amounts in the file with the checks presented by the clients for cashing the checks. This file helps in avoiding any fraudulent activities. In our solution, positive pay files are sent to the bank daily, from the disbursement process, apart from stored value card payments and EFT payments.

The disbursement process ensures that payments below a dollar are not sent to a positive pay file. These monies are held until the payment exceeds at least a dollar. Disbursements placed on hold are re-evaluated during each disbursement run for release eligibility. The 'less than a dollar hold' is placed in some of the states to avoid the cost of printing and mailing a check for a negligible check amount.

(2.6.13) Account Adjustments

REQUIREMENT: (#592) The system must accommodate the reapplication of funds between accounts and cases.
REQUIREMENT: (#593) The system must provide a detailed audit trail, including the worker performing the adjustment, the movement of funds from one case or account to another and the reasons for each movement.
REQUIREMENT: (#594) The system must accommodate supervisory approval of adjustments according to state policy.
REQUIREMENT: (#595) The system must record and report the cases adjusted, the reason for the adjustment, the date, the person making the adjustment, and the supervisor approving the adjustment.
REQUIREMENT: (#596) The system must be capable of sorting and reporting adjustments by any of the variables above.
REQUIREMENT: (#597) The system must create a case note documenting that an account or case has been adjusted and the date, reason, and person making the adjustment.
REQUIREMENT: (#598) The system must be capable of adjusting previously processed payments with supervisory approval and must notify the worker of the decision regarding the requested adjustment.
REQUIREMENT: (#599) The system must allow for the reversal and reapplication or refund of an entire receipt or a portion of a receipt.
REQUIREMENT: (#600) The system must adjust the balances and if appropriate, reapply the receipt to another case(s), ensuring that the transaction balances and that a complete audit trail is created.

Different types of adjustments and reprocessing may need to be handled in the system due to incorrect information that needs to be corrected, information received for a retro period, or results of another activity that affects the current financial activity. The types of adjustments include reversal of receipts, reposting of receipts, adjusting the periodic amount of an obligation, correcting the program type of a member, adjusting arrears on an obligation, voiding, reissuing a check, or stop payment on a check.

Receipts may need to be backed out due to incorrect posting, nonsufficient funds, incorrect program type, or incorrect balances. Reposting of receipts may be required to be posted to a different payor/case, different amount, etc. Order modification results in modifying the periodic amount, effective date, and frequency. Arrears adjustments may be required due to court approval of correction of arrears. Program type may differ between the child support system and IV-A agency, which needs correction. Checks may need to be voided or reissued and a stop payment applied for reasons, such as incorrect payee, wrong posting of receipt, etc.

These adjustments are handled by a specialized group of finance users. The individual users send financial adjustment request to this group. The user who receives the request may approve and process the request, reject the adjustment, cancel the request, or forward the request to another user. The receiving user receives an alert or e-mail when a request is placed. When the request is approved, processed, rejected, or canceled, the sender receives an alert.

The financial note screen shown in the figure below is made available for the users to request adjustments and the finance group to respond to the requests. If a request is rejected by the receiver, there is a correspondence between the sender and the receiver until the request is finally either approved or canceled.

A canceled request does not proceed any further. An approved request is processed. The financial note is entered at case level and is displayed on the event log along with the financial transactions at the case level.

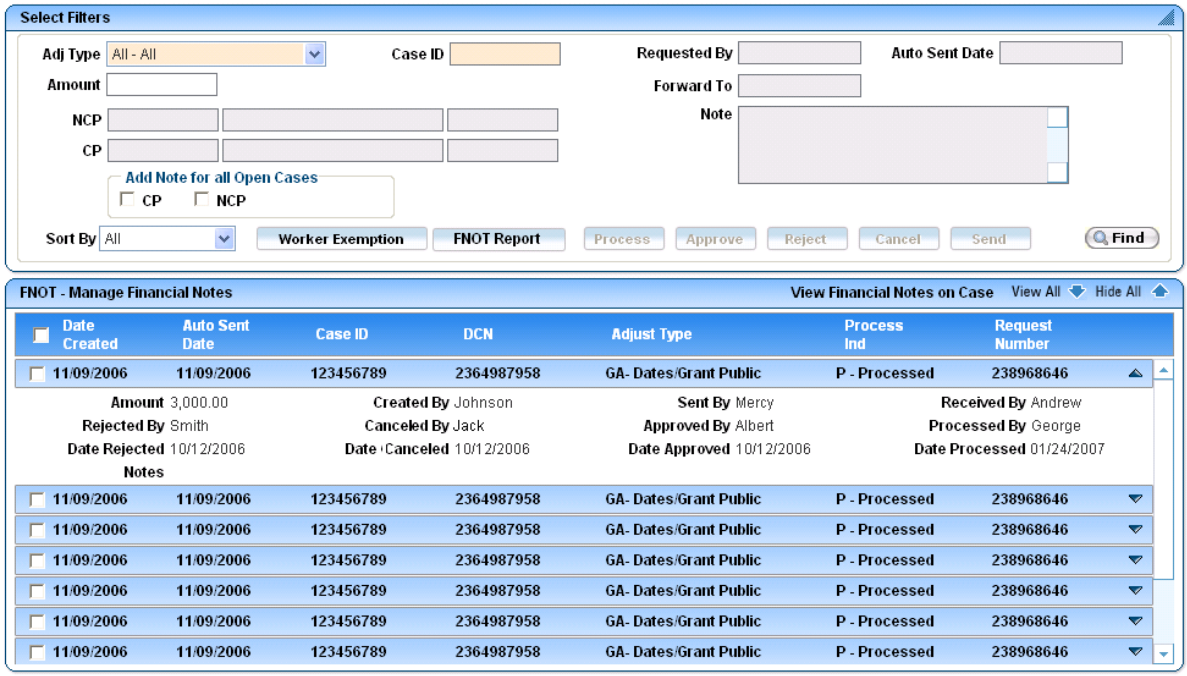

Figure 3.4 (2) - 110. Manage Financial Notes Screen

This screen allows users to request adjustments and the finance group to respond to the requests.

Reversal of receipt can be performed on a single receipt or multiple receipts at a time. The reversal and repost (RREP) screen, shown below, allows filtering receipts by the payor, case ID, receipt ID, receipt source, date range, etc. The user can select appropriate receipts and reverse. The system provides an option to reverse, repost, refund or hold any part of the payment if required. A reposted receipt can be posted at the payor level, at the case level, or as an unidentified receipt.

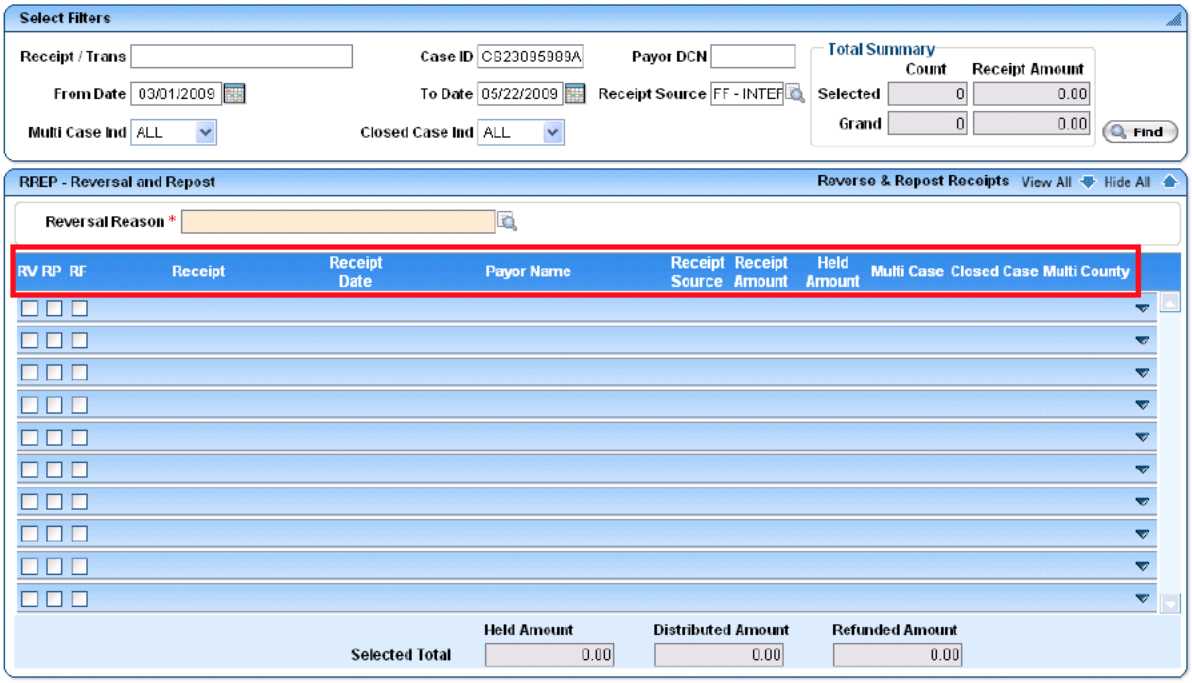

Figure 3.4 (2) - 111. Reversal and Repost Screen

The RREP screen allows filtering receipts by payor, case ID, receipt ID, receipt source, and date range.

When a receipt is reposted, the link between original receipt and the reposted receipt is maintained. The reversed receipt creates overpayment balances for the amount disbursed to the funds recipient. When receipts are reversed and reposted to a different payor ID, or for a different amount, the system requires supervisory approval. The receipts processed previously, when reversed and reposted, the adjustments are made from the receipt month of the collection until the current month. When the reposted receipt is distributed, it distributes to the original receipt month and carries the transaction amount forward until current month.

Arrear adjustments are allowed by authorized users. Like reversal and repost, arrear adjustments are requested by the users on the financial note screen and only after the supervisor approval, the arrear adjustments are made. When the adjustments are made an event log is created with the type of event, the worker who updated, and the date and time at which the event occurred. All financial events are displayed on the event log screen.

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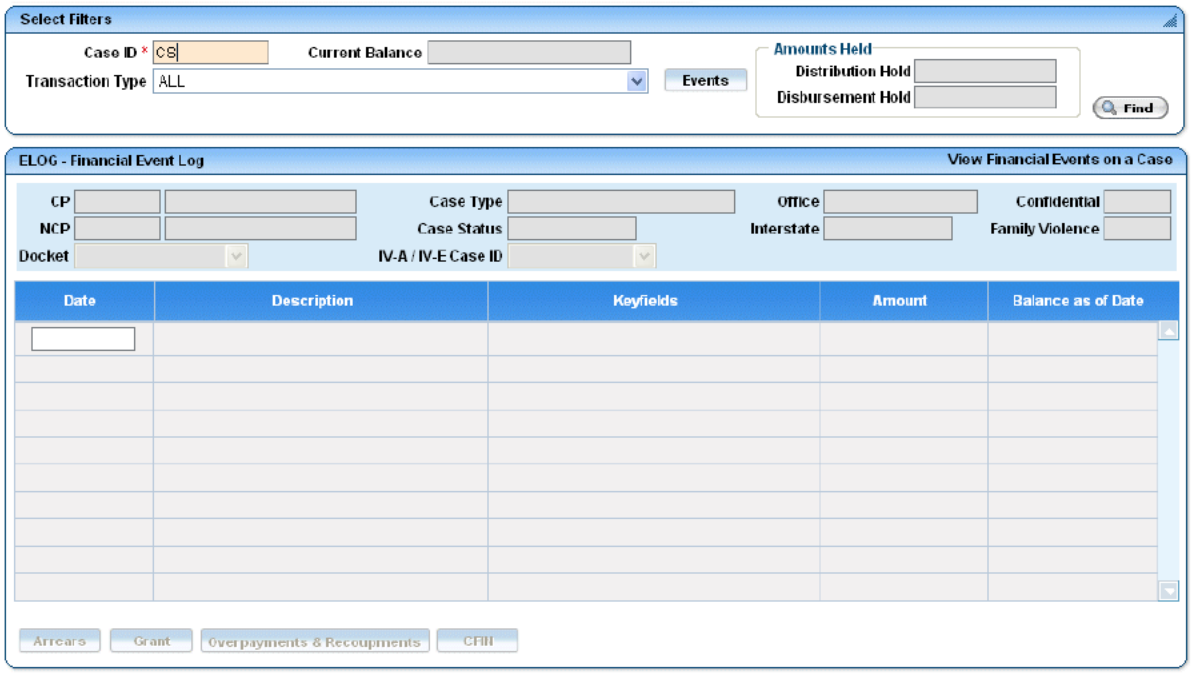

Figure 3.4 (2) - 112. Financial Event Log Screen

Depending on the event or the transaction type, the popup displays the complete audit trail of the transaction. For example, an arrear adjustment made on a case displays the case ID, date of adjustment, the obligation key, amount adjusted and balance after adjustment on the summary and the month to which the balances are adjusted, arrear bucket in which the adjustment is made, the member name, individual adjustment amounts and the worker who made the adjustment is displayed on the arrear adjustment pop-up.

Similar information is maintained on all financial events and reports are generated into excel or pdf format. The excel format can be used to further filter, sort and create additional views if required.

REQUIREMENT: (#601) The system must include edits that prevent the adjustment and reapplication or refund of a receipt unless the corresponding entries balance, with supervisory override capability for reasons such as manual federal tax offset adjustments and incorrect amount corrections.
REQUIREMENT: (#602) The system must automatically adjust, and reapply if necessary, receipts associated with a negative transaction received in the Federal and State tax offset file.

When payments are reversed and reposted for a different amount or reposted to a different payor, the system requires supervisory approval. Until then the batch containing the reposted receipt will remain unreconciled.

When negative adjustment is received from Federal tax offset, the system looks for TOP Trace number and match the collection with the collection in the file or collection already in the system. If there is a match, the system automatically reverses the payment and reposts for the balance of the original amount and the negative adjustment. The system automatically adjusts the arrear balances when the original receipt is reversed and creates overpayment if the amount is already disbursed (In case of joint tax, the amount is in disbursement hold for six months). The reposted receipt is processed during nightly batch, and the amount ready for disbursement is adjusted against the overpayment. If there is no over payment, the amount is disbursed to the CP.

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The process is similar for state tax offset. If there are negative adjustments for which the original receipt cannot be identified by the system, the worker can reverse and repost the difference amount manually.

REQUIREMENT: (#603) The system must have the ability to reissue outstanding legacy system disbursements.
REQUIREMENT: (#604) The system must have the ability to perform adjustments, refunds, and recoveries of overpayments associated with legacy system receipts.

Our solution features the ability to void & reissue or void a legacy disbursement. The solution is implemented in NJ and DE successfully. The user enters Check number, check date, check amount, Funds recipient, Case ID, Recipient type (NCP/CP in the case ID entered) and requests a void reissue or a void of the check. The system validates the check details against the converted data.

If there is a match, a receipt is created with a new receipt source for each (one for void reissue request and one for void request) and the amount is included in owed and paid buckets of Non-TANF arrears (the arrear balance remains the same, but there is record of the new receipt id in the system as if the receipt is distributed) and a disbursement hold is created. The disbursement holds relating to void reissues are processed by the disbursement process, and a check is reissued. The disbursement holds relating to voids remain on disbursement hold until the worker decides to reverse and repost to refund/recoup overpayment or hold. The financial event is logged and the disbursement report includes these void reissues as new disbursements.These receipts do not get accounted for in the daily collections report as these are from previous collections.

(2.6.14) Account Audit Capability

REQUIREMENT: (#605) The system must be capable of supporting the process used to recover disbursements issued (e.g., overpayments) which resulted from a misapplication of payments or a federal tax offset negative adjustment, including the maintenance of recoupment balances, and the issuance of advisory notices to participants.
REQUIREMENT: (#609) The system must maintain a complete NSF history for an employer and associate that employer's NSF status with all obligors and cases for which that employer is a source of income.
REQUIREMENT: (#610) The system must maintain a complete NSF history for an obligor.

Reversal of payments is required in certain situations, such as incorrect payor or case, the amount posted is more than actual payment, incorrect distribution of receipt, change in program type, or custody change. For specified reasons, the whole receipt may need to be backed out. However, in case of an incorrect amount, there is no need for reversing the entire payment. The excess posted over the actual payment can be backed out. The solution proposed can reverse the payment in whole or in part.

In the case of distributed receipt, the reversal process creates negative paid transaction amounts in the receipt month in each of the buckets where the distribution has placed positive paid transactions amounts. If the receipt is partially backed out, the reversal process still places negative amounts in buckets up to the amount reversed by using reverse order of priorities and distributing the negative amount in the receipt month. The effect of reversal is carried forward to later months if the receipt month of the receipt reversed is a prior month.

The system automatically creates recoupment balance on the funds recipient whenever the original receipt resulted in disbursement. Recoupment notice is generated and mailed to the funds recipient for consent to recoup from future disbursements. Reminder notices (up to two) are sent for consent to recoup. The recoupment balance is created as pending recoupment until such time the consent is not received or threshold time limit has reached waiting for a response from funds recipient for consent to recoup. Now, the pending recoupment amount is transferred as active recoupment so that the system can recover the balances from future disbursements at a percentage or flat amount. The system can manually generate a notice of recoupment.

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For insufficient funds received from the NCP, the system automatically puts future check payments from this payor on hold. Any replacement checks from the remitter are specially marked and applied to the offset created against the remitter.

For insufficient funds received from an employer, the system sets a bad check indicator at the employer level. Any future check payments received from the employer for any of the obligors are placed on hold for a specified number of days to ensure check clearance. The system automatically releases based on the days configured in the system for release.

An authorized worker can remove the bad check indicator and allow the system to accept checks and release for distribution. Audit log is created to view the worker ID and date of update.

REQUIREMENT: (#606) The system must be capable of supporting the process used to recover disbursements associated with remittances processed from financial instruments that are dishonored by a financial institution subsequent to the disbursement (e.g., Non-Sufficient Funds (NSF), closed accounts, etc.).

The system includes comprehensive logic for the recovery of monies disbursed but become subject to recovery due to misapplied payments or a collection not paid by a financial institution due to insufficient funds. CSTs receive up to three notifications with no response before the recoupment automatically takes effect. All associated actions and notices are tracked on the system as a part of the permanent case record.

For insufficient funds, the system automatically puts future receipts from this payor on hold. Any replacement checks from the remitter are specially marked and applied to the offset created against the remitter.

Recovery of offset is based on a certain percentage or a flat amount set up for each of the funds recipients. The rules for recovery can be set up as configurable business rules. The overpayment is recouped from any amount ready for disbursement based on the percentage or the flat amount set up. Transactions of the amount recovered toward overpayment are logged as history.

The disbursement process assesses the DRA fee of $25 when the disbursement amount exceeds $500 for the fiscal year (not considering tax offset), when applicable. When there is DRA fee balance, other fee balance, and overpayment balance, the system recoups the balances based on the configurable rules.

In the case of an NCP, the replacement check received from NCP is used to recover the overpayment created due to NSF. If there is no replacement check, the regular payment is used to recover the overpayment after all the support balances of the obligor's cases are fully satisfied.

REQUIREMENT: (#607) The system must process the file of bank returned transactions and automatically adjust the associated receipts and case balances.

When the bank returned checks file is processed, the system automatically reverses the receipt with the appropriate reason for reversing the payment. When the receipt is reversed, the system reverses the effect of distribution by increasing the arrears balances by the originally applied amounts. Recoupment balances are created on the obligor for the amounts already disbursed from this receipt.

REQUIREMENT: (#608) The process must include the generation and tracking of all associated correspondence in the recovery process.

During the recovery process, our solution generates multiple documents with specialized instructions. These notices are displayed online, when required, to obtain additional input from caseworkers before being sent to the recipients. In some instances, these notices require manual inputs, including electronic signatures from users and supervisors as part of a workflow, which is handled automatically in our

solutions. Notices generated from the system are recorded in the case journal with the date of the request, the notice ID and the recipient.

REQUIREMENT: (#609) The system must maintain a complete NSF history for an employer and associate that employer's NSF status with all obligors and cases for which that employer is a source of income.
REQUIREMENT: (#610) The system must maintain a complete NSF history for an obligor.

Please see our response to #605 above.

(2.6.15) Account Audit Capability

REQUIREMENT: (#611) The system must provide efficient auditing of account balances and distributions with online and printed reports.
REQUIREMENT: (#612) The system must automate the creation of audit reports which provide a month-by-month breakdown to the arrears category level.
REQUIREMENT: (#613) The system must track audit results.

Our solution includes a comprehensive month-by-month report that can be generated, viewed and printed on demand at the docket, case or payor level, detailing the support and fee balances owed and paid for a given date range. The report contains detailed information regarding each payment, including but not limited to: the amount of the payment; source of the payment (identification of the entity that made the payment), date of collection; method of payment; date initially received in the State or at the SCaDU; and date of disbursement.

The system maintains TANF arrears and non-TANF arrearages according to federal and state regulations including but not limited to NAA – Never Assigned Arrears, PAA – Permanently Assigned Arrears, UDA – Unassigned During Assistance Arrears, Medical to the Client, Medical to the State, IV-E Foster Care, Nonfederal Foster Care, etc. based on the state options allowed under FSA88, PRWORA and DRA. Current monthly arrears balances can be viewed on the support log screen, as shown below, for a case, order/docket, member, and obligation.

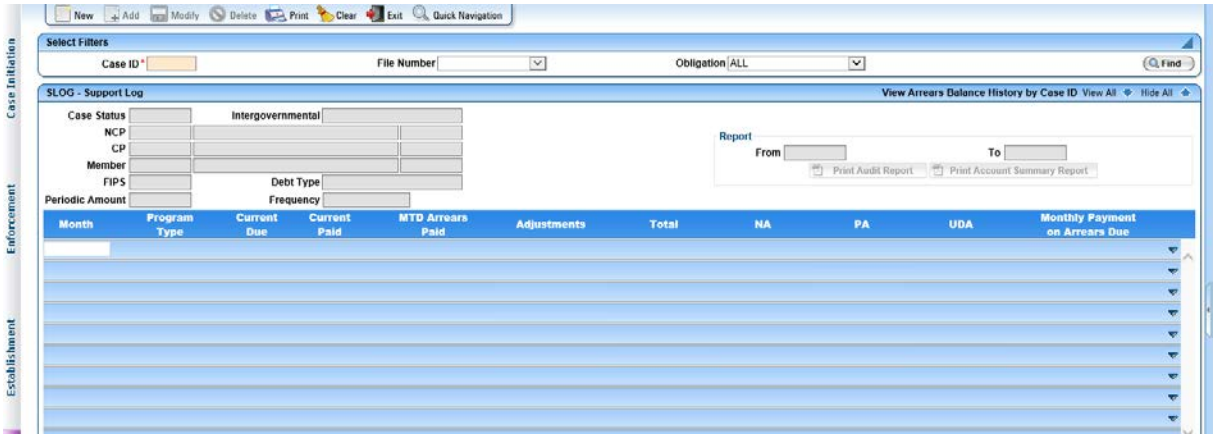

Figure 3.4 (2) - 113. Support Log Screen
This screen displays monthly balances in various arrear categories.

When considering arrears balance and type, the system loads all ordered payment information, unreimbursed public assistance information and payments from the system and, based on configurable business rules, calculates arrearages.

Our solution includes an arrears calculator screen (ARRC). This is an automated certified payment history that can be generated in the system. ARRC is used for basic arrears calculation considering the amount

owed (including interest and penalties) and the amount paid and showing the balance result. The system loads all ordered payment information and payments from the system and, based on configurable business rules, calculates interest and penalty for a specific time or from a specific point in time and generates the results for online viewing.

Statements are also available in electronic format for emailing, per the preference of the customer, as well as available to participants through the IVR and the customer service portal web site

The reports may be printed. The current design assesses the print location, local or central, based on the size of the report. These designs will be presented to the State during requirements definition sessions for consideration when designing account statements that also include information for On-demand obligation history statements, including obligation modifications for a specific date range and case. Other financial screens and financial reporting solutions provide users with flexible views of financial processes across various levels of reporting.

The results and dates of each calculation are maintained in the system. System logic can easily be modified to incorporate new state and federal requirements.

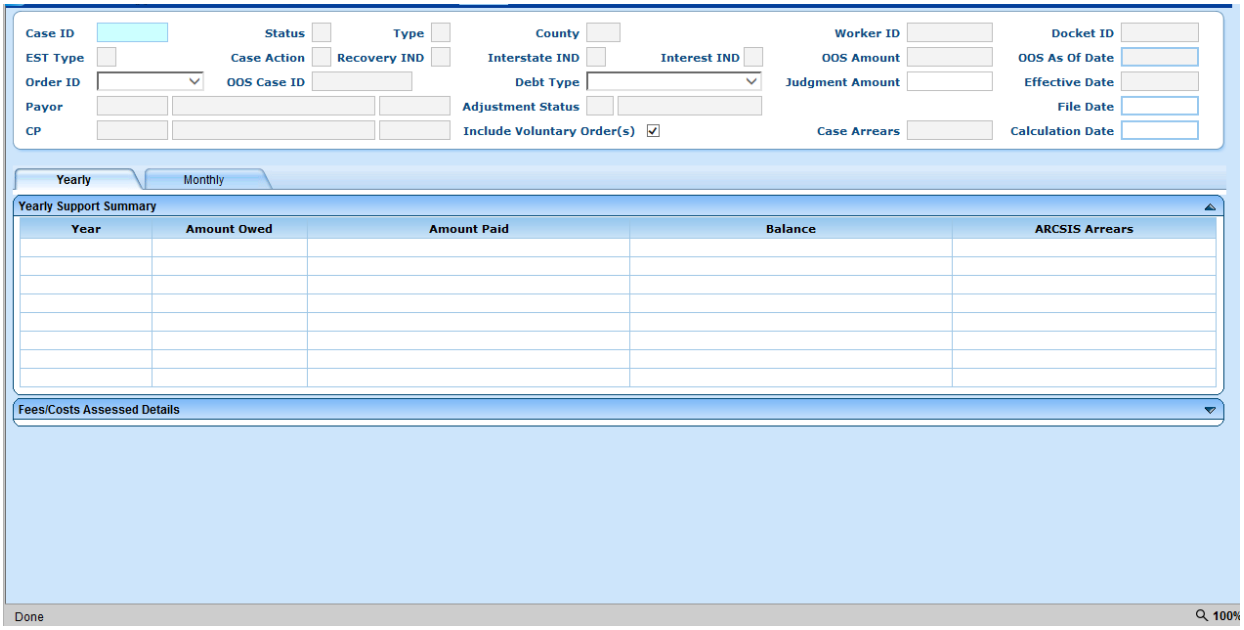

Figure 3.4 (2) - 114. Arrears Calculator Screen

If Nevada elects, direct payments can be entered individually in the arrears calculator on the Direct Payment Adjustment screen to adjust the balance of an order/obligation. These payments will be picked up as credits toward NCP balances for court and payment record purposes, but will not be reflected for Federal audit purposes in the financial system as they did not pass through the system.

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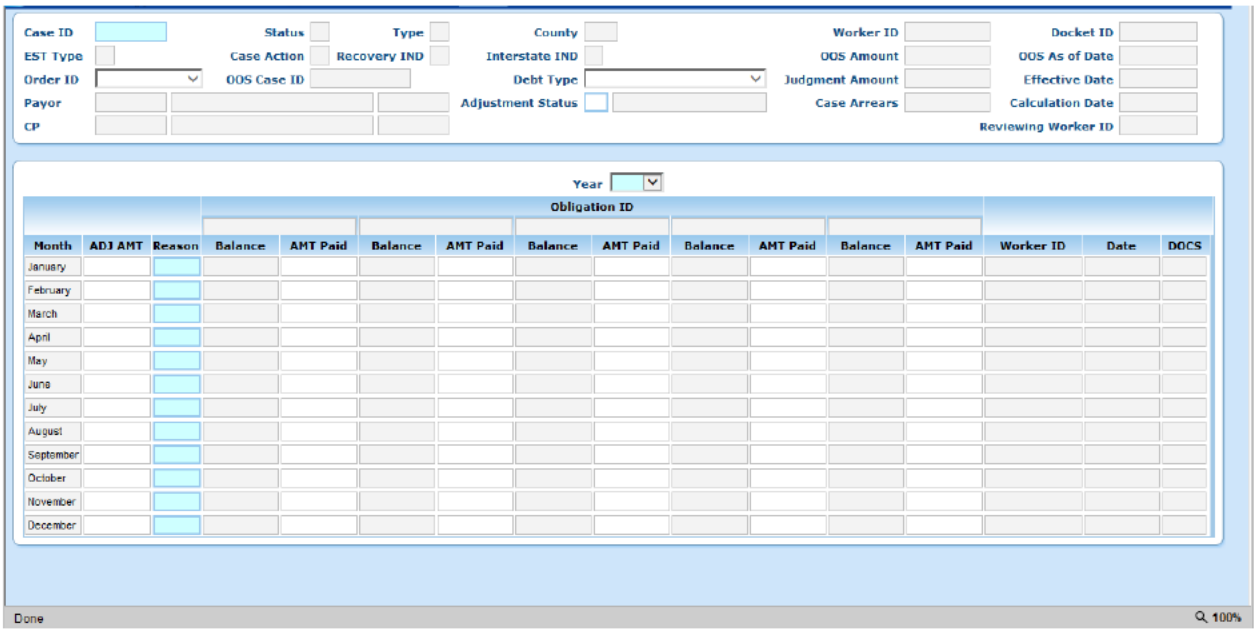

Figure 3.4 (2) - 115. Direct Payment Adjustment Screen

(2.6.16) Account Statements and Financial Reports

REQUIREMENT: (#614) The system must provide the generation of on-demand obligation history statements for each case for obligations and obligation modifications within a given date range.

The financial event log (ELOG) screen is used to display the financial events of a case. Creation of obligation, modification to an obligation, accruals, arrears adjustment, collections, holding and releasing collections, distribution, TANF distribution, disbursement holds, overpayment recovery, fee recovery, disbursement, refunds, etc. are displayed on ELOG for a case. The main screen displays the transaction summary. Details are displayed by selecting any individual transaction.

The data can be filtered for any specific financial event from a specific date. For example, to view obligation modifications, the Transaction Type in the header needs to be filtered for the Obligation Modification event. The details in the grid will reduce to only obligation modifications. More details can be viewed by selecting each row in the grid and viewing details. A report can be extracted which will display the Case ID, obligation ID, original obligation terms, modified obligation terms, the net effect on the balances and final arrears balance for each of the modifications.

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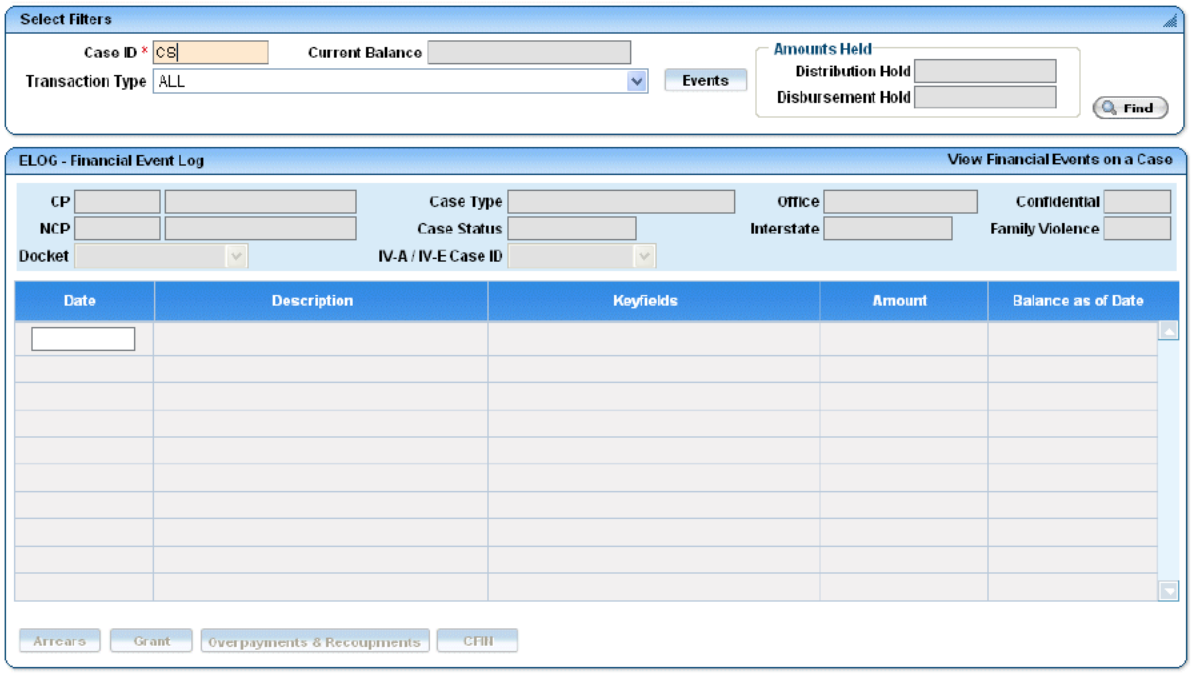

Figure 3.4 (2) - 116. Financial Event Log Screen

This screen displays the financial events of a case.

If the obligation is modified or end dated, accruals are assessed based on the new information. Records of charges and adjustment events are written to the financial event log screen.

REQUIREMENT: (#615) The system must provide the generation of on-demand account statements for each case for charges, payments, and arrearage balances within a given date range.
REQUIREMENT: (#618) The system must be able to produce a formatted, printable payment history with options to include unpaid balances, distribution history, and adjustments.

Our solution addresses various scenarios where the receipts posted in the system are displayed either by case ID or by payor ID. The date range is another parameter by which the receipts may need to be filtered. The payment history view is different for the custodial parent and noncustodial parent. For example, a collection posted and held at payor level is not displayed in CST payment history view as this collection may or may not be allocated to this CST and, therefore, is not advisable to be displayed as a held collection in CST payment history view. There may be similar restrictions to be handled for display of payment history to various entities. The figure below provides a screen with the capability to filter based on Case ID, Payor ID or date range and a payment history report extracted from the screen containing additional details which are not visible on the screen.

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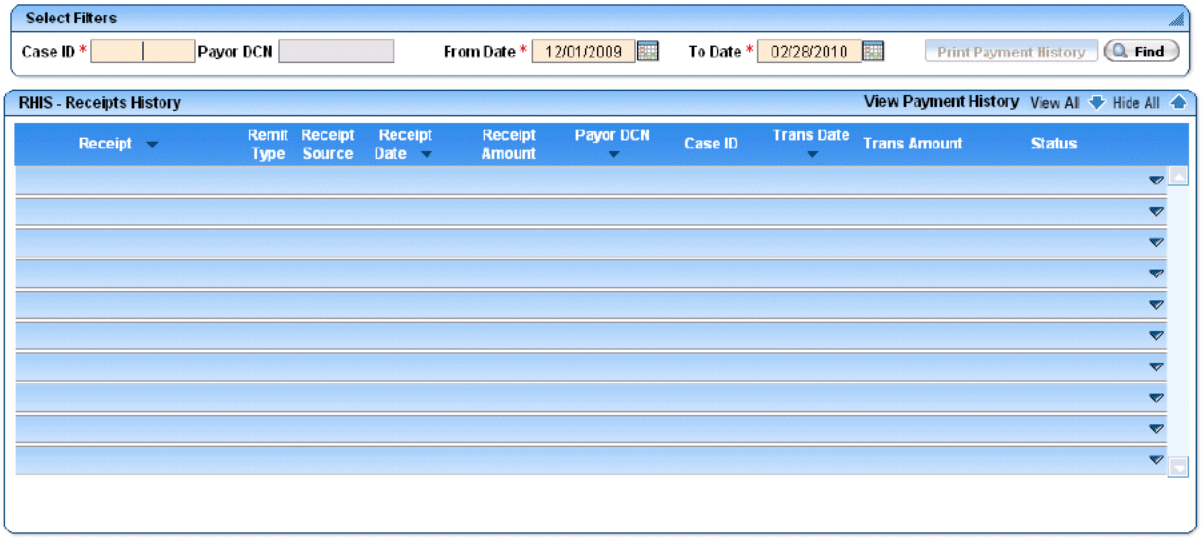
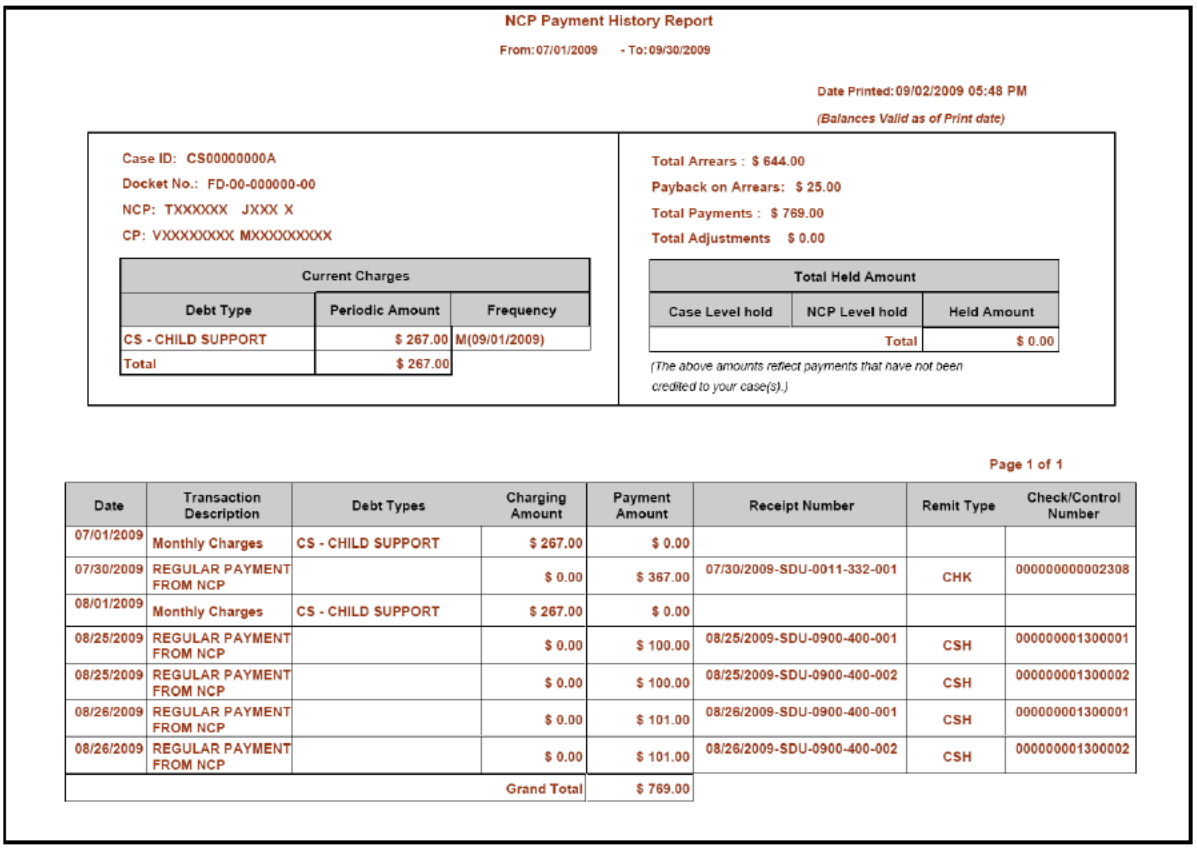


Figure 3.4 (2) - 117. Receipts History Screen

This screen provides a payment history for a case or NCP with expandable levels of detail.



NCP Payment History Report

From: 07/01/2009 - To: 09/30/2009

Date Printed: 09/02/2009 05:48 PM

(Balances Valid as of Print date)

Case ID: CS00000000A
Docket No.: FD-00-000000-00
NCP: TXXXXXX JXXX X
CP: VXXXXXXXX MXXXXXXXXX

Total Arrears : $ 644.00
Payback on Arrears: $ 25.00
Total Payments : $ 769.00
Total Adjustments $ 0.00

Current Charges		
Debt Type	Periodic Amount	Frequency
CS - CHILD SUPPORT	$ 267.00	M(09/01/2009)
Total	$ 267.00	

Total Held Amount		
Case Level hold	NCP Level hold	Held Amount
	Total	$ 0.00

(The above amounts reflect payments that have not been credited to your case(s).)

Page 1 of 1

Date	Transaction Description	Debt Types	Charging Amount	Payment Amount	Receipt Number	Remit Type	Check/Control Number
07/01/2009	Monthly Charges	CS - CHILD SUPPORT	$ 267.00	$ 0.00			
07/30/2009	REGULAR PAYMENT FROM NCP		$ 0.00	$ 367.00	07/30/2009-SDU-0011-332-001	CHK	000000000002308
08/01/2009	Monthly Charges	CS - CHILD SUPPORT	$ 267.00	$ 0.00			
08/25/2009	REGULAR PAYMENT FROM NCP		$ 0.00	$ 100.00	08/25/2009-SDU-0900-400-001	CSH	000000001300001
08/25/2009	REGULAR PAYMENT FROM NCP		$ 0.00	$ 100.00	08/25/2009-SDU-0900-400-002	CSH	000000001300002
08/26/2009	REGULAR PAYMENT FROM NCP		$ 0.00	$ 101.00	08/26/2009-SDU-0900-400-001	CSH	000000001300001
08/26/2009	REGULAR PAYMENT FROM NCP		$ 0.00	$ 101.00	08/26/2009-SDU-0900-400-002	CSH	000000001300002
			Grand Total	$ 769.00			

Figure 3.4 (2) - 118. Payment History Report

The payment history report shows key information about the history of payments made for established obligations.

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The audit report provides details of obligations, arrear balances, held amounts, accruals, payments, adjustments, and balances at the transaction level. The figure below displays the format of the financial audit report. This report is generated online for a date range by selecting a case ID.

State of New Jersey
Child Support Enforcement System
Financial Audit Report
From: 10/01/2008 **- To:** 09/02/2009
Date Printed: 09/02/2009
(Balances Valid as of Print date)

Audit Details	
Audit Date	09/02/2009
Case ID	CS00000000A
CP	VXXXXXXX MXXXXXX
NCP	TXXXXXX JXXX X

COURT ORDER INFORMATION				
Court Order Date	Effective Date	Obligation Details		
		Debt Type	Amount Ordered	Frequency
06/24/2008	10/01/2008	CS - CHILD SUPPORT	$267.00	M - MONTHLY

ARREARS TO DATE	
Debt Type	Arrears Amount
CS - CHILD SUPPORT	$ 644.00
	Total : **$ 644.00**

TOTAL HELD AMOUNT					
Hold Code	Hold Code Description	Hold Level	Receipt Number	CaseID/DCN	Held amount
				Total	0.00

ANALYSIS OF CHARGES VERSUS PAYMENTS									
Month / Year	Obligation	Monthly Charges	Total Monthly Payments	Amt Paid to Custodian/ FIPS	Amt Paid to State Agency	Direct Pay Credits	Arrears Adjustments	Monthly Difference	Ending Balance
03/2009	CS - CHILD SUPPORT	267.00	3,986.00	3,986.00	0.00	0.00	3,252.00	-3,719.00	1,179.00
04/2009	CS - CHILD SUPPORT	267.00	367.00	367.00	0.00	0.00	0.00	-100.00	1,079.00
05/2009	CS - CHILD SUPPORT	267.00	367.00	367.00	0.00	0.00	0.00	-100.00	979.00
06/2009	CS - CHILD SUPPORT	267.00	367.00	367.00	0.00	0.00	0.00	-100.00	879.00
07/2009	CS - CHILD SUPPORT	267.00	367.00	367.00	0.00	0.00	0.00	-100.00	779.00
08/2009	CS - CHILD SUPPORT	267.00	402.00	402.00	0.00	0.00	0.00	-135.00	644.00
	Totals	$ 1,602.00	$ 5,856.00	$ 5,856.00	$ 0.00	$ 0.00	$ 3,252.00		

Figure 3.4 (2) - 119. Sample Financial Audit Report

REQUIREMENT: (#616) The system must provide the generation of on-demand disbursement history statements within a given date range for each disbursement recipient associated with a case, or for a case as a whole.

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REQUIREMENT: (#617) The system must allow users to view disbursements at the case level and also rolled up to the disbursement recipient level.

The disbursement process runs in batch and recoups overpayment and costs or fees based on the business rules. The balance amount is available for disbursement. The system determines the disbursement method for each recipient and disburses as a check, EFT, or stored value card. Each disbursement is assigned a unique control number. Each of these disbursements is displayed on the DSBV screen. Filtering by Funds Recipient ID or case ID, and Date range or Status is allowed on this screen. The system displays the funds recipient, disburse date, the amount disbursed, disbursement status, control number, etc. The latest status of the disbursement can be viewed on the DSBV screen shown below.

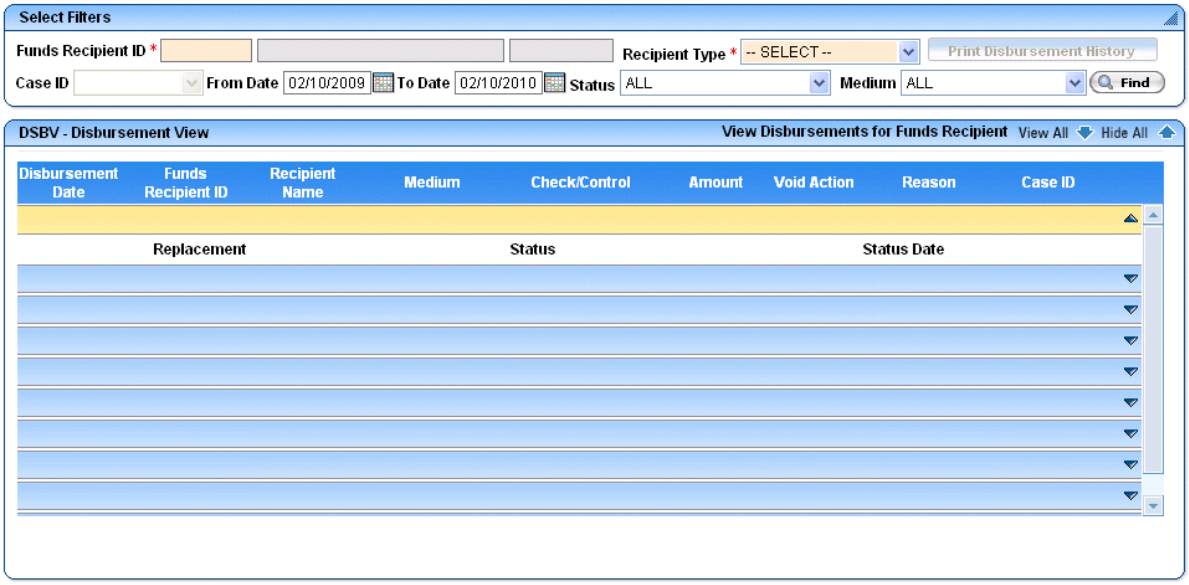

Figure 3.4 (2) - 120. Disbursement View Screen

Check, EFT, or stored value card disbursements are displayed on this screen.

When the batch processes the bank reconciliation file, the status changes to cleared or rejected. When the EFT is rejected, the system automatically reissues a check. The system allows for changing the status manually on DSBV screen to void/cancel a check or reissue a check or mark a check as cleared. The history of disbursement statuses for any disbursement can be viewed on a pop-up from DSBV screen as shown below.

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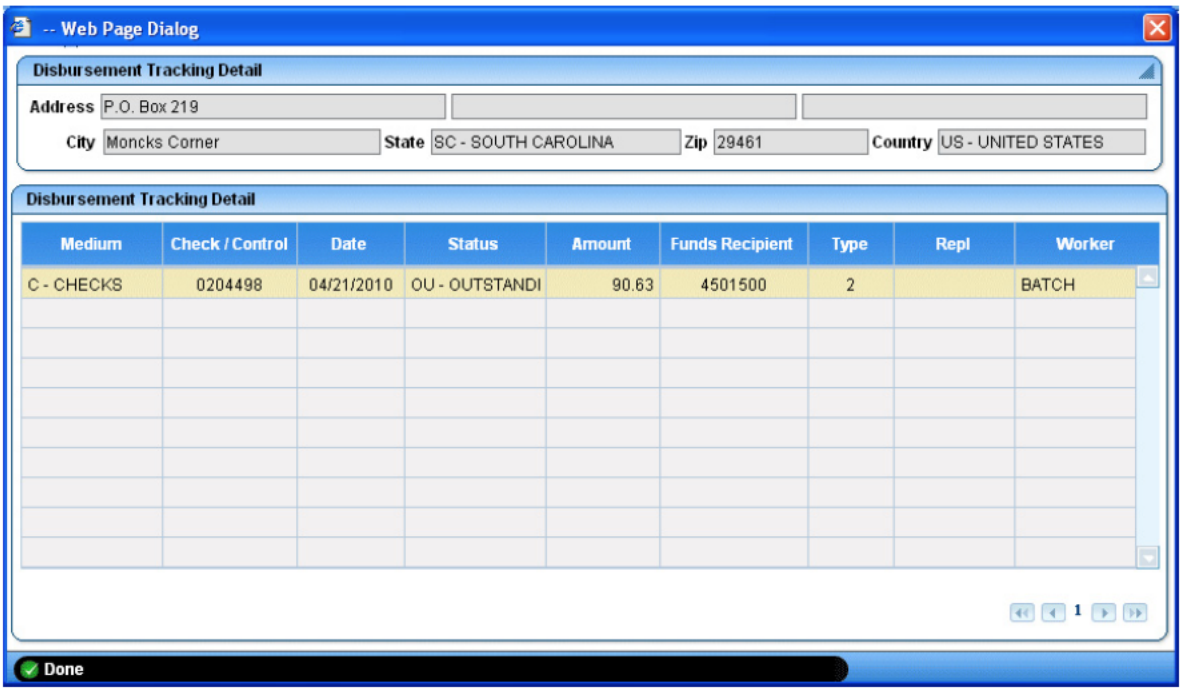

Figure 3.4 (2) - 121. Disbursement Tracking Detail Pop-up

This screen shows a view of the history of disbursement status.

REQUIREMENT: (#618) The system must be able to produce a formatted, printable payment history with options to include unpaid balances, distribution history, and adjustments.

See our response to #615 above.

(2.6.17) IV-A Updates and Notification

REQUIREMENT: (#619) The system must accept and process IV-A assistance information for purposes of maintaining the custodial parent URA balance and reporting collections to the IV-A agency.
REQUIREMENT: (#620) The system must adjust URA balances automatically due to member program status changes.
REQUIREMENT: (#621) A change in member case type must move arrears balances to the correct arrears bucket (e.g., Permanently Assigned Arrears (PAA), Unassigned During Assistance Arrears (UDA)).

A daily interface file of IV-A referrals/ updates received from the IV-A agency will be processed and the member matched against current members in the system. This interface process will update the member IV-A status of existing members and create new members and cases where applicable. The IV-A data may include open dates for new referrals, close dates, or updated information for existing members. All current and historical IV-A case and member status information will be maintained in the Member History Screen. The Member History – MHIS screen displays a history of the member's program type by beginning and ending dates.

When member program status changes received from IV-A are processed on an obligated member, the system moves arrears to appropriate buckets based on the update. For example, if a member's program status changes to Non-TANF, the Permanently Assigned Arrears (PAA) exceeding URA balances will be moved to Unassigned During Assistance (UDA) balances. The Temporarily Assigned Arrears (TAA), if exist, will be moved to Conditionally Assigned Arrears (CAA).

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As updates to existing members are received from the IV-A interface, the system also processes a monthly grant file from the IV-A agency, which is used to track unreimbursed assistance and determine appropriate arrears classification. Information maintained and displayed includes:

- *Month/Year*
- *Amount paid as current month's assistance*
- *Amount applied to current month's assistance*
- *Amount applied to prior month's assistance payments*
- *Life to date assistance expended*
- *Life to date assistance reimbursed*
- *Balance of unreimbursed assistance*

When the IV-A updates are processed, distribution takes place, arrears are adjusted manually, program type is changed, the obligation is modified, or obligation is added, the system automatically triggers a reallocation of arrears to the appropriate bucket(s).

Member and case IV-A data is essential for the accurate distribution of collections and in the determination of the appropriate obligation arrearage accrual and bucket. The collections applied to any assigned arrears will go through secondary distribution (TANF distribution) and derive the amounts applied towards URA balances and amount in excess over URA which needs to be disbursed to CST. The URA balances are automatically reduced by the amounts applied.

Secondary distribution takes place at the end of the month in certain states because the grant information is not received in advance for the future month. In states where the grant information for the following month is received, the secondary distribution is run on daily basis. The collections because of secondary distribution are reported to IV-A agency at the end of the month.

REQUIREMENT: (#622) Using the IV-A / IV-D automated interface, the IV-D agency must provide the IV-A agency information regarding the amount of monthly support collections received for each IV-A case.
REQUIREMENT: (#623) The IV-D information to IV-A must include the amount, case number, and date of receipt / collection for each payment.

Month-end processing triggers the creation of a file that is sent to the IV-A agency which contains required information to be passed from the IV-D system to the IV-A system. The file contains the following information for each IV-A/IV-D case combination:

- *Support collections*
- *Disbursement*
- *Date of collection and/or disbursement*
- *Amounts applied to current and arrears*
- *Amount of retained or reimbursed assistance*
- *Balance of unreimbursed assistance*

The month-end file will be sent electronically to the IV-A agency in addition to the information be available online in the CSE System and through the State's IVR system or CSEP Website.

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REQUIREMENT: (#624) The system must automatically produce a monthly notice of assigned support collections when a collection is received for IV-A and former IV-A custodial parents who continue to receive IV-D services and have outstanding arrearages that have been assigned to the State.
REQUIREMENT: (#625) The monthly notice must separately list payments collected from each noncustodial parent, if appropriate, and must indicate the amount of current support, the amount of arrearage collected, and the amount of support collected which was disbursed to the family versus what is paid on behalf of the family but retained by the State to reimburse IV-A funds.
REQUIREMENT: (#626) In lieu of mailing the notice, notice data must be made available to the IVR and CSEP website.

The IV-D office must provide a monthly notice of the amount of support payments collected for each month to individuals who have assigned rights to support under section 408(a)(3) of the Act, unless no collection is made in that month, or the assignment is no longer in effect, and there are no longer any assigned arrearages. The notice includes the amount applied to the current support, amount applied to arrearages, and amount of support paid to the family. If more than one NCP owes support, then the amounts are listed separately for each of the IV-D cases. A batch process runs on the last day of each month to extract CSTs who have assigned rights to support and have received collections during the current month.

States may request a waiver from OCSE to submit a notice of assigned support quarterly instead of monthly if the state can provide information using the automated voice response system. The data elements required for the notices will also be available for the IVR and the CSEP website to provide amounts applied to the current support, arrearages, amount of support paid to the family, etc.

(2.6.18) Title XIX and Child Welfare Recovery Account Management

REQUIREMENT: (#627) The system must provide funds transfer of recovery collections to the Title XIX and child welfare agencies, including IV-E and non-IV-E Foster Care.

Amounts applied to unassigned buckets are ready for disbursement except in the situation where the collection is a federal tax offset from a joint tax return. The amounts applied to assigned buckets are placed on disbursement hold until the grants or board information is received from the IV-A or IV-E agency. The amount applied to the Medicaid bucket is disbursed to the state Medicaid agency.

Any amount applied to the foster care bucket is used to recoup the board payment amounts unpaid, and the disbursement is made to the IV-E agency. Any excess over the board payment balances is also disbursed to the IV-E agency.

The amount of current support applied toward current grant, amount of current support applied toward unreimbursed grant, amount of arrears applied toward unreimbursed grant, excess over grant, amount applied to board payments, or amount applied to Medicaid, have different disburse types maintained in the system. A report is created and submitted to the agencies when monthly disbursements are made.

REQUIREMENT: (#628) The system must provide monthly accounting, including a narrative documenting any corrective entries, to the child welfare agencies regarding the distribution of the foster care maintenance recovery.

As described in requirements, the monthly transfer of collections to the TANF, Medicaid, and Foster Care agencies is performed based on the distribution results. A transmittal report provides the detailed data to the foster care agency. This satisfies the monthly accounting requirements and enables the foster care agency to identify the members for whom the collection is made and how the payment was distributed.

(2.6.19) Statewide Accounting and Fee Management

REQUIREMENT: (#629) The system must calculate and / or record fees in the case record.

Child Support systems impose several kinds of fees on the NCP and CST including Application Fees, DRA, Court Order, Collections and enforcement among others. Fees in our solution can be set up as:

- *One-time fees*
- *Recurring fees*
- *Automatically charged under certain conditions (say, upon collections)*

Our solution can implement all these varieties of fees, track their accrual (if warranted), create bills for the CSTs or NCPs for fees, and enforce the collections of these fees. Based on configurable rules, the information required to be provided to the NCP/CST for recouping fees can be included in the IV-D application, continued IV-D services notification to TANF CST, or billing notices to the NCP.

REQUIREMENT: (#630) The system must automatically retain from child support payments collected on behalf of individuals receiving IV-D services who have never received public assistance the annual federal fee specified in 42 U.S.C. §654 each federal fiscal year in which at least $500 has been disbursed to the custodian during the federal fiscal year.

The states may assess the fee to CST, NCP, the applicant or the state to pay from general funds. Most of the states (including Nevada) chose to charge CST for the DRA fee. The CSTs of never assistance cases are charged an annual fee of $25 after a collection of at least $500 is collected and disbursed to the family.
As mentioned in our response to #629, when the system processes collections it assesses fees for never-assistance CSTs based on configurable rules. In this instance, the rule is that at least $500 have been disbursed during the federal fiscal year. The unpaid fee balances of the previous year are not accumulated. At the beginning of each year, the unpaid DRA fee balance is written off for each case.

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(2.7) Reporting

(2.7.1) OCSE-34A Reporting

REQUIREMENT: (#631) The system must maintain an online OCSE-34A report with monthly and quarterly totals; and the system must maintain data necessary to complete the OCSE-34A report.

The OCSE-34A report accounts for all collections that come into the IV-D program and categorizes the amounts for both distributed and undistributed collections. The report is also used to determine the collection component of the cost effectiveness performance incentive measure that compares total collections to total expenditures. Protech's solution maintains all information required for preparing, maintaining and generating the OCSE-34A collections report.

The report is maintained online with data updates based on configurable business rules, including but not limited to: cumulative daily, monthly, quarterly, and federal fiscal yearly totals, as well as year-to-date totals to previous month end. The ability to submit and view initial and revised submissions is incorporated into the online report. Access to this report is made available to users in various organizational levels based on configurable business rules in the security application. The system supports revisions, without programming, to certain line items which will be predetermined during JAD sessions and includes, but is not limited to, certain predefined Undistributed Collection items that are reported on the OCSE-34A UDC Schedule.

When the report is generated, the data displays in an actual facsimile of the federal report form. The Protech Team has implemented this functionality in five states: Arkansas, Michigan, Maine, Massachusetts, and New Jersey. We are experienced and fully aware of the complexity in reliably providing this information, and we bring our expertise in providing the State with a reliable solution.

OCSE-34 Federal Report — View/Generate OCSE-34 Quarterly Report

U.S. DEPARTMENT OF HEALTH and HUMAN SERVICES
Office of Child Support Enforcement

OMB APPROVED
Control No: 0970-0181
Expires:05/31/2017

FORM OCSE-34: CHILD SUPPORT ENFORCEMENT PROGRAM QUARTERLY COLLECTION REPORT
PART 1: COLLECTIONS RECEIVED, DISTRIBUTED and UNDISTRIBUTED

State/Tribe: | *Quarter Ended:* II - 03/31/2016 | *Mark Box:* Initial Report ☑ Revised Report ☐

SECTION A. AVAILABLE COLLECTIONS					(G) Total
1. Balance Remaining Undistributed at End of Last Quarter (Carried from Line 9b, Part 1 of Previous Quarter)					$ 21,956,310
2. Collections Received During the Quarter					$ 333,497,731
2a. From Offset of Federal Tax Refund	$ 22,746,351	2e. From IV-D & Non-IV-D Income Withholding	$ 219,999,987		
2b. From Offset of State Tax Refund	$ 275,486	2f. From Other States or Tribes	$ 12,537,589		
2c. From Offset of Unemployment Comp	$ 10,689,002	2g. From Other Countries	$ 0		
2d. Through Administrative Enforcement	$ 0	2h. From Other Sources	$ 67,249,316		
3. Net Amount of Increasing and (Decreasing) Adjustments					$ -12,194
4. Collections Sent During the Quarter Outside the Reporting State's IV-D Program					$ 36,092,383

	(A) Current IV-A Assistance	(B) Current IV-E Assistance	(C) Former IV-A Assistance	(D) Former IV-E Assistance	(E) Medicaid Never Assist.	(F) Other Never Assistance	(G)Total
4a. Sent to Non IV-D Families (STATES)							$ 23,765,034
4b. Sent to Other States or Tribes	$ 4,185	$ 0	$ 1,495,505	$ 0	$ 34,310	$ 10,793,349	$ 12,327,349
4c. Sent to Other Countries							$ 0

Figure 3.4 (2) - 122. OCSE-34A Monthly Report
Click within a cell to view detail

A printed version of the report is available in PDF. We additionally provide the ability to export data into other analytical tools for further analysis and review.

REQUIREMENT: (#632) The report data must be available for worker, team, unit, office, multi-office, and statewide perspectives.

Protech's solution provides for the dynamic display of data, allowing analytics to be performed on any level of data. The system will report data for the OCSE-34A at the worker, team, unit, office, multi-office and statewide levels. Authorized users can view the online report and filter, using interactive drop-down options, to limit report results by the selected reporting level. This flexibility allows DWSS to see results reflected dynamically in the report at any level.

REQUIREMENT: (#633) The system must establish an audit history for the report to link each row and column entry with the collection or disbursement data comprising the reported total.

The counts, amounts and case, and receipt level details required for the Federal reporting form OCSE-34A are available online. Stakeholders, including Federal Auditors, given the appropriate security level, can view and drill down in the online report to view the detailed data for each line. This functionality greatly enhances the audit process and permits the state to conduct an effective pre-audit process to verify that the reported data is complete and reliable. The system provides all necessary documentation needed to obtain and verify claims for Federal financial participation (FFP) and to facilitate the payment, receipt, and distribution of incentive payments.

As illustrated below, traceability of details (detail level audit trails) are automatically available for each row, and column entry of all Federal reports with various base data, including but not limited to case, participant, collection, or disbursement data or source for original entry, adjustments, exclusions, and inclusions. Online drill down capability gives users the ability to view the detailed transactions summarized for any individual data element on the OCSE-34A.

OCSE - 34 Details

4b. Sent to Other States or Tribes
(E) Medicaid Never Assist
Quarter II - Ended 3/31/2016

Receipt | Total $ 34,310 | Excel

Receipt	Payor	Receipt Date	Reference Number	Amount
12/07/2015-SDU-0041-002-262	83527302	12/07/2015	23922783 4001	22.79
12/14/2015-SDU-0020-153-001	90331902	12/14/2015		19.00
12/14/2015-SDU-0036-002-493	83527302	12/14/2015	24000419 4001	51.00
12/21/2015-SDU-0019-338-001	90331902	12/21/2015		107.00
12/21/2015-SDU-0033-002-478	83527302	12/21/2015	24076038 4001	51.00
12/22/2015-SDU-0011-335-001	72194534	12/22/2015		26.52
12/24/2015-SDU-0003-596-001	90131751	12/24/2015	52038649	188.40
12/24/2015-SDU-0012-632-001	90331902	12/24/2015		107.00
12/28/2015-SDU-0008-322-001	90131751	12/28/2015	52038732	155.00
12/28/2015-SDU-0035-002-538	83527302	12/28/2015	24162981 4001	51.00

1 2 3 4 5 6 7 8 9 10

Figure 3.4 (2) - 123. OCSE-34A Detailed Report

Optionally, search details by Receipt Number or export details to Excel for further analysis.

REQUIREMENT: (#634) The system's reported collection and disbursement data must reconcile to reports of the same data from other sources, such as the collection and disbursement bank account statement and transaction reports from the state's financial accounting system.

Details for the queried lines are stored and can be accessed by clicking on the individual cell. The selected record can then be validated by inquiring to the distribution and disbursement detail screens within NCSEAS. A feature unique to Protech's solution is a receipt level OCSE-34A. This functionality can be added to the transfer system's Logical Collection Detail screen. This view illustrates the distribution of an

individual receipt as it is reported on the cumulative OCSE-34A. Data reported in the OCSE-34A reconciles to reports of the same data from other sources.

(2.7.2) OCSE-157 Reporting

REQUIREMENT: (#635) The system must maintain an online OCSE-157 report and maintain the data necessary to complete the OCSE-157 report.
REQUIREMENT: (#636) The report must be generated monthly with cumulative and point in time federal fiscal year year-to-date totals.

Protech's solution maintains all information required for preparing, maintaining and generating the OCSE-157 federally mandated performance report. In conjunction with the federal system certification requirements, it is mandatory the data submitted be accurate, reliable and complete. The report is generated monthly and annually and provides data from the system including the required statistics on paternity establishment, support order establishment, current collections and arrears collections. The ability to submit and view initial and revised submissions is incorporated into the online report. Access to this report is made available to users in various organizational levels based on configurable business rules in the security application.

OCSE-157 Federal Report — View OCSE 157 Annual Report

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Administration for Children and Families
Office of Child Support Enforcement

Form Approved
OMB No. 0970-0177
Expires: 09/30/11

CHILD SUPPORT ENFORCEMENT ANNUAL DATA REPORT

(This report consists of three pages. Do not report in shaded areas.)

STATE: SUBMISSION: ☑ NEW ☐ REVISED FISCAL YEAR : 2016

ITEMS	(a) TOTAL	(b) CURRENT ASSISTANCE	(c) FORMER ASSISTANCE	(d) NEVER ASSISTANCE
SECTION A: CASE INVENTORY*				
1. Cases Open at the End of the Fiscal Year		26,718	153,285	156,591
a. Interstate Cases Initiated in This State Open at the End of the Fiscal Year		1,534	14,552	9,920
b. Interstate Cases Received From Another State Open at the End of the Fiscal Year		1,996	3,806	13,810
c. Medicaid-Only IV-D Cases Open at the End of the Fiscal Year				1,895
d. State-Tribal IV-D Cases Initiated in This State*		0	0	0

Figure 3.4 (2) - 124. OCSE-157 Annual Report

A printed version of the report is available in PDF. We additionally provide the ability to export data into other analytical tools for further analysis and review.

One of the major requirements for the federal performance measures is the cost effectiveness measure based on administrative and contracts data. A feature of Protech's enhanced reporting solution for NCSEAS includes screens to input valid values that may be variable or may be stored in auxiliary systems such as the data points for the cost effectiveness measure. Authorized users can view, add, and update staff details for a fiscal year. This information is then reported in the OCSE 157 report on lines 30, 31, and 32.

REQUIREMENT: (#637) The report data must be available for worker, team, unit, office, multi-office, and statewide perspectives.

Protech's solution provides for the dynamic display of data, allowing analytics to be performed on any level of data. The system will report data for the OCSE-157 at the worker, team, unit, office, multi-office and statewide levels. This flexibility allows DWSS to see results reflected dynamically in the report at any level.

Authorized users can view the online report and filter, using interactive drop-down options, to limit report results by the selected reporting level. Another feature of Protech's enhanced reporting solution is performance measure comparisons between current and previous periods of the month and year-to-date percentages. Workers can view the online report, analyze the performance of their caseload and take corrective action to improve their performance on the audited items such as Paternity establishment and Order establishment.

REQUIREMENT: (#638) The system must establish an audit history to link each row and column entry with the case, child, collection, or disbursement data comprising the reported total.

Drill down capability is supported throughout the online OCSE-157 to view supporting details, down to the lowest level, for any individual count on the report. Examples of the detail templates provided in one of Protech's other certified systems are shown below.

OCSE - 34A Details

2a. Collections Received During the Quarter
From Offset of Federal Tax Refund
Quarter III - Ended 6/30/2009

Receipt

Total $ 5,707,841

Receipt	Payor DCN	Receipt Date	Reference Number	Amount
04/02/2009-IRS-7000-075-001	42893447	04/02/2009	A54890762	696.00
04/02/2009-IRS-7000-076-001	41980295	04/02/2009	A54861421	630.00
04/02/2009-IRS-7000-077-001	21406617	04/02/2009	A54926856	528.00
04/02/2009-IRS-7000-078-001	41833783	04/02/2009	A54667492	353.47
04/02/2009-IRS-7000-079-001	40825541	04/02/2009	A54642909	923.00
04/02/2009-IRS-7000-080-001	42922874	04/02/2009	A54646764	15,646.21
04/02/2009-IRS-7000-081-001	62910594	04/02/2009	A54438900	759.00
04/02/2009-IRS-7000-082-001	40765929	04/02/2009	A54435315	1,984.00
04/02/2009-IRS-7000-083-001	42037699	04/02/2009	A54429550	1,265.00
04/02/2009-IRS-7000-084-001	40759138	04/02/2009	A54623676	811.00

21 22 23 24 25 26 27 28 29 30

Figure 3.4 (2) - 125. OCSE-157 Detailed Report Line 2a.
Optionally, search details by Receipt Number or export details to Excel for further analysis.

OCSE - 157 Detail

4. Number of Children in IV-D Cases Open at the End of the Fiscal Year
(a)Total Assistance
Total 494,833

Member DCN	Case ID	Case Status	Case Category	Date of Birth	Paternity Establish Type	Paternity Establish Date	Born of Marriage	Office

Figure 3.4 (2) - 126. OCSE-157 Detailed Report Line 4.
Supporting details for data totals in the individual cells of the federal report.

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REQUIREMENT: (#639) The system's reported collection and disbursement data must reconcile to reports of the same data from other sources, such as the collection and disbursement bank account statement and transaction reports from the state's financial accounting system.

Protech's solution will take advantage of the integration of the software to accurately report data from all the data sources, including the collection and distribution components of the Financial subsystem of NCSEAS. The system will use the same baseline set of data to allow reconciliation between all the federal reports, any management, or any detailed analytic report.

(2.7.3) OCSE-396A Reporting

REQUIREMENT: (#640) The system must support DWSS accounting in creating the OCSE 396A report by maintaining the online data necessary to prorate IV-D and non-IV-D shares of program costs to be reported.

The system solution maintains the data necessary to perform calculations needed to determine the Title IV-D share of expenditures. This includes tracking program income from fees and debt recovery and tracking administrative costs to prorate the IV-D and non-IV-D federal, state and local share of program costs to be reported on the quarterly OCSE-396A report. Certain expenditure data required to complete the OCSE-396A is captured in input screens, referenced in response to requirements #635 and #636.

REQUIREMENT: (#641) The report must establish an audit history to link each reported data field with the case, collection, or disbursement data comprising the reported total.

Detail level audit trails are available for each row and column entry of all Federal reports. Online drill down capability gives users the ability to view the detailed transactions summarized for any individual data element on the OCSE-396A.

(2.7.4) Data Reliability Monitoring and Reporting

REQUIREMENT: (#642) The system must retain all information necessary to meet federal audit standards.

Protech's solution will be compliant with federal auditing standards. Data required for auditing will be collected and maintained according to State and Federal standards. Historical data will be retained according to requirements set by the State to support the required audit history. The solution includes a data warehouse that will pass federal and IRS safeguards for security and controls. The data warehouse will be compliant will all requirements from the federal government and IRS including those explicitly detailed in Publication 1075. The data warehouse will comply with all the controls required in FTI data and will have the safeguards in place to secure information.

REQUIREMENT: (#643) The system must produce reports designed to sample the universe of cases for data reliability audits and to support quality control reviews.

Protech's solution can produce reports that serve as a sample of the cases for data reliability audits; these reports will also support quality control reviews. The solution will be designed to support, not only the data warehouse data, but also support the development of legacy data, and support the conversion and auditing process to allow for a seamless transition to the new system.

REQUIREMENT: (#644) The system must provide error / edit reports for invalid interface data.

Protech's solution will provide reporting that supports data integrity and will provide reports that support data exploration of errors in invalid interface data.

(2.7.5) Self-Assessment Sample Selection

REQUIREMENT: (#645) The system must contain all the system processing data needed to support the annual self-assessment report, including a log of case action events enabling automated self-assessment analysis.

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REQUIREMENT: (#646) The system must accommodate random sample selection and aggregate the system data associated with the selected sample cases.
REQUIREMENT: (#647) The system must allow the selection of a sample for a specific office in addition to a statewide sample.

Data will be automatically extracted, in accord with the State's requirements, to support the self-assessment report. Using the selected case sample, data for each applicable item on the self -assessment report is collected. The worker can select a specific self-assessment component and evaluate a random sample of cases for compliance within the selected component's process. These components are as follows:

- *Case Closure*
- *Disbursement of Collections*
- *Enforcement of Support Order*
- *Establishment of Paternity & Child Support Orders*
- *Expedited Process*
- *Interstate Services*
- *Review & Adjustment of Order*
- *Securing & Enforcing Medical Support Order*

To illustrate our experience with Self-Assessment solutions, below is the online screen implemented in another state where the user requests for the sample extraction - selecting a specific component and entering the audit review period and random sample size.

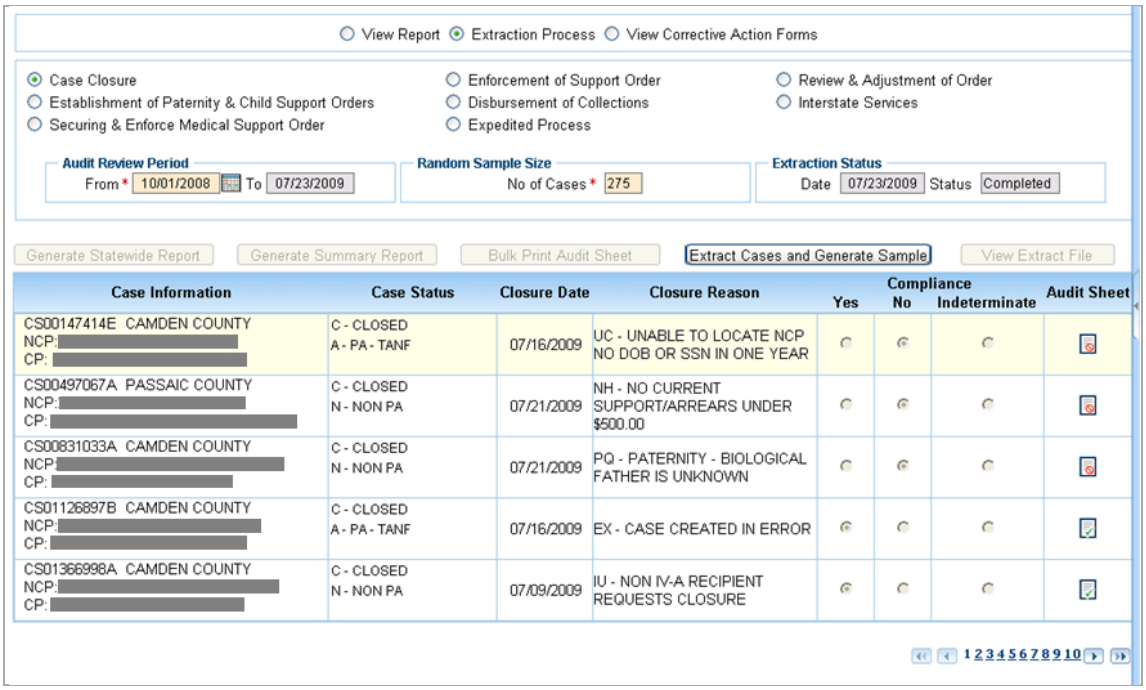

Figure 3.4 (2) - 127. 6. Self-Assessment Tool
The random selection of cases is used for self-assessment analysis.

In the NCSEAS implementation, an overnight batch process will identify a statistically valid, automatically aggregated random sampling of cases/date to produce a self-assessment review report, by Federal and State regulations based on configurable selection criteria.

(2.7.6) Self-Assessment Analysis Reporting

REQUIREMENT: (#648) The system must analyze or support the analysis of the extract of the self-assessment sample.

The self-assessment analysis process uses configurable evaluation criteria for each of the self-assessment components. When the user requests a random sample and self-assessment reports based on the sample, the system automatically performs the compliance evaluation. The system compiles the extracted data and produces audit sheets with the data.

The random sample of cases is accessible to the user to perform additional manual evaluation. The analysis is performed statewide, and the results are grouped by county and office within the county.
We will work with the State to modify or enhance the Self-Assessment Analysis Reporting component of the transfer system to customize a solution that adheres to Nevada's requirements for NCSEAS.

REQUIREMENT: (#649) The system must compile the extracted data and evaluate them according to the federal self-assessment criteria.

Protech's solution will extract and compile assessment data according to federal criteria.

REQUIREMENT: (#650) The system must generate the required content for the federal self-assessment report.

The system supports the automated generation of configurable versions of the annual Self-Assessment Review report that compares actual performance to the Self-Assessment Performance measurement standards of the Child Support Program, in accordance with Federal and State regulations, across organizational levels, with options for selecting the entire caseload or a portion of the caseload and including but not limited to the required performance tables and charts.

(2.7.7) Accounting Management Reporting

REQUIREMENT: (#651) The system must maintain an online accounting management report with daily, monthly, and federal fiscal year totals for collection, held collections by source, refunds, recoveries, disbursements, cancellations, stale dated disbursements, and escheatment funds.

The system maintains online financial/accounting management reports, including but not limited to: daily, monthly, and federal or state fiscal year totals for collection, undistributed collections, refunds, recoveries, disbursements, cancellations, stale dated disbursements and unclaimed property funds. The system automatically generates reports about financial activities (i.e., collections, escrowed collectibles, adjustments, fees collected, future / arrearage payments, interstate collections, checks/check registers, child support distributions, receipts by collecting agency, interest / surcharge collected). We will work with the State to determine if Nevada's needs are met by the existing functionality within the transfer system's reporting subsystem. Protech brings experience in providing an abundance of financial reporting functionality in other relevant system implementations, including exception reporting – that enables financial accounting staff to balance collections and distributions. Also, detailed and summary report data permit analysis of collection patterns and trends. The data feeds the federal reports that are also used as personnel evaluation performance measures by reporting at each level of the organizational hierarchy. The data is also available for predictive analysis.

A distinguishing feature of Protech's reporting solution is an all-inclusive Financial Summary Report for balancing all financial transactions daily. This daily online report includes Summary, Collection, Distribution,

Disbursement, and Overall Summary information. The report selects detailed information records, to determine the count and amounts for the report. Our Financial Summary Report is illustrated below.

Financial Summary — View Financial Summary

Summary | Collection | Distribution | Disbursement | Overall Summary

COLLECTIONS

Daily Collection

	Count	Amount
Deposit Source		
SDU	5837	2,026,426.00
County Cash	233	73,560.22
NSF Cashless	17	4,787.64
IRS	0	0.00
SOIL	0	0.00
ACSES	0	0.00
Total Daily Collections (TOC)	**6087**	**2,104,773.86**
Repost From Previous Collections (RPP)	8	4,358.39
Release From Holds - Previous Collections (RLP)	10683	2,163,596.26
Identified From Previous Collections (IDP)	17	4,850.54
Unidentified from Previous Collection (UIP)	7	4,101.20
Held From Previous Collections (HLP)	0	0.00
Escheatment On Unidentified (ESU)	0	0.00
Unreconciled Reposted Previous Daily Collections (URP)	0	0.00
Sub Total	10701	2,168,703.99
Refund from Daily Collection (RFT)	0	0.00

DISBURSEMENTS GENERATED

	Count	Amount
Direct deposit		
CP (DIR)	8349	3,064,557.10
Electronic Fund Transfer		
Agencies (EFT)	11	22,959.37
FIPS (EFF)	658	126,576.13
Stored Value Card		
CP (SVC)	4159	891,126.39
Check		
CP (CHK)	253	57,428.65
Interstate Agencies-FIPS (CHQ)	12	1,886.58
Agencies (CHA)	0	0.00
Refund to FIPS (Identified)	1	82.62
Refund to FIPS (Unidentified)	0	0.00
Refund to NCP	31	7,571.53
Refund to Other Party (Unidentified)	50	14,916.94
Refund to County (Identified)	0	0.00
Refund to County (Unidentified)	0	0.00

Figure 3.4 (2) - 128. Daily Financial Summary

View the report online or print the report in PDF for each tab of information.

REQUIREMENT: (#652) The report data must be available for worker, team, unit, office, multi-office, and statewide perspectives.

While the ability to drill-down to multiple levels within the hierarchy of case and worker assignment exists in Protech's reporting solution, Nevada's request for hierarchal drill-down in the context of accounting management reporting must be closely analyzed. The requirements validation and JAD sessions will determine which report areas require multi-level reporting and the approach to including them.

REQUIREMENT: (#653) The report must establish an audit history to link each row and column entry with the case, collection, or disbursement data basis.

Protech's solution will provide all the data necessary to support account management reporting and the required audit history behind it. The system will allow the state to easily view the child, collection, and disbursement data that make up each data point within the account management portfolio.

(2.7.8) Case Management Reporting

REQUIREMENT: (#654) The system must maintain an online, on demand case management report with daily and monthly processing, caseload inventory totals, and status for intake, locate, intergovernmental, obligation establishment, paternity establishment, enforcement actions taken by type, income withholding orders, medical support orders, collections, etc.

The system maintains online case management reports that report on caseload inventory totals and actions taken by area, including but not limited to: intake, locate, case type, case status, case construct errors, intergovernmental, obligation establishment, paternities established, enforcement actions taken, income withholding orders, medical support orders, and bench warrants according to specific frequency, including but not limited to: daily, weekly, and monthly processing.

Several reports already exist in the DWSS data warehouse that will be included in NCSEAS. However, Protech's proposal is not limited to re-building reports currently available to DWSS in the data warehouse; rather, we will expand the analytics to include new views of data that support decision making. A feature unique to Protech's enhanced reporting solution, the Manager Dashboard, provides simple and easy to understand charts for analysis of case management activities along with the ability to export reports into

other analytical tools for further analysis and review. Authorized users can view a page with key information 'widgets' displays to provide quick insight into Financial trends, workflow activity statistics, federal measures analysis and caseload inventory.

The Manager Dashboard supports executive efforts to manage to performance offering:

- *A combination of point in time and historical metrics communicate the Federal Performance measures by which the business is evaluated*
- *Statewide details allow executives to compare the performance of counties and offices to their respective goals*
- *Report customization through the use of page prompts (region, office) provides freedom and flexibility for managers and executives to conduct near-real time analysis without the need for IT involvement*

The below illustration from the New Jersey implementation of the Manager Dashboard is representative of the widgets display.

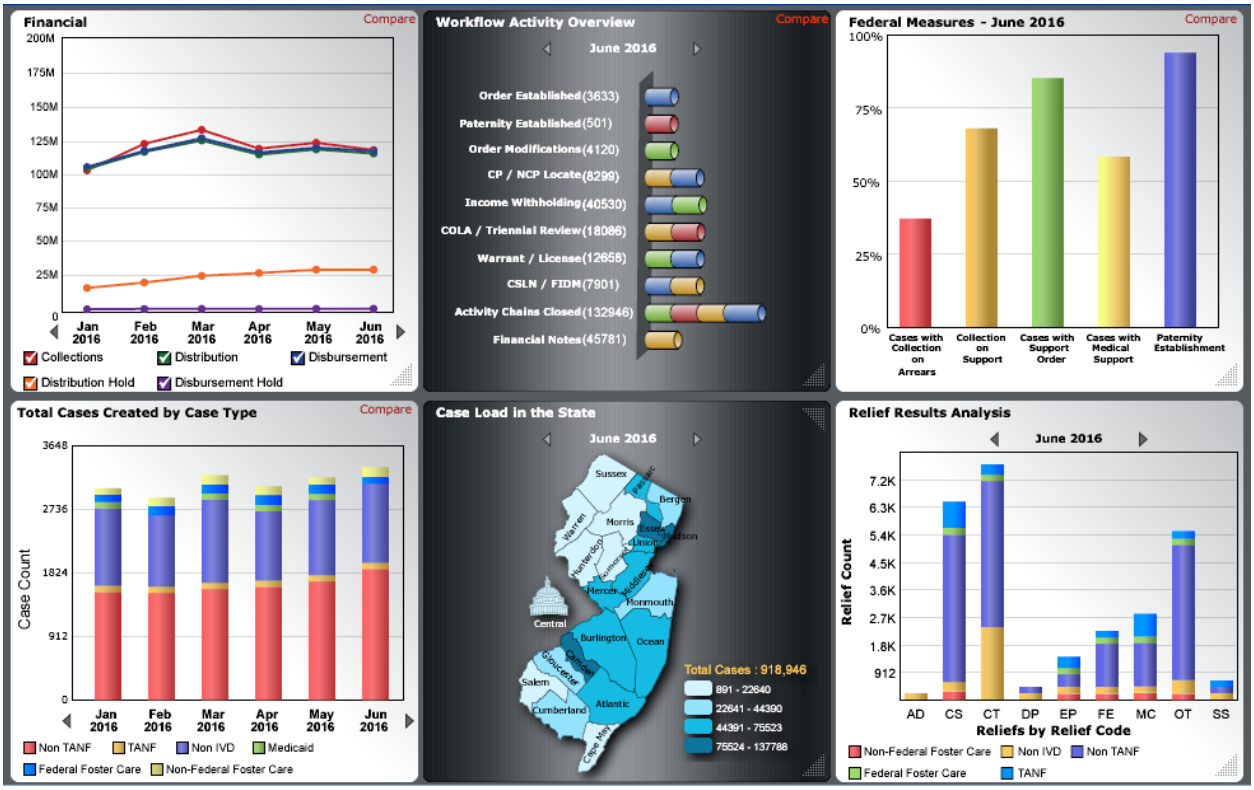

Figure 3.4 (2) - 129. Manager Dashboard

View trends in performance at a glance and compare counties and offices

REQUIREMENT: (#655) The system must provide the capability to "drill down" to the case, person, and financial transaction level from among a group of cases, persons, or financial transactions meeting a set of criteria.

The reports system allows the user to drill down into the data, click on a record link and navigate to the appropriate screen in the system, based upon business rules defined and configured in the rules engine. Drill down capability is supported throughout the associated audit history to view the detailed transactions summarized for any individual data element on the reports.

REQUIREMENT: (#656) The system must provide online electronic operational reports and work lists of cases requiring review or action by the caseworker or the system.
REQUIREMENT: (#657) The report data must be available for worker, team, unit, office, multi-office, and statewide perspectives.

In our solution, a Work List screen is used to manage alerts and notifications that are delivered to the worker responsible for the action in the workflow or a team of workers with the same role. Workers can view informational and action alerts which will be due in a specified number of days and overdue alerts using several filter options including but not limited to Case ID, Participant ID, Office, Worker, and/or Days Overdue. Supervisors can filter by worker name to review alerts assigned to one of their staff. The screen also provides a daily automated online work list containing new cases, current and next case actions, and items requiring review and or approval. Supervisors can filter by worker name to review alerts assigned to one of their staff. This allows users to use selective retrieval and make casework decisions.

Supervisors can reassign an alert to a different worker, without reassigning the case. This functionality is especially useful when assigned workers are on leave or busy. Activities are given specified priorities in the parameter table depending on the nature of the task. The alerts are sorted by priority and date due so that workers can work on higher priority issues first. A parameter table stores the time frames for completion and the time for alerts to be generated to notify workers of upcoming due dates.

We will work with the State to modify the transfer system to meet CSEP's needs for electronic online operational reports and work lists.

REQUIREMENT: (#658) The report must establish an audit history to link each reported element to the cases, children, case actions, collections, or disbursement data comprising the reported element.

Protech's solution will provide all the data necessary to support case management reporting and the required audit history behind it. The system will allow the state to easily view the child, collection, and disbursement data that make up each data point within of the case management portfolio. The Protech reporting solution will use established methodologies to design, develop and deliver reports that are easily understandable, and importantly, entirely accountable. The methodology ensures that analytics we report on will have an audit history. That case, children, case action, etc. will have documentable steps that can be included as part of the overall report. The solution we propose gives DWSS a detailed and thorough access to its data.

REQUIREMENT: (#659) The system's reporting capability must conform to the data access restrictions set forth in federal and state confidentiality and security standards.

Protech's solution will conform to the data access restrictions set forth by both the federal and state's confidentiality standards. Access to online report is based on user profile and business roles assigned. Refer to the response to Ease of User requirements 773, 774 and 775. Within the reporting solution, counts can include cases/participants to which the logged in worker does not have access such as Family Violence or high-profile cases; however, data for those cases/participants are redacted on drill down or review of data comprising the report element.

Additional measures are taken to identify reports which may include Federal Tax Information or Personal Identifying Information to warn users against printing reports containing FTI or PII data.

REQUIREMENT: (#660) The system must allow filtering the report by case types and statuses.

Protech's solution will allow filtering of the reports on any number of variables. Case types, status, functional area, office, caseworker, arrears only, making payments, etc. There is an innumerable number of

options available to control the data for the state and target the analytics to meet and exceed the business needs.

(2.7.9) Business Intelligence Reporting

REQUIREMENT: (#661) The system must provide on demand access to business intelligence reporting of program and child support case data.

Protech's enhanced reporting solution combines the power of executive performance dashboards with the ability to create on-demand querying to drill-down to specific sections of data in an interactive reporting portal known as a Business Intelligence (BI) Portal. The portal provides a variety of options for BI report content and mode of display. Graphical representation of the status and progress of the IV-D case through the Child Support life cycle tends to emphasize the summary data reported. The portal allows users to analyze and optimize program performance through process management reporting and to enhance customer service by focusing on processes that value the families served by the program.

The sections below illustrate the Protech Team's experience in providing similar solutions in its implementation of a BI Reporting portal as part of its projects with other states. Nevada's specific requirements will be elaborated during JAD sessions.

REQUIREMENT: (#662) The system must allow for querying cases for specific terms or case conditions.

The Protech Team's BI solution enables workers to construct their queries by selecting from a library of filter conditions, which includes case, member, transaction attributes, and fields. Workers can chain one or more conditions to generate a result, which matches the specified condition. The resultant data can be sorted and extracted to spreadsheets for further analysis.

The BI Portal enables workers to query the active case inventory and generate customized reports using combinations of pre-defined selection criteria, known as the Report Criteria Options. These Report Criteria Options include the ability to filter to a County, Office, Team, Worker and Case level. The report structure and content is readily adapted to Nevada's specific requirements.

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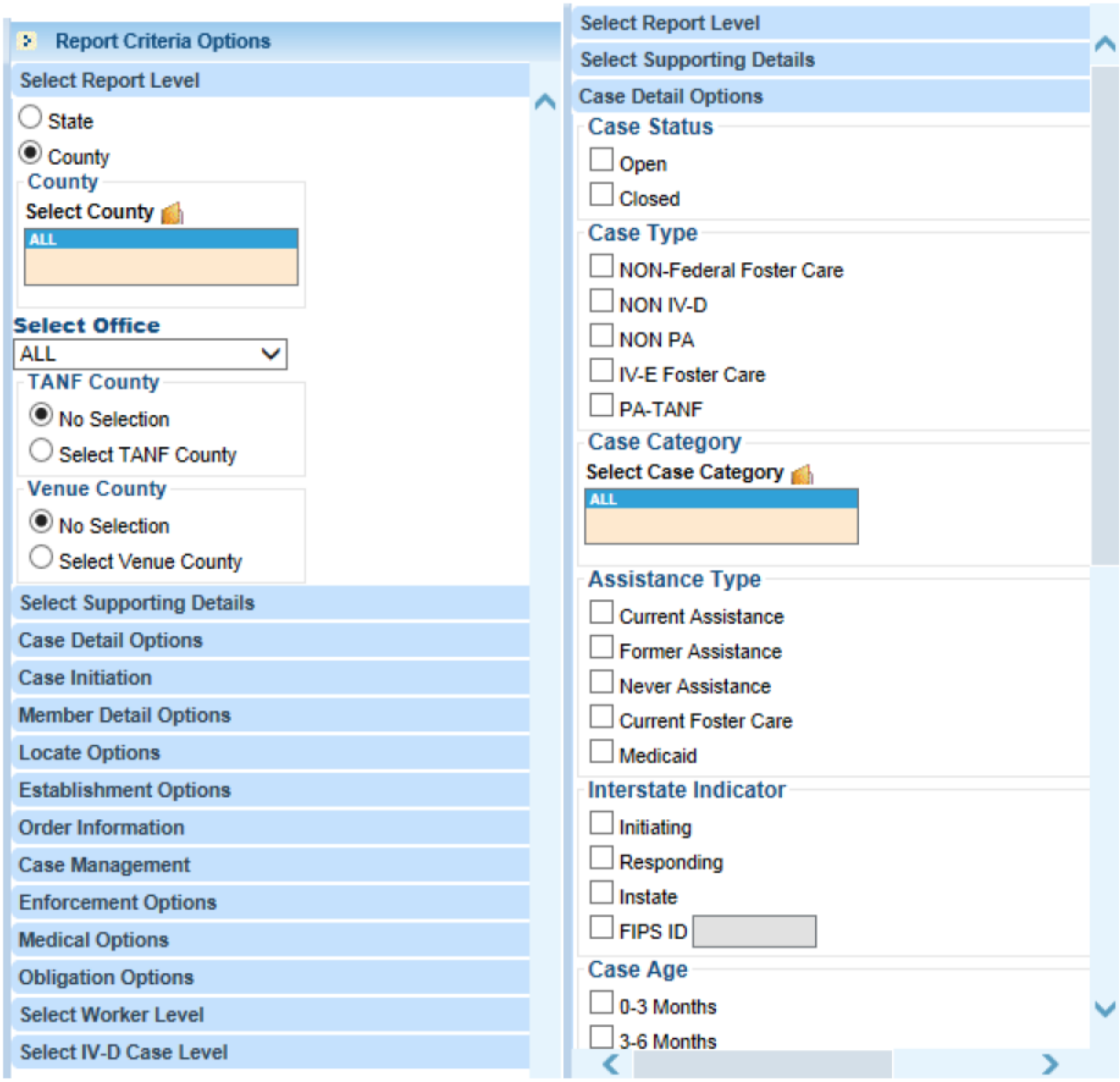

Figure 3.4 (2) - 130. Business Intelligence-Report Criteria Options

Users can customize management reports to identify low performing cases.

One of the key features of the Protech Team's BI reporting is the ability to specify a range of criterion for report generation and save these as ad-hoc/custom reports. These reports can be created by authorized workers, and if approved, published and shared with other workers. This ensures that the management is not constrained by the reports available at the time of delivery but empowered to generate custom reports to meet changing reporting needs.

The Report Criteria sub-options are displayed by clicking on the Report Criteria boxes. Once selected and the screen is refreshed, the user has access to the Detail Analysis screen which displays the Case details and access to the child support database. The Case Overview graph screens can also be accessed to provide additional analysis and views of reported data.

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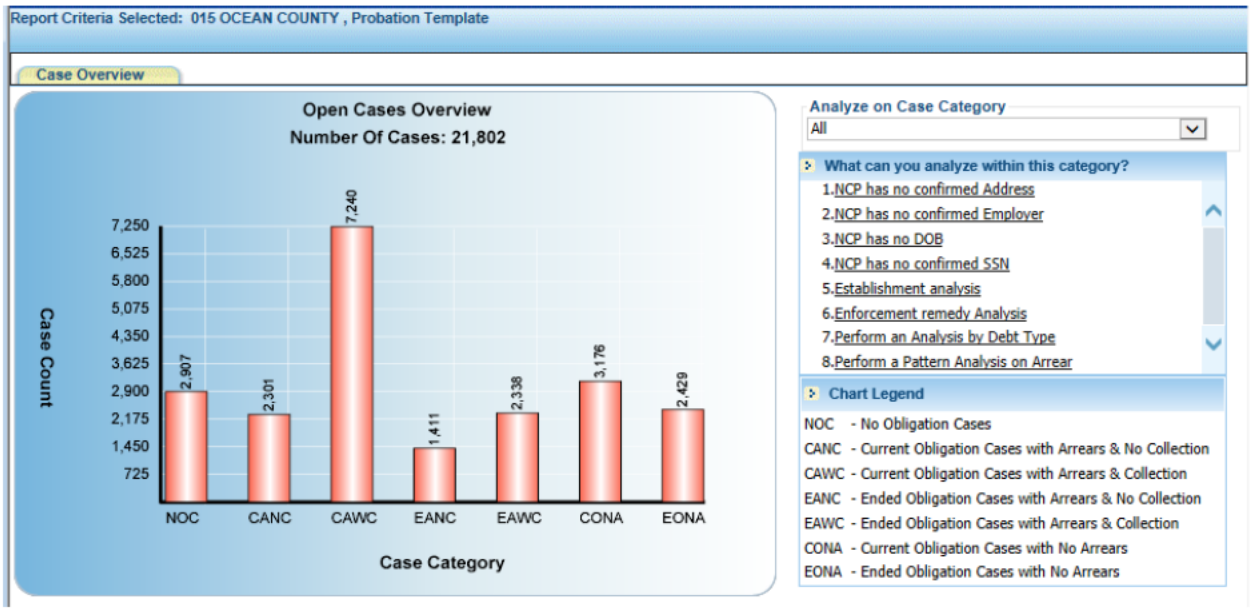

Figure 3.4 (2) - 131. Business Intelligence-Case Overview

Several options to view analysis data such Enforcement, Establishment, Locate status, Debt Type, and Arrears Patterns.

REQUIREMENT: (#663) The system must provide the capability to "drill down" to the case, person, activity, and financial transaction level from among a group of cases, persons, activities, and financial transactions meeting a set of criteria.

Protech's solution will allow the "drilling down" of reports on any number of variables. The system will be able to "drill down" by case, person, activity, and financial transactions, etc. There are an innumerable number of options available to control the data for the state and target the analytics to meet and exceed the business needs.

REQUIREMENT: (#664) The system's reporting capability must conform to the data access restrictions set forth in federal and state confidentiality and security standards.

Protech's experience with delivering systems will enable us to provide a solution that will conform to the data access restrictions set forth by both the federal and state's confidentiality standards. We understand the significance of designing a security model is an important part of any data warehousing implementation. A well-organized security model not only provides easier Administration but also ensures security is seamlessly implemented across different functional/application user groups with less maintenance effort. The Protech solution will provide an easy to implement, and flexible security model that can be applied at many different levels of data. Security can be controlled at the application, the content, the system and the data level within our solution. It can be setup with functional user categorization, which means that users will be categorized by their function, i.e., a viewer of reports, an analyst, a creator of reports. This type of security model is displayed as:

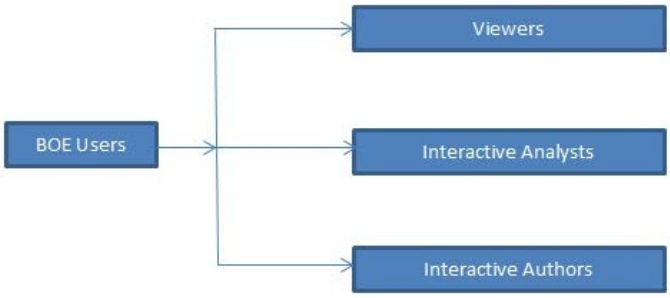

Figure 3.4 (2) - 132. Security Model 1

Security can also be setup as a hybrid model, where users are segregated by office and application first, then with the application, they are divided into functionality, as such:

Figure 3.4 (2) - 133. Security Model 2

Finally, security can be setup cross application, cross department. This allows for the most flexibility. It requires a longer setup and definition period but gives DWSS the greatest control of which users see what data. The cross-hybrid model is:

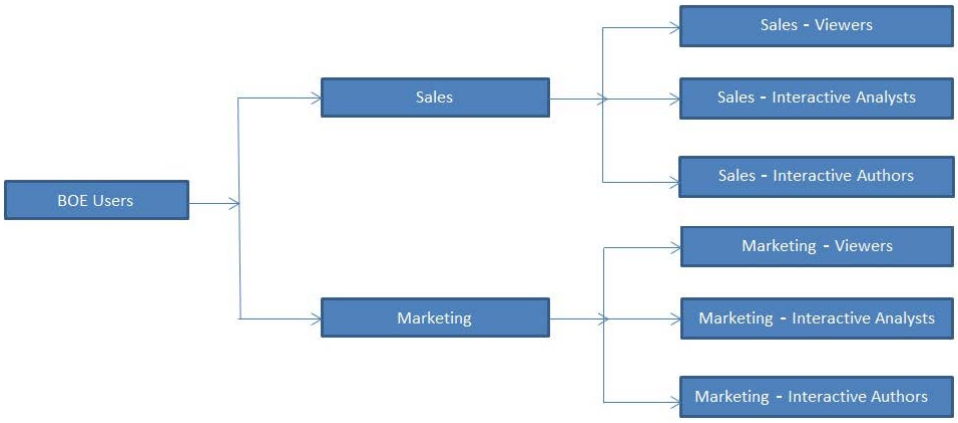

Figure 3.4 (2) - 134. Security Model 3

Whichever solution is selected, the Protech Team will work with DWSS to limit and control the data to meet the requirements. The solution is flexible enough to meet any requirement for security.

REQUIREMENT: (#665) The system must provide a tool to query the analysis data and display meaningful information for users from the Data Warehouse or similar facility.

Protech's solution will provide a means for querying and displaying the data in a meaningful way. Our solution includes an ad-hoc component that will allow DWSS users to create reports that meet their specific business needs. The ad-hoc environment will use a tool that is easy to use, flexible and powerful. The reporting tool, pictured below, is a drag and drop software, that's intuitive, available online, and powerful enough to give DWSS users access to all their data, presented in an easy to read, user-friendly environment.

We understand that information is only valuable to the user if they can query and understand the data they are viewing.

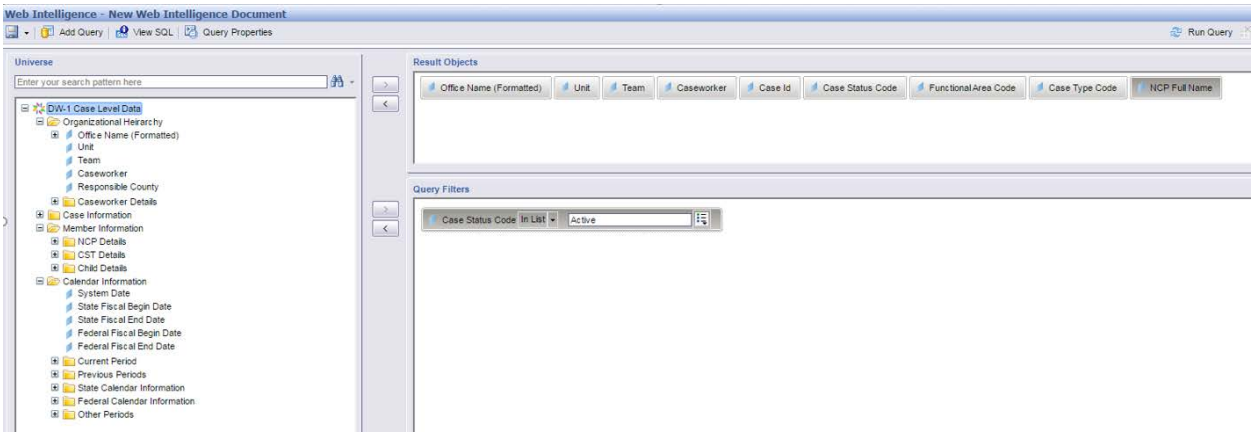

Figure 3.4 (2) - 135. Web Intelligence

Fields from the database will be categorized, organized and simplified so users can easily create reports to fill their analytical need. Objects will be categorized like below, can be dragged and dropped into a report, and can be run real-time to get near real-time data. The solution provided by the Protech team participants will absolutely allow for the analysis and display of data in a meaningful way from the data warehouse.

REQUIREMENT: (#666) Business intelligence must include capabilities for reporting, as is analytics, predictive modeling, advanced analytics, and dashboards. At a minimum, predictive modeling and advanced analytics must include the ability to query internal case data and external third party data to extract information such as reports on likelihood of payments based on case circumstances and "what if" scenarios. Dashboards must include arrears stratification, driver's license suspension, medical support orders, paternity established, payment delinquency, cases with support orders, current support collected, cases paying toward arrears, cost effectiveness, and other factors necessary to calculate and monitor federal performance measures.

States are required to report on five Federal Performance Measures: Paternity Establishment, Support Order Establishment, Collections on Current Support, and Collections on Arrears. Performance is directly correlated to the incentives states earn. Incentives received are an income source to the state to offset the cost of the Child Support Program. Detailed monitoring of critical case factors and member conditions is a key to the continued performance of the program. Protech's solution will provide a comprehensive view of ongoing and completed case activities and the effectiveness of enforcement remedies.

Protech's solution will provide a level of deep reporting, analytic, predictive modeling and dashboarding capabilities. Leveraging the existing data warehouse for the state, Protech will expand the analytics using streamlined data that is optimized for reporting to extend the decision making for the state. The solution will include a predictive component that will answer many "what if" scenarios, and score a noncustodial parent's likelihood to pay. It will allow the state to take directly actionable tasks to increase all the performance measures using deep analytics. The solution will enhance the existing dashboards to provide a more comprehensive view of the data and give the state unprecedented levels of access to their analytics. Below are some examples of dash boarding that have currently been created for DWSS and will be enhanced with the Protech solution.

This is a summarized dashboard of the Incentive Measures for the State by office. The user can input a forecast and can hover over each of the data elements to see progress towards goals. This solution could provide information as a Forecast for the Next Month to preview how cases might perform in each category in the following month based on current case conditions.

State Incentive Measure Snapshot | State Incentive Measure Forecasting

State	Line 6 / Line 5a Percentage of Established Paternities Goal: 100%	Line 2 / Line 1 Percentage of Cases with Support Orders Goal: 87%	Line 25 / Line 24 Percentage of Current Support Collected Goal: 64%	Line 29 / Line 28 Percentage of Cases Paying Towards Arrears Goal: 64%	Line 21a / Line 21 Medical Support Goal: 0%	Line 23 / Line 22 Health Insurance Goal: 0%	OCSE 34A/OCSE 396A Cost Effectiveness Goal: N/A
	124.63%	86.07%	64.09%	63.53%	33.29%	29.53%	No Data
01 CHURCHILL	145.17%	96.95%	71.21%	70.38%	69.37%	67.05%	No Data
02 CLARK	126.61%	84.61%	67.72%	67.82%	29.06%	27.13%	No Data
03 DOUGLAS	125.09%	97.05%	70.03%	74.51%	60.85%	52.95%	No Data
04 ELKO	127.39%	96.85%	75.87%	71.79%	64.94%	63.95%	No Data
07 HUMBOLDT	120.00%	97.09%	70.34%	63.15%	52.20%	48.26%	No Data
10 LYON	137.98%	90.72%	61.00%	65.22%	35.30%	28.31%	No Data
11 MINERAL	116.54%	78.26%	63.90%	53.95%	34.97%	26.86%	No Data
12 NYE	126.39%	89.60%	57.57%	53.64%	36.54%	30.63%	No Data
14 PERSHING	132.43%	98.76%	68.90%	63.35%	46.67%	33.01%	No Data
16 WASHOE	143.76%	97.55%	77.13%	80.21%	73.02%	68.10%	No Data
19 NV	122.83%	81.82%	39.00%	46.34%	16.39%	13.69%	No Data
21 RENO	108.41%	87.40%	52.52%	51.82%	33.14%	19.52%	No Data
23 ELKO	116.76%	92.71%	66.84%	64.67%	46.76%	42.71%	No Data
99 DWSS	750.00%	44.44%	0.00%	25.00%	50.00%	50.00%	No Data

Figure 3.4 (2) - 136. State Incentive Measure

Next is a detailed dashboard of the incentive measures. This dashboard is interactive, takes in inputs from the users, has multiple tabs for displays of orders, current support, arrears, health insurance, medical support and cost effectiveness. This dashboard can be drilled down from the office, into the unit and team levels.

Additional dashboards created and available with our solution include Paternity Established Percentage (pictured below) as well as Driver's License Suspension, Medical Support, Arrears Stratification and Payment Delinquency. Also, because these are the baseline dashboards that will be created with our solution, it doesn't mean that Protech is limiting the analytics to just those data views. Protech will work with DWSS to create dashboards and predictive analytics that add value to the state, drive decision making and increase the State's ability to analyze its data.

REQUIREMENT: (#667) The tool must provide the ability to export select reports to common formats for further analysis.

Protech's solution will allow the ability to do real-time analytics inside the tool, as well as exporting the data (with appropriate permissions) to continue that data mining outside of the tool and allow for additional analysis. Exporting options would include xml, csv, xlsx and txt. These reports will be made available to the user with easy access and downloading capabilities from within the individual reporting or dashboard screens. Users will be able to view reports online, print reports or export them as noted above.

REQUIREMENT: (#668) The system's data analysis capability must be integrated with system's role based security so specific reports and analysis can be made available based on the user's role as well as to restrict specific data from specific users.

Protech's solution will allow for varying levels of security to control access to the data and access to the reports. Security can be controlled at the user level, or for easy maintenance; security can be done at the

group level. Security is flexible enough to not only control the types of reports and data the user can see but even limit the fields in a report a user can see, (i.e., detailed payment registers may include sensitive information like social security numbers), that can be removed from the report entirely based on user profiles.

REQUIREMENT: (#669) The system must support on demand drill-down reports and ad-hoc reports on pre-analyzed data sets.

Protech's solution will report data at the worker, team, unit, office, multi-office, and statewide levels. The solutions will be flexible enough to allow these analytics also to be done dynamically through drill down. These reports will be developed in conjunction with DWSS to ensure that the reports meet the needs of the users.

REQUIREMENT: (#670) The system must allow ad hoc queries to be saved and rerun.

Protech's solution will allow users to build, save, export, and rerun any ad hoc queries. This flexibility allows the users to better mine the data and answer questions specific to their business needs. Protech's experience will enable us to develop these queries to be easily accessible to the user and to provide the information that the user needs to perform their tasks effectively and efficiently.

(2.7.10) Data Warehouse

REQUIREMENT: (#671) The system must update the data warehouse with changes to data elements from the production database on a daily basis.

Protech's solution will take daily changes in the production system and make them available nightly to the data warehouse. The solution will be updated every morning to reflect all the application changes from the day before, to allow for timely data analytics.

(2.7.11) Management Analysis Reporting

REQUIREMENT: (#672) The system must provide reporting of standard management reports developed for data analysis and workload management, including, but not limited to, backlog identification, workload allocation, and caseload tracking and aging.

Protech's solution will allow for the high-level analytic reports that drive management decision making. The solution will provide standard reports on workload management, backlog identification, workload allocation and caseload tracking and aging. The solution will also provide additional management analytics such as details on incentive measures, the number of cases by office that have established paternity, the cases in which current support payments are delinquent, cases in which the noncustodial parent warrants a driver's license suspension, and much more. The management reporting provided by Protech will give the decision makers the ability to take actionable items away from daily analytics. The content and extent of these reports will be developed in conjunction with the needs of DWSS.

REQUIREMENT: (#673) The system must support the child support program's performance management approach by providing data needed to calculate performance targets for an upcoming time period and then tracking actual performance levels against those performance targets on at least a monthly basis.

Protech's solution will provide workers, supervisors and managers access to information about the status of critical success factors and key indicators identified to evaluate performance. Also, it will closely track and report on performance targets for the State. The solution is designed with a strong understanding of the state's reporting goals and will extend existing solutions to report on data beyond the application, to report on past and future data, to allow for historical and trend analysis and to support predictive analytics. Protech's vast experience of developing management reports with past clients enables our team to customize these reports to meet whatever level of reporting is desired by DWSS.

REQUIREMENT: (#674) The report data must be available for worker, team, unit, office, multi-office, and statewide perspectives.

Protech's solution will report data at the worker, team, unit, office, multi-office, and statewide levels. The solutions will be flexible enough to allow these analytics also to be done dynamically through drill down.

(2.7.12) Ad Hoc Reporting

REQUIREMENT: (#675) The system must accommodate ad hoc reporting by designated staff with access to the management-reporting database.

Protech's solution will allow for ad hoc reporting for designated staff controlled by the security protocols. The solution will include a way for managers to look at a targeted set of data and fields, to be able to create reports easily and to be able to find the information they need specifically for analytics.

REQUIREMENT: (#676) The system must provide the capability to "drill down" to the case, person, and financial transaction level from among a group of cases, persons, or financial transactions meeting a set of criteria.

Protech's solution will report data at the worker, team, unit, office, multi-office, and statewide levels. The solutions will be flexible enough to allow these analytics also to be done dynamically through drill down. Our team will develop a system that closely mirrors the life cycle of a child support case in NCSEAS and provides analytical detail on the progress and roadblocks in each stage of the process. The tool will allow users to drill down at each level to obtain the information they are seeking.

REQUIREMENT: (#677) The system's reporting capability must conform to the data access restrictions set forth in federal and state confidentiality and security standards.

Protech's solution will conform to the data access restrictions set forth by both the federal and state's confidentiality standards. Our experience with similar reporting tools will assist us in meeting these requirements, and we will work closely with DWSS to ensure that all the standards are met.

(2.7.13) Program Compliance Monitoring and Reporting

REQUIREMENT: (#678) The system must permit online "read only" access to program, financial, statistical, timeframe, and other data in the system for entities outside the program that have a legitimate purpose to view the data, such as federal auditors.

Protech's solution will provide access that is "read only" to the appropriate entities using role based user access. The solution can control the access to this data and make it available in many different formats, including PDF, Excel, text, etc. The solution will be designed to create easy access to the data to make it easily transferable to entities outside the program.

REQUIREMENT: (#679) The system must maintain and generate an online automated event history of all case processing activities performed by or occurring in the system, recording what event occurred and when it occurred.

Protech's solution will audit and track event history of all case processing activities. The solution will provide auditing of these activities for record keeping and analysis. This functionality is a standard component of all systems that have been delivered by Protech, and we will work closely with DWSS to ensure that our system tracks all required case processing events.

REQUIREMENT: (#680) The system must also maintain a listing of case processing activities waiting to be performed.

Protech's solution will track and list case processing activities that have been performed and are scheduled to be performed. An example of the information we would provide would include a count and aging of addresses, employment records, and SSNs by status and by address type/employment type/SSN type and status combination. A count of address and SSN records is also provided reflecting the address hierarchy used in notice generation and the SSN hierarchy used by Locate and Enforcement processing.

These statistics allow the user to conclude the reliability of the sources regarding information validity and duplication.

REQUIREMENT: (#681) The system must provide the capability to "drill down" to the case, person, activity, and financial transaction level from among a group of cases, persons, activities, or financial transactions meeting a set of criteria.

Protech's solution will report data at the worker, team, unit, office, multi-office, and statewide levels. The solutions will be flexible enough to allow these analytics also to be done dynamically through drill down. An example of what our solution would include would be to provide collection information regarding monthly obligation satisfaction and receipt source identification. The report could provide an aging analysis for cases with and without collections. Further analysis could be available regarding recent changes in member data that can attribute the changes in recent payment history.

REQUIREMENT: (#682) The system's reporting capability must conform to the data access restrictions set forth in federal and state confidentiality and security standards.

Protech's solution will conform to the data access restrictions set forth by both the federal and state's confidentiality standards. This was also addressed in #664 above.

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(2.8) Customer Service

(2.8.1) Interactive Voice Response Unit (IVR) Accessibility

IVR systems play an important role in providing access to case information for both custodial and noncustodial participants and provide a convenient option for accessing case information when computers/smartphones are not available, or participants are unable to connect to available online services due to Internet restrictions at work or abroad.

Although the IVR system is typically an independent system, proper planning and integration with the NCSEAS system, the customer service web site and the mobile platform will be critical to ensuring a seamless user experience and streamlining access to resources across the enterprise.

The system design and discovery phase of the project will document the existing state of the IVR system and identify any opportunities or constraints that need to be taken into consideration to achieve an optimal user experience and customer service goals.

Based on experience successfully integrating IVR systems for child support customer service activities, our primary focus will be on evaluating options and strategies to implement Single Sign On (SSO) for PIN management between websites, mobile applications, and the child support enforcement system. Additionally, we will evaluate the necessary secure data-sharing channels required to share case information in either real time through web services or in daily batches through the secure transfer of delimited files to maintain data integrity across systems both sending and receiving data.
Winning Strategies and Protech have successfully implemented solutions to achieve optimal user experiences with existing IVR systems as well as to develop roadmaps for future integrations for child support enforcement systems in various phases of development.

REQUIREMENT: (#683) The system must include an Interactive Voice Response unit (IVR).

Our solution is designed to integrate with IVR systems in both real-time and through scheduled file transfers. System implementation also includes PIN management features and SSO capabilities to allow users to access the IVR with the same credentials used to access information on the web site.

REQUIREMENT: (#684) The system must support the IVR by providing an extract of current financial data to the IVR. This data shall include, but is not limited to:

- receipt information
- disbursement information
- amount due
- arrears balances
- payment and disbursement history

REQUIREMENT: (#685) The extract must include data as required by Chapter III Section F-6 (a) of the Guide for States for the Monthly Notice of Collections (TANF statement).

Our solution is capable of securely exposing all relevant data, including receipt information, disbursement information, amount due, arrears balances, payment, and disbursement histories to external systems like the IVR through web services or scheduled file transfers. Financial data, both current and historical, is provided to match the features available through the IVR and achieve consistency of data available through customer facing systems.

REQUIREMENT: (#686) The system must provide distinction of data to support customer inquiries made via the IVR and website. Such additional distinctions include, but are not limited to, differentiation between disbursement recipients, current obligation due versus arrears due, and disbursement methods.

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Web service calls include system identifiers which allow the system to determine the appropriate view to send to the requesting system. This provides flexibility in the data elements shared between systems. In addition to providing flexibility for data calls in the web services, the system can produce flat files in single or multiple formats to match the requirements of the IVR system.

Our solution includes identifiers that differentiate between disbursement recipients, current obligations versus arrears and disbursement methods. We will work with the State to ensure the NCSEAS system adheres to Nevada's financial data extract requirements for IVR.

REQUIREMENT: (#687) The system must support the IVR by providing an extract of case status data to the IVR. This data shall include, but is not limited to:

- enforcement activity
- scheduled hearing information
- requests for participant information updates
- notifications

Our solution is capable of securely exposing all relevant data to external systems like the IVR through web services or scheduled file transfers. To support the timeliness of case status data the system can produce separate files or fields which flag critical notifications for CSTs or NCPs who are dialing into the system for the IVR to alert the customer to important upcoming events. Although this is largely dependent on the capabilities of the IVR, this feature can help provide alerts to customers who may not have requested that specific information during that call or may have otherwise overlooked an important activity.

REQUIREMENT: (#688) The system must support the IVR by providing an extract of data to be used by the IVR for outbound dialing campaigns, such as:

- notification of scheduled hearings or appointments
- late payments
- payments due
- payments received
- disbursements issued

Our solution is capable of securely exposing all relevant data to external systems like the IVR through web services or scheduled file transfers and can create files or fields specific to important notifications. This can be sent to the IVR as frequently as necessary to ensure the outbound campaign has the information required in a timely fashion. Also, the system can receive records of outbound campaign call status by member and data type to record the date and time a call was placed to a customer. This process can also help identify calls that did not process successfully and flag a follow-up action for customer service to place a manual call or verify the customer's information.

During the JADs, we will work with the State of Nevada to incorporate outbound dialing campaign data elements to adhere to NCSEAS's requirements.

REQUIREMENT: (#689) The system must accept data from the IVR to initiate an electronic payment made by phone.
REQUIREMENT: (#690) Payments made via the IVR must be automatically processed into the system.

Our solution's web services provide secure facilities for sending and receiving data from external systems. The system can receive data captured through the IVR session and follow scripted work flows to initiate actions originating from connected systems. The system records will track and store payment status which can be displayed on the website or mobile application. Follow up action items can also be created for customer service reps in the event a payment failed to process, or payment was declined so the appropriate actions can be taken.

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REQUIREMENT: (#691) The system must automatically trigger document generation as a result of document requests made through the IVR. Such documents must include, but are not limited to:

- pay histories
- disbursement statements for Section 8 housing
- copies of court orders
- direct deposit forms

Our solution offers automatic document generation because of requests made via the IVR or on the web. These documents can be delivered electronically or offline. Protech will work with the State of Nevada to incorporate all necessary forms and documents to adhere to NCSEAS requirements, including pay histories, Section 8 disbursement statements, copies of court orders, and direct deposit forms.

REQUIREMENT: (#692) The system must accept data from the IVR to create notifications to CSEP case managers or specialized workers automatically. These notifications include, but are not limited to:

- appointment requests
- categorized messages

Our solution receives data captured through the IVR session and follows scripted workflows to initiate subsequent system actions. The system can perform actions and initiate notifications based on a notification type or category and route to the appropriate resource. Customizable service level workflows can trigger follow up actions or escalation processes to ensure timely response to the request.

(2.8.2) Website Accessibility

As part of the discovery and design phase of the project our teams will develop a website standards document that, in addition to leveraging best practices, will incorporate guidelines acquired from the State's design, usability and accessibility standards, Section 508 standards issued by the United States Access Board, and Priority 1 and 2 level checkpoints of the Web Content Accessibility Guidelines 1.0 (WCAG 1.o "AA" Conformance Level) developed by the World Wide Web Consortium (W3C).

The combination of the guidelines above and industry best practices will be factored into all customer-facing screens on home computers, mobile phones, and kiosks, and to develop wireframes for all related customer-facing devices, i.e., home computer, mobile devices, and kiosks.

While there are multiple options available for integrating online access to customer service features, there are a few ways to handle the presentation level of the data that will ensure security, data integrity, and an optimal customer experience.

The preferred means of integrating the necessary online services is an Enterprise Content Management System (CMS). This option provides maximum flexibility in effectively managing the content and resources on a customer-facing site as well as securely integrating web services through access-controlled accounts linked into the chosen SSO system.

By leveraging an Enterprise CMS, you can collect valuable information and metrics on the use of the various services on the site - who is using them, for how long, how often - and tie that back into what articles and content the user read or downloaded from the site. This information provides a very valuable tool that can be leveraged to deliver targeted messaging when logging into the case information of the website or to display the most-clicked links on the sites to show where the heaviest activity was on the site for the day, week or month.

It also provides child support staff with an easy-to-use interface for accessing reports, statistics and to update existing content or add new content to the web site as needed without a need for technical

resources. Site administrators are also able to preview how the web site looks on mobile devices of varying screen sizes before publishing to ensure a consistent user experience.

All items identified in the Website Accessibility section of the RFP, including #693-#705, can be achieved through web services on the customer facing website and NCSEAS. This will ensure the timeliness and accuracy of the data and can securely occur through real-time communication or batch process both sending and receiving information.

All site layouts, templates, and customer service data will be programmed in a responsive layout that will seamlessly work across all Windows and Macintosh computers as well as Microsoft, IOS and Android smartphones. As mentioned above, the CMS system can provide preview screens for all target devices to ensure we maintain an optimal browsing experience always.

REQUIREMENT: (#693) The system must incorporate a customer service portal (CSEP Website) or interface with an existing portal where case participants may access their case to view certain information such as pending court dates and payment history, and enter certain information such as update address and contact information.

Our solution exposes all relevant case Info through a secure online website, delivered through real-time web service calls. Customers are required to provide sufficient verifiable data to establish a username and PIN. Once the account has been established, customers can access all case information and customer service functions through all connected systems such as the website, IVR, and Mobile App by entering their account credentials.

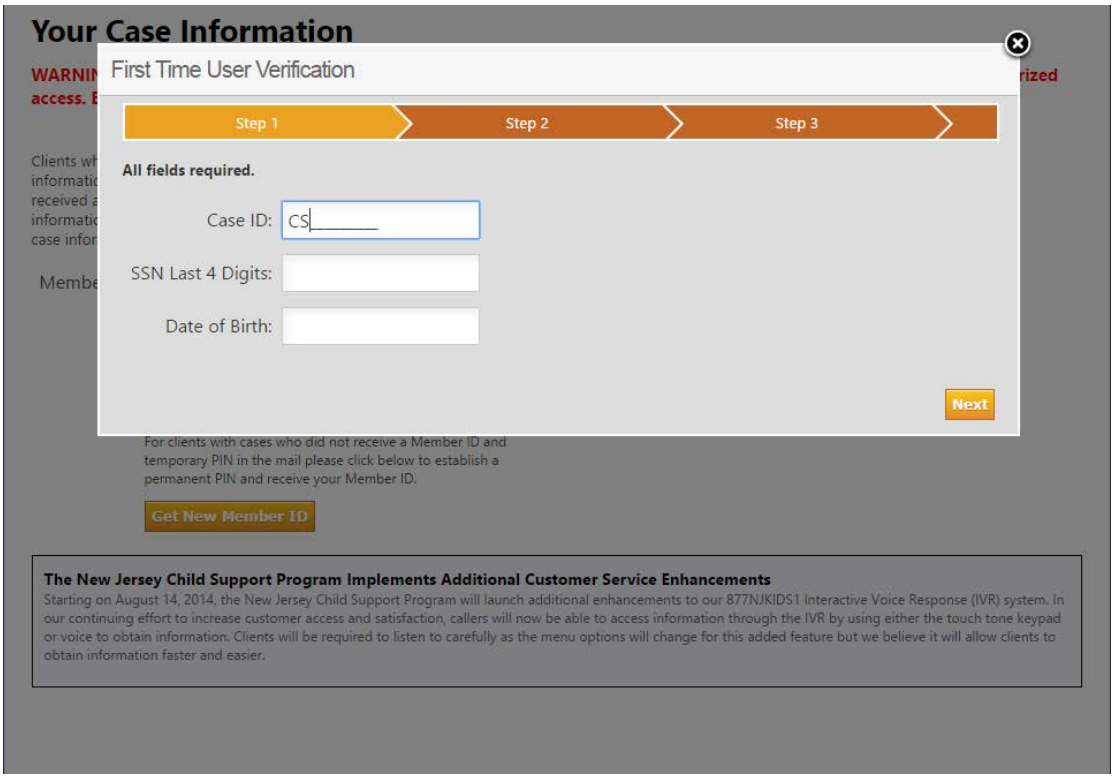

Figure 3.4 (2) - 137. New Jersey Child Support Customer Service Portal provided as a representative example

First Time User Verification to establish PIN

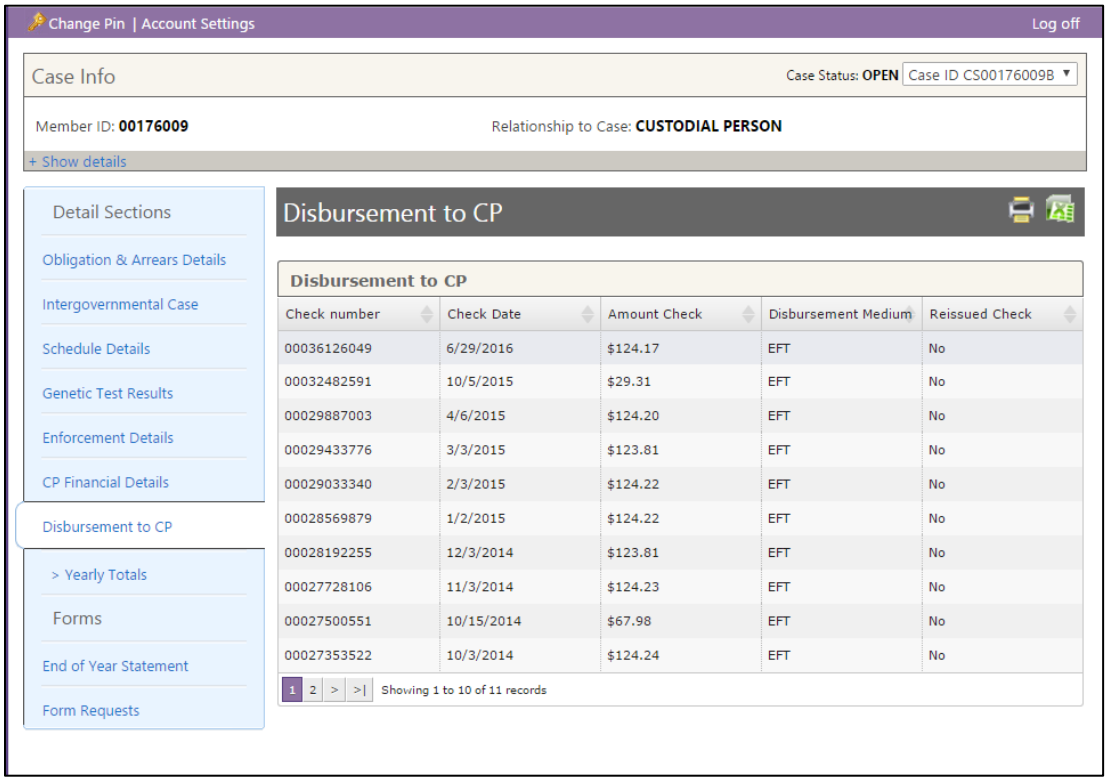

Figure 3.4 (2) - 138. Example of a Customer Service Portal Case Info Screen

Detail Sections provide relevant information

REQUIREMENT: (#694) The system must incorporate a customer service portal for mobile devices.
REQUIREMENT: (#695) The system must support the CSEP website (available, for example, from a home computer, kiosk, or smart phone) by providing an extract of real-time financial data to the website. This data must include, but is not limited to:

- receipt information
- disbursement information
- amount due
- arrears balances
- payment and disbursement history

System website interfaces are based on responsive layouts that allow users to access case information through the website formatted appropriately for the device used. In addition to mobile friendly functionality, our solution offers an optional native mobile app available for both the IOS and Android platforms which provide users with online and offline capabilities and enhanced messaging and notification capabilities.

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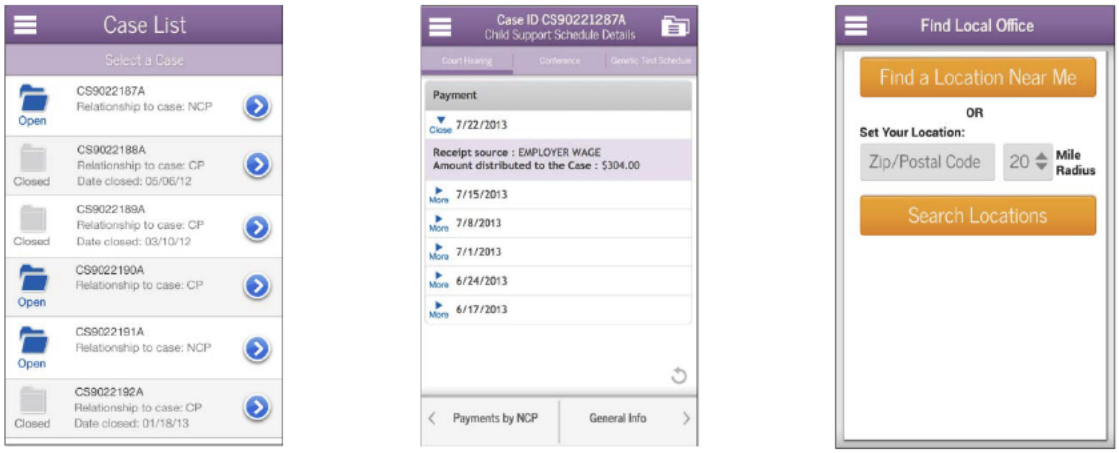

Figure 3.4 (2) - 139. Mobile Device Portal

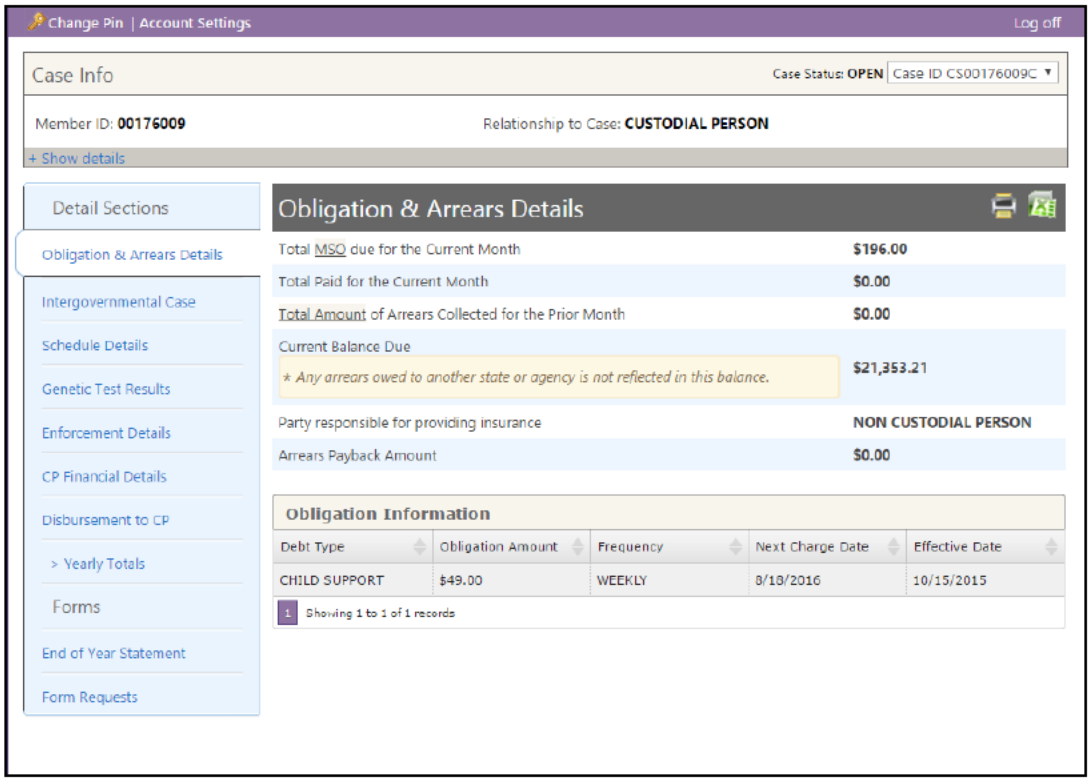

Figure 3.4 (2) - 140. Example of a Customer Service Portal
Device Dependent Views

REQUIREMENT: (#696) The extract must include data as required by Chapter III Section F-6 (a) of the Guide for States for the Monthly Notice of Collections (TANF statement).
REQUIREMENT: (#697) The system must support the CSEP website (available, for example, from a home computer, kiosk, or smart phone) by providing an extract of case status data to the website.
REQUIREMENT: (#698) This data must include, but is not limited to:

- enforcement activity

- scheduled hearing information
- requests for participant information updates
- notifications

Our solution is capable of securely exposing all relevant data to the website through web services or scheduled file transfers. Separate exports can be configured specifically to each external system or modifications can be made to the web services to either add additional information or restrict the amount of information transmitted. Data can be displayed in current and historical formats, and priority notifications can be prominently displayed to a customer upon login to the web site or mobile app.

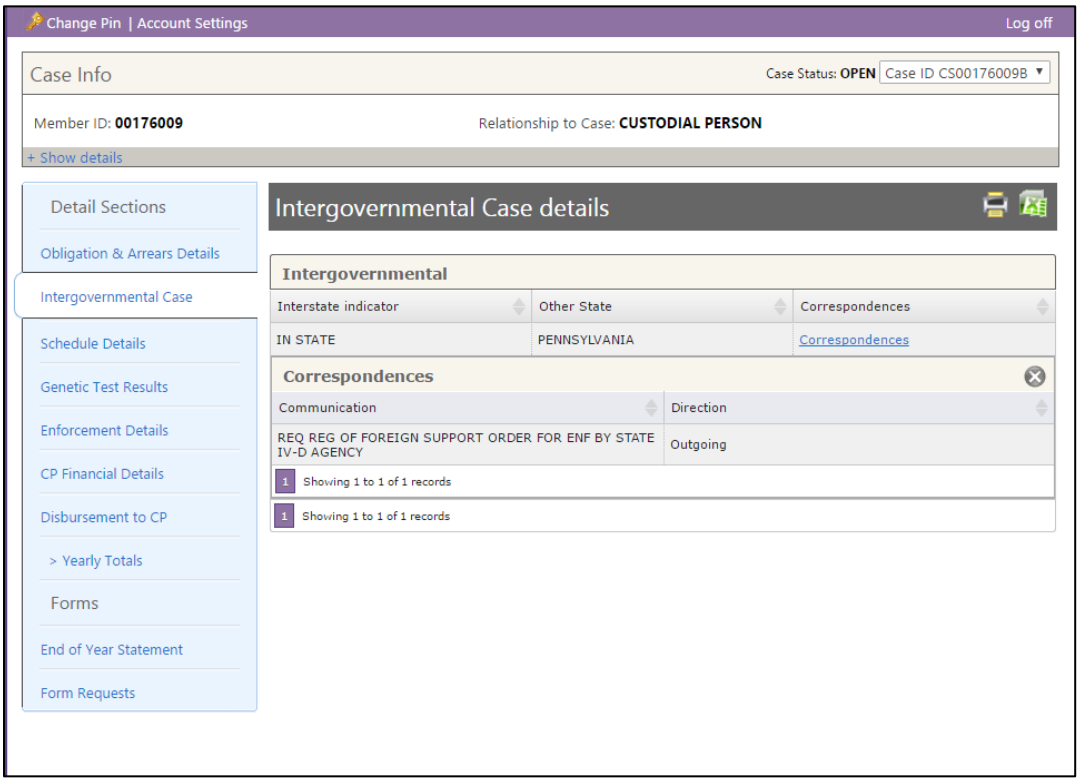

Figure 3.4 (2) - 141. Representative example of a Customer Service Portal
Case status data

REQUIREMENT: (#699) The system must accept data from the website (available, for example, from a home computer, kiosk, or smart phone) to update the system automatically. Such data exchanges include, but are not limited to:

- change of address
- change of employment

Our solution's web services provide secure facilities for sending and receiving data from external systems. The system can receive data captured through the website to update user specific fields. Users can update their address and employment status through the web site and the system will communicate changes to the user through their identified communication channels to ensure accuracy and legitimacy.

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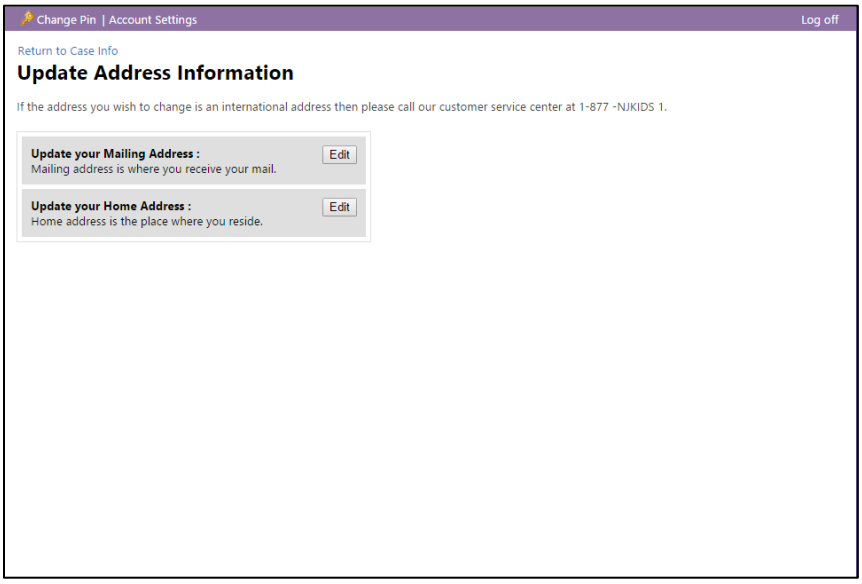

Figure 3.4 (2) - 142. Customer Service Portal
Participant address update

REQUIREMENT: (#700) The system must accept data from the website to initiate an electronic payment.
REQUIREMENT: (#701) Payments made via the website must be automatically processed into the system.

Our solution's web services provide secure facilities for sending and receiving data from external systems. The system can receive data captured through the website and follow scripted works flows to initiate actions originating from the website including payment processing functions. Payments made through the website or IVR are immediately made available to the customer through the website and mobile app to confirm receipt. The system also allows custodial parents to be notified when payments have been made to reduce calls to customer service.

REQUIREMENT: (#702) The system must automatically trigger document generation as a result of document requests made through the website. Such documents must include, but are not limited to:

- pay histories
- disbursement statements for Section 8 housing
- copies of court orders
- direct deposit forms

Our solution's web services allow users to request documents and reprints of documents through connected systems and facilitate delivery of documents both online and offline. When requested documents will be sent to processing queue to determine the appropriate delivery method and be made available on the website if possible and/or routed to customer service representatives when necessary for offline delivery.

REQUIREMENT: (#703) The system must capture the participant's foreign language selection and update the system as well as produce document requests in the language captured in the system language preference field.

The website provides multi-lingual functionality to both provide language specific content as well as leverage Google translate when content is not provided to ensure content transferred to the desired language. Customers who have established accounts within the system can identify both language and communication preferences that can be used to display communications, content, and documents in the appropriate language when available.

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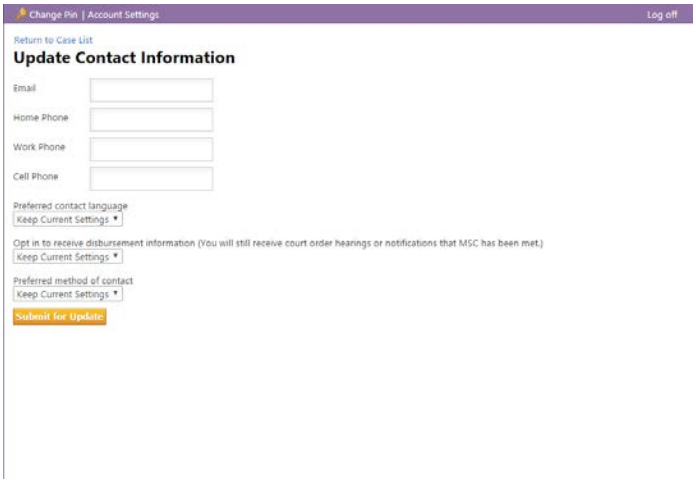

Figure 3.4 (2) - 143. Customer Service Portal

Participants can update contact information including language preference

REQUIREMENT: (#704) The system must accept data from the website (available, for example, from a home computer, kiosk, or smart phone) to create notifications to CSEP case managers or specialized workers automatically. These notifications include, but are not limited to:

- appointment requests
- categorized messages

Our solution provides the ability for customers to use multiple methods for communicating electronically with case managers and customer service representatives. All users can access online web chat functionality to speak with available case workers or customer service representatives. Also, the website provides users with the ability to route messages to case managers and facilitate responses through email or messaging interfaces on the website and mobile app. The system can perform actions and initiate notifications based on a notification type or category and route to the appropriate resource. Service level workflows can trigger follow up actions or escalation processes to ensure timely response to the request.

During the JADs, we will work with the State of Nevada to initiate appropriate notifications to required recipients by NCSEAS business requirements.

REQUIREMENT: (#705) The system must provide a specific set of data that can only be viewed on the website by authorized case managers from other authorized Nevada agencies such as IV-A and Foster Care.

Our solution provides portals for internal and outside agencies to access case information. Restricted views are configured by group type, and account access is configured with agency specific work flows to provide the ability for managers to approve access to new users as needed. Additional restrictions can be implemented to facilitate access to specific domains and IP ranges.

During the JADs, we will work with the State of Nevada to incorporate necessary data elements for each authorized agency to adhere to NCSEAS business requirements.

(2.8.3) Interstate Caseworker Web Services (QUICK)

REQUIREMENT: (#706) The system must provide real-time financial and case data to populate the OCSE Query Interstate Cases for Kids (QUICK) web application.

The system will allow for access to the Federal Parent Locator Service (FPLS) State Services Portal (SSP) which is the gateway to the FPLS using a web service.

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The SSP provides access to existing FPLS information and will allow the State to take advantage of new programs as they become available. Using the integrated SSP portal authorized State workers will have access to the QUICK program. Security built at the screen and program level will control the specific programs that a case worker will have access.

REQUIREMENT: (#707) QUICK access must include both Nevada's case identifier and the other state's case identifier.

The entry of the Nevada's case identifier and the other state's case identifier by the worker will be required for the retrieval of other State information via the QUICK system.

REQUIREMENT: (#708) At least one year of financial and case data, if available, must be provided to the OCSE QUICK web server.

Upon proper request from the OCSE QUICK web server, the system will provide the most recent available year of financial and case data. The financial information will display a financial summary showing the NCP's current obligation, balance to date, and last payment information, the NCP's payment history and details regarding disbursements to the CST and other parties involved in the case. The case data that will be provided in response to a request will include available details regarding locate, paternity, establishment and enforcement activities.

REQUIREMENT: (#709) The system must maintain an audit trail of all other state user inquiries made against Nevada CSEP cases.

An audit table will be maintained on the Nevada CSEP system which will record the details for all inquiries (valid or invalid) made from the QUICK system requesting information from the Nevada CSEP system.

REQUIREMENT: (#710) The audit trail must include the user ID of the inquiring worker and the case ID accessed.

An audit table will be maintained on the Nevada CSEP system which will record the details for all inquiries (valid or invalid) made to the QUICK system. This table will maintain the user ID making the request, the Nevada and other State case ID's the requested information and the date and time the request was submitted.

(2.8.4) Employer Website

One of the Enterprise CMS features in our solution is a strong multi-tenant capability which allows multiple sites to be delivered through a single web system and separated by domains and restricted to specific users and groups. By integrating the employer's web site into the customer service portal as a microsite, the system can leverage the same design and accessibility guidelines implemented on the customer service site, but with restricted access to employer specific information.

This will allow the addition of an employer section/microsite off the main web site which can control access to data through designated user accounts or provide customer service reps with the ability to issue new or additional accounts if necessary.

Upon receipt and confirmation of an employer account, employers can fully interact with the web site as outlined in sections #711, #712, #713, and #714. Using web services, data can be securely sent to the NCSEAS from the employer portal and received from the NCSEAS or external sites to the employer portal for access to the site.

REQUIREMENT: (#711) The system must incorporate or be capable of interfacing with an existing employer portal (employer website).
REQUIREMENT: (#712) The system must support an employer website by providing an extract of employer, participant and related employment data to the website. This data shall include, but is not limited to:

- income withholding amount
- insurance information
- employment status

Our solution will have the ability to interface with external sites on multiple levels depending on the capabilities and needs of the external web site. SSO and authentication features can be extended from the system to restrict access to data and content. Web services can also be configured to add or remove data elements specific to the needs of the external web site. Also, data sharing can be facilitated with third party sites through site specific files transfers which can process as frequently as required by the external site to maintain the integrity of the content based dependencies.

REQUIREMENT: (#713) The system must accept data from the employer website to update the system automatically. Such data exchanges include, but are not limited to:

- employer demographic and address data
- NMSN data
- receipt of EIWO
- employment verifications and terminations
- new hire reporting

The system can receive employer specific data automatically in real-time through web services integration or on a scheduled basis through secure file transfers. The specific method chosen to receive the employer data will be determined based on the capabilities of the external web site and the importance of the timeliness of the data to be transmitted.

We will work with the State to customize the design to meet Nevada's business needs.

REQUIREMENT: (#714) Payments made via the employer website must be automatically processed into the system.

Our solution can be configured to accept and process payments made via the employer website either directly or through integration with the third-party payment system. Multiple, website specific gateways can be configured and or accessed to achieve the desired level of functionality.

We will work with the State to customize the design to meet Nevada's business needs.

(2.8.5) Call Center Functionality

While the call center functionality of the RFP primarily addresses interaction with the IVR and corresponding call centers, there is additional functionality that can be provided using an Enterprise CMS that can be invaluable in assisting Customer Service Representatives (CSR). This includes the ability to shadow users to identify where they are on the web site and assist in addressing any problems or challenges the user may be facing. This functionality, coupled with a 'LiveChat' feature, can lead to a noticeable reduction in the number of customer service calls being placed into the call center and significantly reduce the amount of time required to bring a call to resolution.

The feasibility of adding a feature as mentioned above would be addressed in the discovery and design phase of the project and would require further discussions to gauge the potential impact on the CSR operations and outline key benchmarks and success factors.

REQUIREMENT: (#715) The system must support customer service by providing screens which consolidate key data elements into a single location to respond efficiently to customer inquiries and allow the worker to easily update the case record via these screens.

REQUIREMENT: (#716) The system must provide screens which access the data supplied to the IVR and website to facilitate call handling.

Customer service reps have access to data collected directly through the system and aggregated from integrated external third-party systems. Depending on the capabilities of the third-party system, customer service reps can view access information from key data elements from the web site or mobile application as well as the IVR system. This data, combined with the traditional elements present in the customer's case information can help a customer service representative determine the various options available to service the needs of the customer. Also, the web site online chat functionality provides customer service representative with the ability to screen share with customers to quickly and efficiently route them to available resources to answers their questions or address problems with accessing available data.

REQUIREMENT: (#717) The system must provide data and a secure process for confirmation of a caller's identity.

Customer service reps can easily access the key data elements required to securely confirm a caller's identification through the customer service interfaces. Also, users who are logged into the website or mobile app can be provided with an express routing code which can expedite the confirmation of the caller's identity.

REQUIREMENT: (#718) The system must allow the central customer service department or other workers to easily route participant inquiries to case managers.
REQUIREMENT: (#719) The system must allow a worker to document the nature and attributes of a call and notify a worker of requested action.
REQUIREMENT: (#720) The system must track routed requests and provide a mechanism to support timely follow-up.

Our solution's customer service features allow for the addition of customized work flows to facilitate the intake, processing, and escalation of customer service inquiries made electronically or over the phone. Inquiries can be categorized based on the nature of the inquiry and urgency of the request as well as assigned to a specific department or designated case worker. Based on the inquiry classification, predetermined workflows initiate service level monitoring processes to track case status and generate notifications to those members of required actions and required follow-up dates.

(2.8.6) Imaging and Document Generation

The objective of Electronic Content Management (ECM) is to create digital images of NCSEAS and external documents (documents generated outside of NCSEAS and/or non-NCSEAS documents received from external sources) and improve the management of document storage. ECM overcomes the challenges of manually refiling case documents by providing folder-based digital file storage, which allows for the management and retrieval of specific case documents.

Document availability and requests for reprints would be provided through real-time web service requests between NCSEAS and the customer service site. Document availability would be achieved through an outbound web service call to the customer service website or through a nightly batch process to initiate the notification to the customer. The system would provide for a user to be able to request a reprint of an existing document/form and to deliver that document through email or make it available for download through the customer service website.

In addition to providing content management and web service integration, Protech proposes a CMS system that would can integrate complex work flows that can blend with the imaging and document generation functionality where the ECM functionality would be able to move activity chains and update records based on the return and scanning of key documents.

REQUIREMENT: (#721) The system must support the imaging, indexing, and routing of all documents received, including case-related emails and faxes, which can be printed and redacted as necessary.

Protech's solution will leverage the existing DWSS implementation of IBM FileNet Content Manager and IBM Datacap to scan (manual or via batch), capture, process, store, and manage documents in support of the NCSEAS system. This solution will enable NCSEAS to meet the growing challenge of managing enterprise content with speed, efficiency, and accuracy.

Documents generated from the system using Thunderhead will include a barcode and/or metadata that link the document to any case, person, office, or functional area. Thunderhead supports most bar code formats, and the Protech solution will leverage the 2D bar code for storing required metadata.

The Datacap capture process is illustrated below using a postal verification form as an example. Protech ECM processes have enabled states to centralize many functions that were previously performed by local staff. This has allowed the local staff to focus on more important case management systems and allowed for scales of efficiency at the central scanning unit. Postal verification forms are received daily and as a centralized function processed promptly.

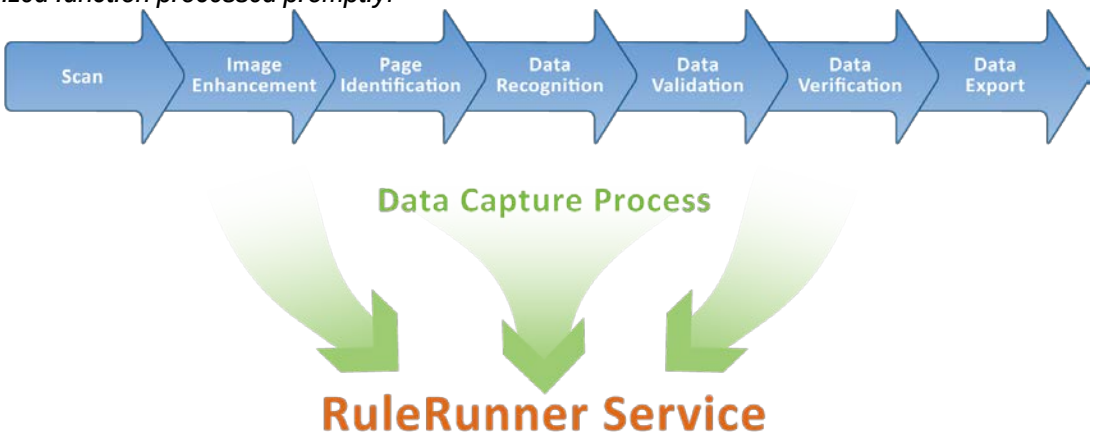

Figure 3.4 (2) - 144. Data Capture Process

As the first step in the process, a worker will scan the images into the system or batch files which can be transferred electronically and uploaded from a server, such as in the form of an email or fax. Datacap then batches the images and invokes an image enhancement routine to improve the image quality and display the images as a thumbnail for a visual review as seen below.

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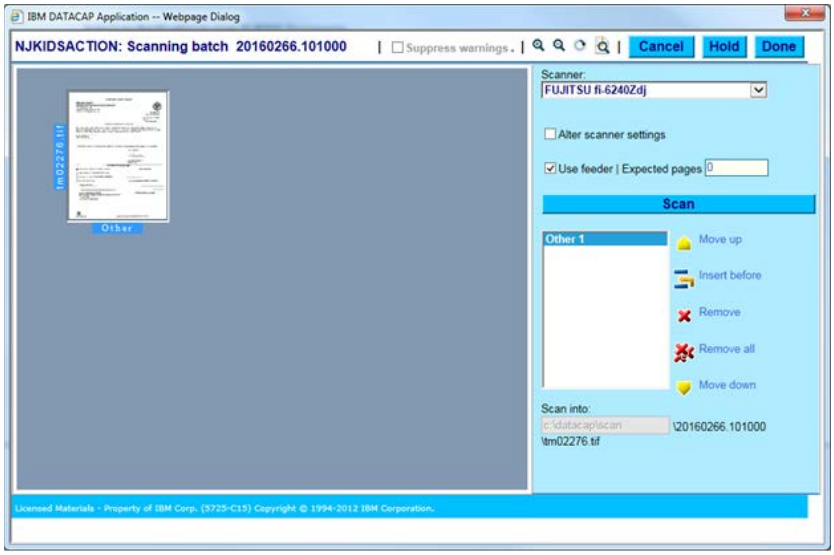

Figure 3.4 (2) - 145. IBM DATACAP Application

The system then reviews the data contained on the screen using a combination of OCR/ICR/OMR/barcode recognition to extract the vital information contained in the document. Using IBM Datacap, Protech has the tools required for reading content from image via OCR/ICR/OMR/barcode recognition. It extracts data by using the following recognition technologies:

- *Optical Character Recognition (OCR) for machine-printed characters such as case numbers and names*
- *Intelligent Character Recognition (ICR) for handwriting, typically detached block letters, but also cursive writing on checks or in other well-identified contexts*
- *Optical Mark Recognition (OMR) for identifying checked boxes and other marks, such as bubbles in surveys or a signature on a form*

By using a combination of different recognition technologies, the system extracts the data required to save properly, index and evoke predetermined workflows. The example below illustrates how the system has read the form and properly validated the response.

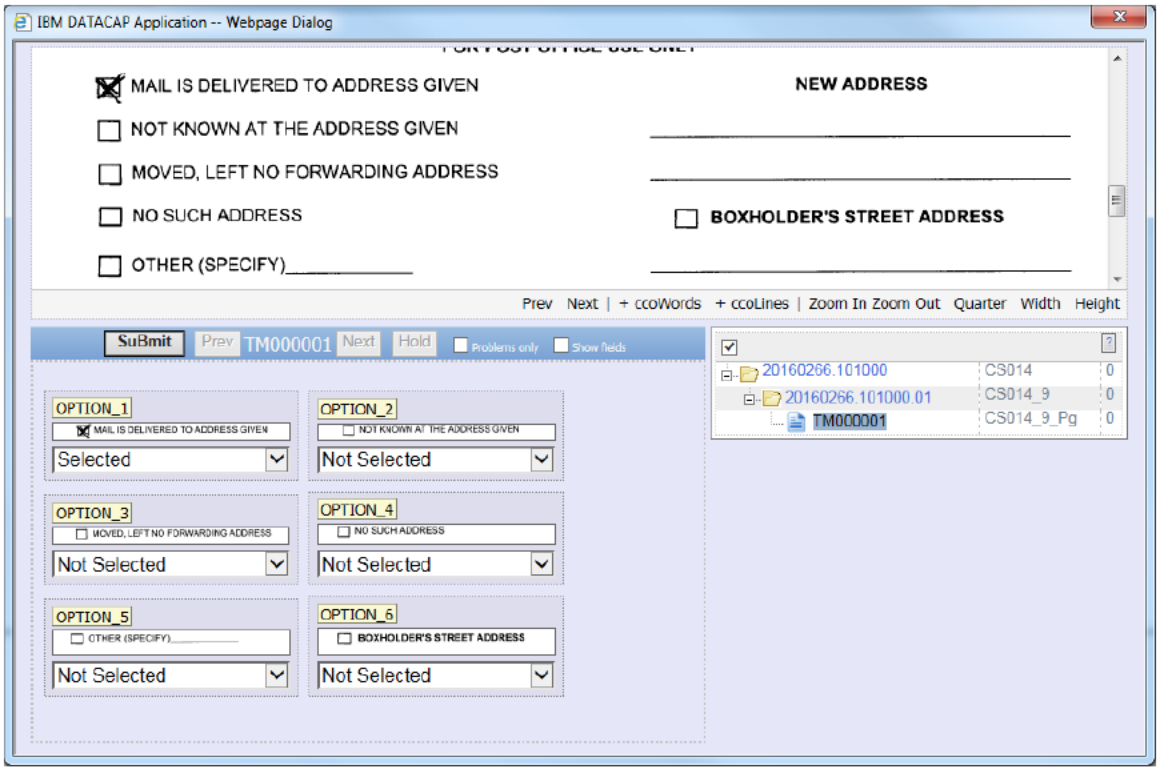

Figure 3.4 (2) - 146. IBM DATACAP Application

The system validates the quality of the image processing, and if it falls below the expected confidence threshold, the system will request operator intervention. Protech is currently reporting a 96% success rate on first pass scanning quality in production environments.

Once the system has verified the image and the data, it is uploaded and indexed into the system for storage via FileNet.

During the scan capture process, the Datacap software can redact specific sensitive data such as SSN, account numbers. Protech intends to use the redact process in the implementation of Datacap and then store in FileNet. Our solution also allows only authorized users specific to the security role to access the redacted information.

To truly enhance the NCSEAS system to take full advantage of the ECM process, Protech proposes including the automated integration of imaging into the updating of data and advancing activity chains based upon the returned scanned document. With this solution, the captured data is evaluated against the current case conditions and based on the custom designed workflow diary related to the document and the process, the specific automated workflow is evoked to update the case conditions all while keeping the case worker alerted and the electronic case file current.

Process flow document for the postal verification form is shown below:

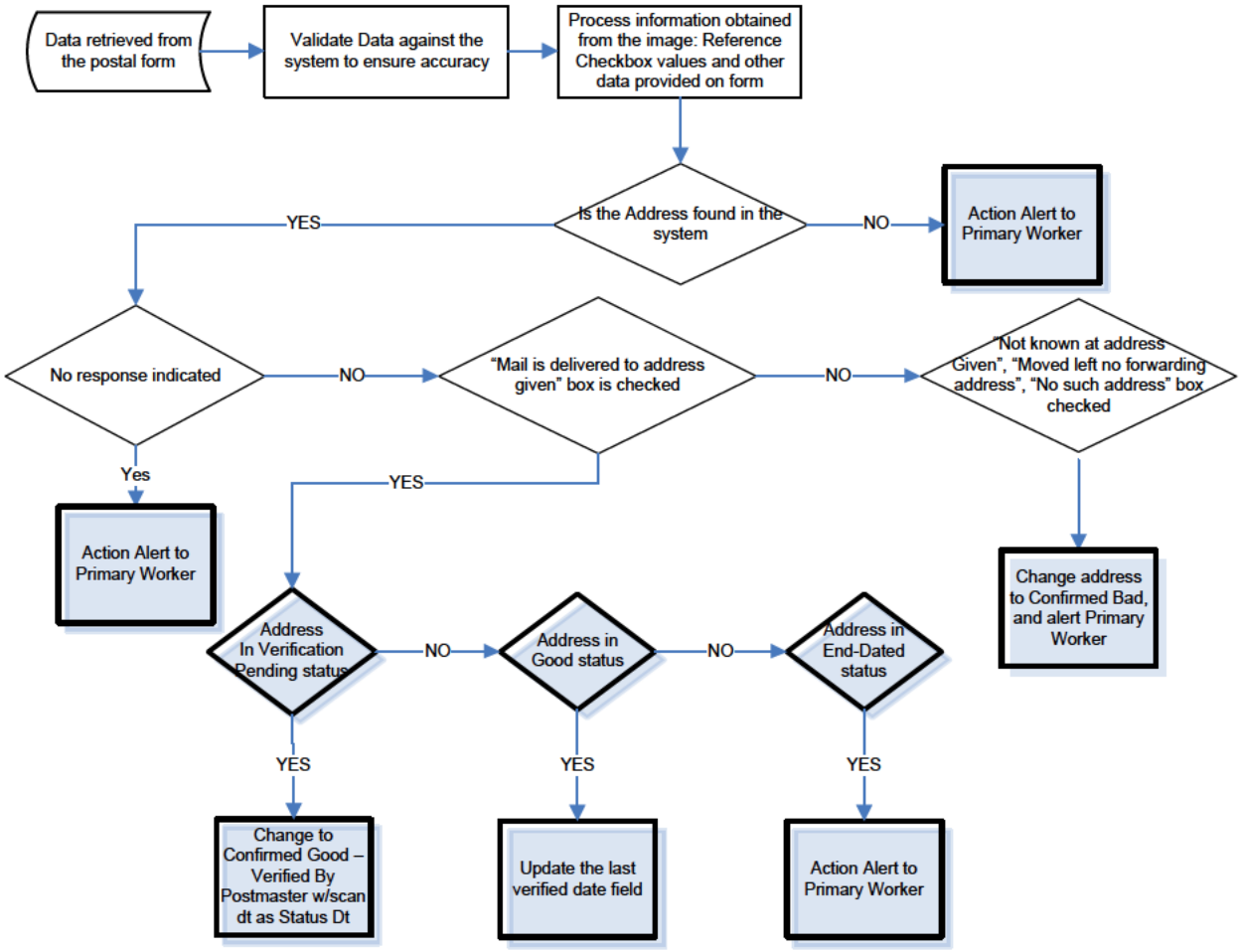

Figure 3.4 (2) - 147. Postal Verification Form Flow

Based on the case conditions and the received verification form in this example, the participant address has been confirmed as good by the postmaster and updated in the system.

Upon appending the information to a case, the system will have the ability to alert the case worker to review and evaluate the new image. The system will allow a worker with the proper security roles to review and print the stored images directly from the address screen if required.

Documents and emails that are received from outside sources (external) will be indexed to the case using any provided indexing information. The required workers will be notified, and the electronic case file will be updated appropriately.

REQUIREMENT: (#722) A comprehensive imaging component must be integrated into the system, including indexing or sequencing of documents and payments, and associated reporting.

The imaging component will be fully integrated into the design of the system and will interact seamlessly in support of the case worker and operational staff. Images stored in the electronic case file are viewable throughout the system based on logical consideration to enable easy validation of the data. Using a labeled link as shown below the worker can click and easily retrieve and print the image.

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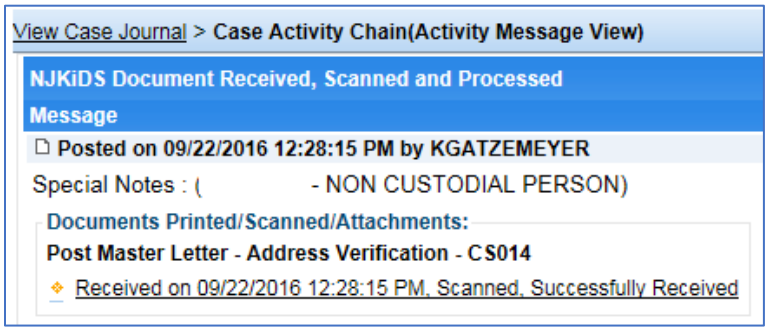


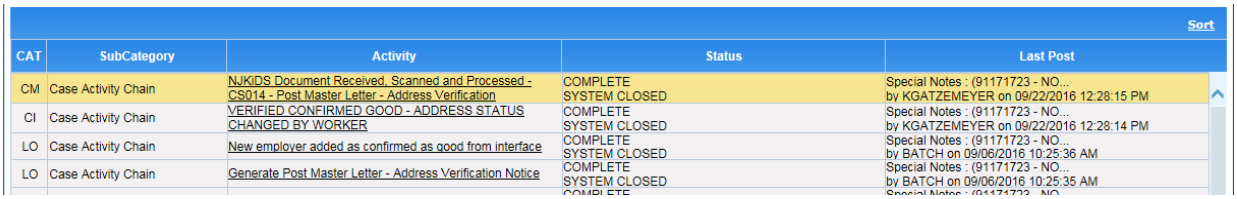
Figure 3.4 (2) - 148. Scanned Image

Details extracted from the scanned images will be stored and accessible for use in reporting and trend analysis.

REQUIREMENT: (#723) The system must provide direct linkage to the imaging system so that workers can access document images immediately from within a case.

Workers will have direct access to the indexed images in multiple locations throughout the system. All images for a specific case will be viewable on the electronic document content screen. Additionally, based on the indexing classification of the document, selected images will be viewable on their corresponding screen. For example, a returned postal verification form will be viewable on the address screen with the details for the specific address it was confirming. Scanned images of payments will be viewable when reviewing the detailed history of a receipt, and all scanned images will be linked and viewable in the electronic diary.

All activities on a case are entered in the automated case diary to maintain a complete historical record of activities related to the case. In addition to the ECM (document imaging) related actions for documents generated by the system and/or other electronic content received and attached to a case, the diary will contain details of activities including the event code, activity description, date, status, and worker. The automated case record also includes narrative/note entries for the case.



Sort

CAT	SubCategory	Activity	Status	Last Post
CM	Case Activity Chain	NJKiDS Document Received, Scanned and Processed - CS014 - Post Master Letter - Address Verification	COMPLETE SYSTEM CLOSED	Special Notes : (91171723 - NO... by KGATZEMEYER on 09/22/2016 12:28:15 PM
CI	Case Activity Chain	VERIFIED CONFIRMED GOOD - ADDRESS STATUS CHANGED BY WORKER	COMPLETE SYSTEM CLOSED	Special Notes : (91171723 - NO... by KGATZEMEYER on 09/22/2016 12:28:14 PM
LO	Case Activity Chain	New employer added as confirmed as good from interface	COMPLETE SYSTEM CLOSED	Special Notes : (91171723 - NO... by BATCH on 09/06/2016 10:25:36 AM
LO	Case Activity Chain	Generate Post Master Letter - Address Verification Notice	COMPLETE SYSTEM CLOSED	Special Notes : (91171723 - NO... by BATCH on 09/06/2016 10:25:35 AM

Figure 3.4 (2) - 149. Case Diary

REQUIREMENT: (#724) The system must control access to documents according to security roles and conflict of interest information.

The system will control security based on the roles of the worker and the classification of the images. While all workers may have access to an electronic document screen, and be able to view the indexing information for an image, only an authorized worker with a designated role would be able to view documents of a specific classification. For example, a generalist case worker would be able to view case level documents, but only a FIDM worker would be able to view banking documents.

REQUIREMENT: (#725) The system must produce document requests in the language captured in the system's language preference field for forms available in multiple languages (currently English and Spanish).

Based on the participant's external request or with the use of an internally saved language preference for the requesting participant, the system will automatically generate requested forms in the language desired (if the form template is available).

(2.8.7) Client Communication Facility

As mentioned above in the imaging and document generation section of the response, the system can initiate complex workflows and facilitate secure communication and collaboration between systems.

Users who choose to be notified or receive documents electronically would have an option to receive them through the web site, customer notification area, through email, text message or U.S. Postal Service. The web site will directly interface with the NCSEAS system to collect and maintain their preferences and participate in the delivery of communications as necessary.

User profiles will be tied to access to case information and can be updated and maintained through their online account or the IVR system if available. All user account, passwords, and preferences will be stored and accessed through the NCSEAS system to ensure there is a single source of truth maintained for all credentialed accounts and access-based services.

REQUIREMENT: (#726) The system must incorporate a client communication facility for sending messages and documents to clients using the communication channels of choice based on a client communication profile. Communication options include email, texting, telephone (including cellular) and U.S. Postal Service.
REQUIREMENT: (#727) The client communication facility must include an enrollment management component to create and maintain client communication profiles.
REQUIREMENT: (#728) The system must accommodate multiple enrollee types such as custodial party, noncustodial parent, and employer.
REQUIREMENT: (#729) The client communication facility must accommodate client preferences for communication channel based on the type of information being communicated.

The system provides user based communications preferences controlled by the user and can be specific to the user type or nature of the communication. The customer facing web site and mobile application allows the custodial parent and the noncustodial parent to manage their communications preferences and choose from the available options specific to the types of communications and legally available channels.

Where available, CST's and NCP's can receive communications through email, text message, in app messaging, as well as traditional means of phone calls and physical mail. Users who choose to receive text based communications are enrolled into a text messaging program consistent with both federal and state rules and regulations. All communications, where applicable, are logged and stored in the system and can be retrieved through the website or mobile application.

Employers can similarly manage their communication preferences, with the major difference being they are provided with notifications of documents, required actions and new notifications being available from the employer service portal. Employer notifications are stored and transmitted in a fashion that ensures employee specific information is never sent through email or digital communication.

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(2.9) Ease of Use

The Protech Team proposes an integrated user interface architecture that combines the best elements of the transfer system with industry standard, state of the art, leading-edge technologies including concepts such as continuous user interfaces, a rich internet application, and collaborative computing. Our broad experience in implementing public sector systems and public (web-based) access systems for the private sector ensures that we have a detailed knowledge of the usability requirements needed for Section 508 and ADA compliance.

A uniform look and feel is essential for easy administration and operation of the solution. The Protech Team uses portal templates, customized to the State's specific branding requirements, which are rolled out to all screens/pages ensuring standardization. The standard branding is controlled by Cascading Style Sheet (CSS) files which are used portal-wide.

A common theme of the Protech Team's solution is the integration of functions, using sliding panes to display data that would otherwise have to be displayed on separate screens or pop-ups. Scheduling or calendaring is an area that benefits from this modern user interface concept. Continuous user interfaces allow the user to essentially perform all scheduling related functions without navigating from the central elements of the screen and losing the context of the function.

The team also proposes a system where collaboration is not an afterthought but is integrated into every user interface. Protech also provides the ability to integrate collaborative notes with each functional screen that corresponds to a case. An expandable pane on the interface provides the following facilities:

- *E-learning and contextual help*
- *Collaborative case notes and attachments*
- *Personalized menu options*
- *Personal schedules (ticklers/correspondences)*
- *Create caseworker appointments with participants on a case, attorneys, and other stakeholders*
- *Recall case feature that provides access to details*
- *E-mail and fax screenshots or notes to other caseworkers, agencies, and stakeholders*
- *The ability to generate notices using a popup menu, directly from the screen*
- *Screen and process specific reports*

(2.9.1) Screen Standards

REQUIREMENT: (#730) The system screens must conform to established standards that include but are not limited to the following:

- **REQUIREMENT:** (#731) The system must display identifying metadata (e.g., user ID, environment) regarding the user's session.

Protech's solution presents a standard look and feel across all screens of the proposed application. The title bar displays the application title and an identifier for the environment the user is presently signed into which can be used to differentiate production systems and testing/development systems. The status bar displays the name of the logged in user, workstation ID, and current system date and time. We will work with the

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State of Nevada to ensure all required data elements are included in the standard headers on case specific and participant specific screens.

- **REQUIREMENT:** (#732) Case specific screens must provide standard information regarding the participants and order(s). (#733) The position of identifying data elements must be standard across all screens.

Protech recognizes the need for a standard case header to identify information on case specific screens. The ability to view key information and to navigate easily to expanded views of this information is equally important. Our proposed solution implements a standard case header which provides all the Nevada-required information including case status, case type, Interstate indicator, family violence, and confidential indicators. The objective is to minimize user navigation away from a screen just to access commonly needed case information. The solution also implements a standard header on participant specific screens. We will work with the State of Nevada during the design phase to ensure all required data elements are included in the standard headers on case specific and participant specific screens.

- **REQUIREMENT:** (#734) All screens must have a title which identifies its purpose.

The name of each NCSEAS screen displays on every screen. Screen names are customized under Nevada requirements. Protech's solution includes a context sensitive menu bar that provides links for screening actions corresponding to the viewable screen. Screen actions are specific functions performed on each screen. These correspond to "use cases" that a user performs on that specific screen. The online help feature provides more details on these screen specific actions.

- **REQUIREMENT:** (#735) All screens must display special alerts.

Protech's solution provides for message banners to display on screens. Users with security access, such as system administrators, can modify on-screen special alert text.

(2.9.2) Screen Navigation Standards

REQUIREMENT: (#736) The system screens must conform to established screen transition standards that include but are not limited to the following:

- **REQUIREMENT:** (#737) All screens must display options available to the user in a consistent manner.

Protech's design choices are tuned towards a simplified user experience. Options and actions are prominently displayed in the same place on every screen. Our screen functions panel, as illustrated below, makes options within a screen obvious to the user. Similarly, easily identifiable icons in the toolbar suggest the action each icon represents. Action buttons like "Search" are visible and labeled. Critical information is displayed prominently while supplemental information is loaded on-demand using accordions and expandable grids. Our menus are grouped based on common user activity and feature a pull-out menu to provide ease of use and screen navigation. Tooltips and other cues help new users. Protech's enhanced ease of use solution for NCSEAS allows users to turn off this feature.

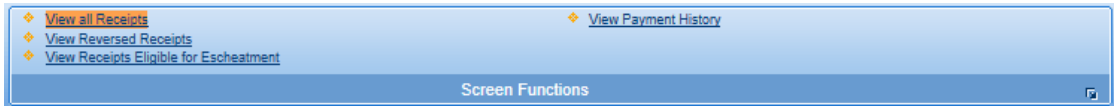

Figure 3.4 (2) - 150. Example Screen Functions Panel

The screen functions panel displays options for functions that can be performed given screen.

- **REQUIREMENT:** (#738) The system must allow simple and easily learned keyboard navigation.

Protech's solution features a rich user interface with popup windows, pull down menus, pointing device support, and is keyboard friendly. The system will cater to both novice and experienced users and provide

accelerators such as onscreen shortcuts and hot-key navigation to speed up the interaction for the expert user. Refer to the response to requirement #742 regarding keyboard navigation.

- **REQUIREMENT:** (#739) The system must not force the user to reenter case or participant information when beginning a new function or navigating to a new screen.

Key identifiers, such as case id, participant id, and receipt number require one-time entry upon initial access to a screen. The data associated with the entered case, participant, or receipt is carried as sticky data throughout the session as the user navigates through the application. Users are not required to re-enter key identifiers upon navigation.

- **REQUIREMENT:** (#740) The system must provide case and participant selection from search screens that allow the user to select a participant or case and move among screens without entering case or participant identifiers.

The solution features drill-downs and lookups to select and retrieve information already recorded. Selected data, including but not limited to user role data and current case data is automatically forwarded to subsequent screens. For instance, if the context is set to a participant, the participant id persists if the caseworker navigates between case related screens - the worker is not required to reenter participant id in each screen.

- **REQUIREMENT:** (#741) The search criteria must support lookup by:
  - name or portion of name (regardless of role within a case)
  - SSN
  - court order number
  - case number
  - client index number
  - IV-A case number
  - Title XIX case number
  - child welfare (IV-E) case number
  - corrections ID number
  - etc.

Screen context specific search options allow data retrieval by SSN, court order number, IV-D case number, client index number, IV-A case number, Title XIX case number, IV-E case number, corrections id number, and wildcard searches using name or portion of a name. Protech's enhanced search functionality also features look up by date and case related text within functional diaries and case notes.

- **REQUIREMENT:** (#742) The system must have a standard way to navigate between screen elements without using a mouse. This includes but may not be limited to
  - the tab key
  - space bar
  - arrow keys

Protech's GUI standards, Section 508 compliance, and Americans with Disabilities Act (ADA) accessibility guidelines stipulate that all actions that can be done with a mouse must have keyboard alternatives – shortcut keys enable users to effectively use the screen with a keyboard without using a mouse. Users familiar with the system use shortcut keys to quickly switch between screens without the inconvenience of navigating layers of menu options. Protech's solution features the ability to tab through data fields and screens. The sequence is intuitive and logical, and keyboard controls work for each control. For example, users can tab into a drop-down and use the keyboard to show the list of values in the drop-down and select a value.

- **REQUIREMENT:** (#743) The system must provide automatic screen transition for the case entry process.

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Protech proposes a design for case entry that allows the user to record case and participant information without navigating to the individual screens. This design incorporates sliding panes that list key case and demographic information.

Once a worker determines a case should be created from a pending referral or web application, the system automatically creates or updates the given information on the appropriate screens.

(2.9.3) Lists of Values for Data Type Designations

REQUIREMENT: (#744) The system must accommodate staff selection from a list of values for data requiring descriptive designation.

If a known set of values exist for a field, users can single click in the field to display a list of selectable values. Protech's enhanced ease of use experience includes the flexibility for static and dynamic lists of values. We will work with the State of Nevada to ensure data integrity requirements are identified and appropriate value options display for user selection in accord with DWSS CSEP business rules.

REQUIREMENT: (#745) The values in selection lists must be of sufficient length and detail to facilitate selection for staff with an understanding of child support case management.

Descriptions should be meaningful to both novice and experienced NCSEAS end users. We will work with the State of Nevada to identify a list of value descriptions. Users with security access, such as system administrators, can modify reference maintenance data online.

REQUIREMENT: (#746) Coded database values must not be visible to staff.

The list of values will not display codes but will show full descriptions.

(2.9.4) Data Validation

REQUIREMENT: (#747) Online editing must provide data validation by rejecting unacceptable values.
REQUIREMENT: (#748) Data validation must be consistent throughout the system and must follow documented standards.

Online edits ensure incorrect data is rejected and the corrective action required displays. The distinction is made between errors, warnings, and informational messages. The types of errors include field, dependency, database, and exception. A master screen provides a reference for data validation message descriptions.

REQUIREMENT: (#749) Where appropriate (such as for drop down lists or lists of values), values will be defined on a field-by-field basis within each child support category and maintained in a parameter table that can be modified by users with appropriate access if the need to do so arises.

Values are maintained in reference tables. Users with security access, such as system administrators, can modify value descriptions in online system maintenance screens.

(2.9.5) Data Exceptions

REQUIREMENT: (#750) Online editing must provide warning messages when acceptable values are subject to special conditions.
REQUIREMENT: (#751) Messages must be fully explanatory and clear.
REQUIREMENT: (#752) Edit error messages must contain information for the user to act upon to eliminate the problem or point the user to others in the system organization who can provide assistance.
REQUIREMENT: (#753) Terse, brief, or coded messages are not acceptable.

Online edits ensure that incorrect data is rejected and that required corrective action is displayed. The distinction is made between warnings, informational, and error messages. The appropriate validation error message displays and user attention is drawn to the specific parameters in error that require remedial action.

Error message descriptions are maintained in a reference table. We will work with the State of Nevada to modify the content of existing error messages from the transfer system as needed and identify additional error messages specific to NCSEAS functional requirements. Users with security access, such as system administrators, can modify error message descriptions online.

The below figures illustrate data exception messaging implemented in one of our other certified systems:

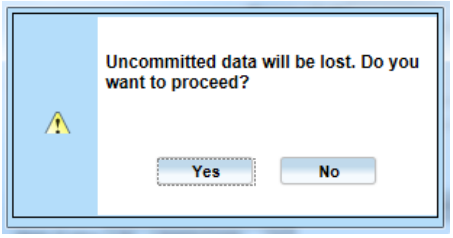

Figure 3.4 (2) - 151. Warning Messages

The warning message serves as a guide during data entry and allows processing to continue.

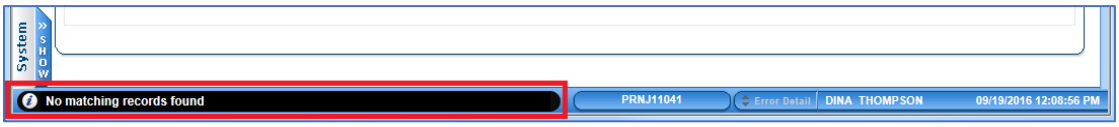

Figure 3.4 (2) - 152. Information Messages

The information message confirms information to the user.

Figure 3.4 (2) - 153. Error Messages

The error message alerts the user about the error that resulted from the user's request.

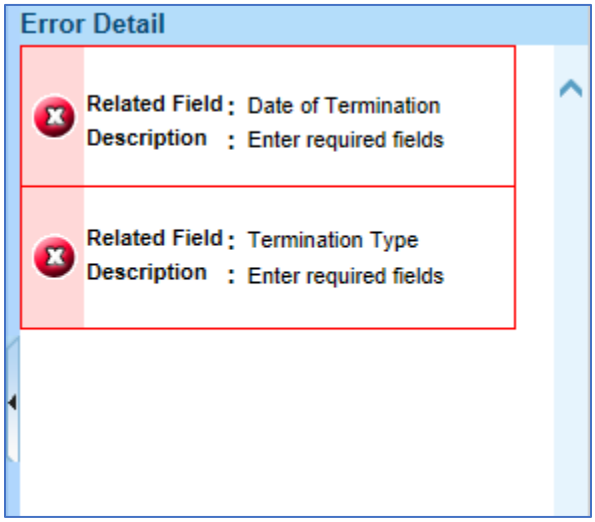

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Figure 3.4 (2) - 154. Error Details

Example descriptions of all errors associated with the screen display on the error details slide-out pane that is part of the screen architecture.

(2.9.6) Filter and Sort Functionality

REQUIREMENT: (#754) The system must include the ability to view data in different ways by providing functionality to filter and sort the data.
REQUIREMENT: (#755) At a minimum, this functionality must be provided for events, narratives, search results, payments, pending referrals, CSENet communications, and alerts.

Our solution features drill-downs and lookups to select and retrieve pre-recorded information which can be used to limit resulting data sets by a specific criterion. Protech's enhanced ease of use also features the ability to sort case actions such as pending referrals, CSENet communications, case action histories, and payment information by date in either ascending or descending order as specified by the user and data type.

(2.9.7) Recall Cases

REQUIREMENT: (#756) The system must include functionality that will allow workers to recall recently accessed cases.

Our other certified systems feature a history icon to navigate users to screens previously accessed within the current browser session. On navigation to previously viewed screens, the system retains current sticky data and queries the database for current case/participant data. We will work with the State to ensure the NCSEAS implementation adheres to Nevada's recall cases requirements.

(2.9.8) Online Help

REQUIREMENT: (#757) The system must provide a brief and clear summary regarding the functionality of each screen within the system.
REQUIREMENT: (#758) The system must provide brief and clear tool tips to assist users with information about data elements presented on the screen.
REQUIREMENT: (#759) The system must provide online access to CSEP policy and training manuals.
REQUIREMENT: (#760) The system must include context sensitive help.
REQUIREMENT: (#761) In addition to presenting context-specific help, the system must include the capability to navigate the contents of the help system, access help information by way of an index, and search for specific terms within the help system.

Unique to our solution, an online help center is available for every user interface. The help center works as a screen-specific comprehensive transaction facilitator and history center containing common functions and enabling collaboration. By selecting an option in the help center available from the NCSEAS tool bar, users can have direct access to past training sessions in this interface area, online help documents, and quick tips. The help center provides users with a way to find answers to their questions and leads to a more self-sufficient and knowledgeable user population.

The help center offers three types of help messages:

- *Tool tips*
- *Screen help*
- *Field help*

Additionally, it provides simple, succinct instructions on how to use the screen to complete business tasks.

(2.9.9) Calendar Support for Date Entry

REQUIREMENT: (#762) The system must provide date selection from a calendar.

A calendar-based entry facility exists for every date field.

REQUIREMENT: (#763) Date defaults must be provided.

During the design phase, we will work with the State of Nevada to identify context specific default values and rules for allowing override of default values for date fields within NCSEAS.

(2.9.10) Case Data Review

REQUIREMENT: (#764) The system must display current and historical case data in an organized and easily navigated manner.

The transfer system can display current and historical data of various types. Protech proposes extending that concept to integrate functional diaries and case notes, including worker discussions, attachments, and general case notes into a continuous user interface to provide comprehensive cross-functional chronologies of case events through the life of a case and changes in related participant specific data. These integrated views include powerful search functions to enable lookup by date, case-related text, and other advanced search features.

REQUIREMENT: (#765) Data categories must include but are not limited to:

- Case participants
- Participant addresses
- Address history
- Participant employment
- Employment history
- Other system identifiers and Personal Identification Numbers (PINs)
- Current legal action status
- Legal action history
- Current case status
- Case status history
- Current assistance status
- Case assistance status history
- Current IV-A status
- Case IV-A status history
- Current IV-E status
- Case IV-E status history
- Current obligation status
- Obligation history
- Current enforcement status
- Enforcement history
- Most recent contact
- Contact history
- Last case document
- Document history
- Most recent payment
- Payment history
- Most recent disbursement
- Disbursement history
- Assets
- Asset history
- Licenses
- License history
- Medical support status
- Medical support history
- Administrative review history

The system contains a complete historical record of all data elements added or modified including the date, item changed, source, and the worker or program that modified. Current and historical case and participant

data display to the user in an organized manner in our previous implementations of relevant systems. Some categories of data are viewable at both levels – case and participant.

Comprehensive History in Protech's Previous Implementations			
Data Category	**Participant**	**Case**	**Both**
Addresses	X		
Administrative Review		X	
Assets	X		
Current Assistance Status			X
Case Participants		X	
Case Status		X	
Contact Information			X
Disbursement History			X
Document History			X
Employment	X		
Enforcement Status		X	
Disbursement History			X
Generated and/or Scanned Documents			X
IV-A Status			X
IV-E Status			X
Legal Action Status		X	
License			X
Medical Support			X
Obligation Status	X		
Other system identifiers			X
Payment History			X

Figure 3.4 (2) - 155. Data Categories Available in History Display

Key features of prior implementations include:

- ***A highly intuitive case processor, integrated case diary, and process map wizard-user interface presents orchestrated workflows as a set of steps with look-ahead features, scheduling, notice generation, time frame management, image processing, and case history.***
- ***Detailed audit trails provide historical information across multiple financial processes and related activities that occur on a case, participant, or other entity. Using an event model, which was pioneered by the Protech Team in Arkansas and migrated to other states, the history of each financial process is integrated into the system. This model allows users to view historical data across the varied processes in a unified manner.***
- ***A record of all outgoing and incoming interfaces and status. The system maintains and stores a complete historical audit trail for all incoming and outgoing records including but not limited to date and source.***
- ***A comprehensive audit history which includes the exchanged CSENet records or UIFSA notices sent at various points in case processing. Whether interstate actions are manual or automated, our comprehensive audit and tracking diary provides users with a complete view of interstate actions.***

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REQUIREMENT: (#766) The Case Data Review function must provide a facility to add notes to the case log without navigating to another screen.

In our other certified systems, case note entry is supported on various screens on which key case processing activities occur. The manually entered notes propagate for display in a comprehensive case journal, financial event log, and/or case notes screen.
The case journal provides users with a view of all activities, including system generated and user entered notes, in chronological order by date, and the ability to filter and sort the data results. The financial event log is a diary of financial events and transactions for a case such as accruals, distributions, arrears adjustments, current support modifications, disbursements, and receipt reversals.

During the JADs, we will work with the State of Nevada to modify or enhance the transfer system's solution for case data review to adhere to NCSEAS system requirements.

(2.9.11) Contact Documentation

REQUIREMENT: (#767) The system must populate / assist in populating case notes based on specific customer service contact activities.
(#768) The online contact function must provide:

- Routine documentation of interaction with case participants to the case action history log.
- Provision for forwarding the documentation with or without commentary to other CSEP staff and IV-A, Title XIX, foster care, and contractor staff via e-mail.
- Provision for setting up future messages for the operational report for specific cases and specific staff.
- Provision for expedited follow-up on frequently occurring events that follow on contact with case participants (e.g., review and adjustment, administrative review, document generation, deferral of pending case closures, address changes and verification, employer changes and verification).

As a representative example, the customer service subsystem in the New Jersey implementation includes a case note and referral feature. In response to customer service contact activities, a Customer Service Representative (CSR) can post a note to a case or to all cases associated with a case participant/role combination (e.g., all cases where the participant is the CST or all cases where the participant is the NCP). Where caseworker intervention or follow-up is required, the CSR creates a referral documenting the nature of the contact and action needed generating an alert to a specific worker or all workers with a specific role within an office. Rules for creating referrals specific to each contact activity type such as default alert recipient, alert time frames/durations, and required data elements for note content can be customized and configured for the NCSEAS implementation using the business rules engine. Referral assignment and status is tracked from creation to completion of the request as shown in the illustration below.

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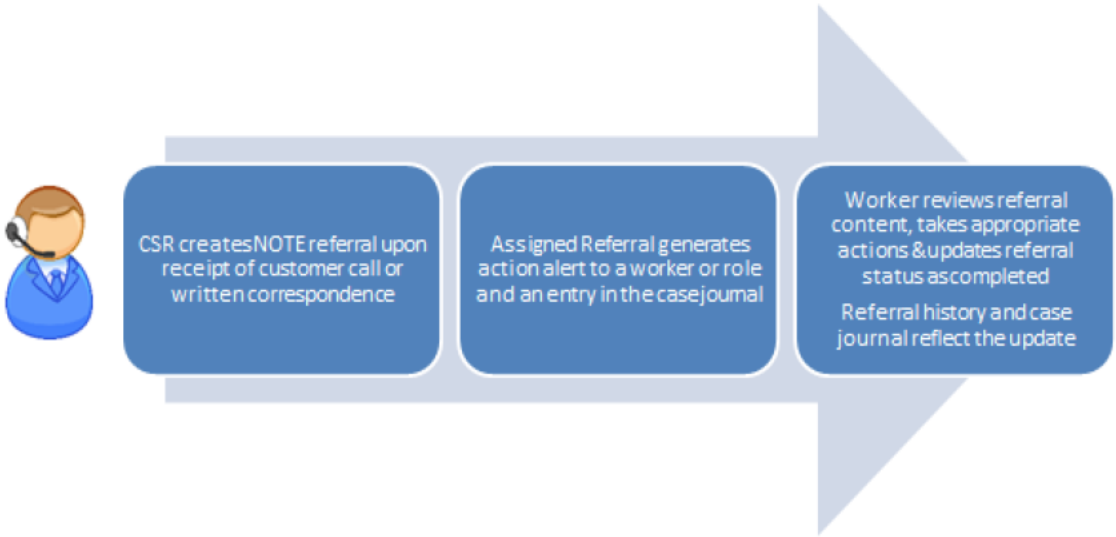

Figure 3.4 (2) - 156. Customer Service Referral Workflow

Upon receipt of the NOTE referral, the recipient can forward a note to a different worker or record notes in reply to the original communication from the CSR and/or change the status of the NOTE referral to completed. If the CSR requested notification upon status update, an information alert is automatically generated to the originating CSR. The New Jersey implementation of this functionality also includes a reporting feature, illustrated below.

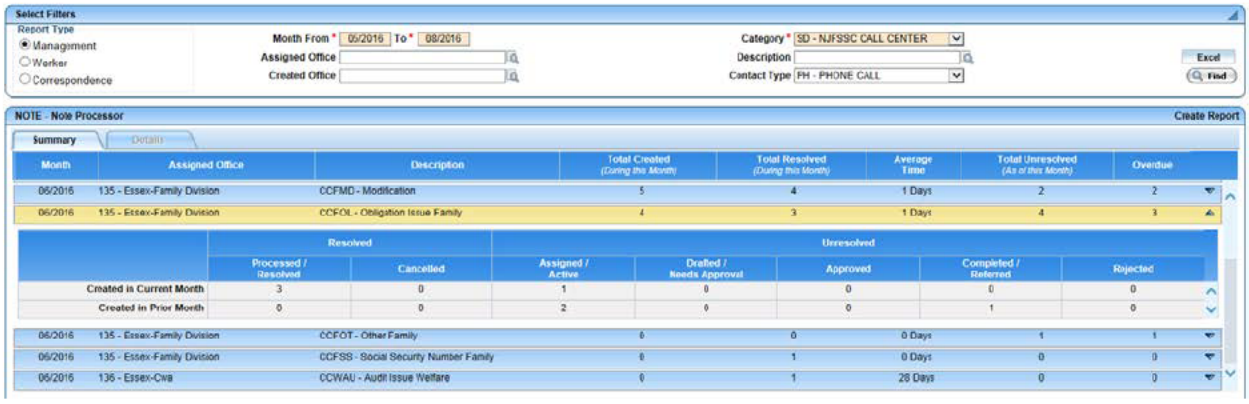

Figure 3.4 (2) - 157. Customer Service Referral Reporting

Example summary data provides counts by status for a given date range and detail reports drill down to identify case and participant information.

We will work with the State to customize the design to meet Nevada's business needs, including attaching scanned images/documents to referrals and forwarding documentation to other stakeholder agencies via email.

(2.9.12) Case and Participant Special Attention Alerts

REQUIREMENT: (#769) The system must display special alerts associated with a case or participant. Special alerts may include the need to gather missing critical data elements, the fact that a threat to the agency has been received, or other information deemed important.

Our solution provides for the use of and display of special alerts associated with a case or participant. Special alert descriptions are maintained in a reference table. We will work with the State of Nevada to modify the content of existing special alert messages from the transfer system as needed and identify additional special alert messages specific to NCSEAS functional requirements. Users with security access, such as system administrators, can modify special alert message descriptions online.

(2.9.13) Appointment Scheduling

REQUIREMENT: (#770) The system must facilitate scheduling for custodial party and noncustodial parent interviews, genetic testing, and hearings.
REQUIREMENT: (#771) The system must provide manual scheduling and revisions with the automatic generation of appointment notices as needed.

Federal certification guidelines specify that case processing should be directed by system logic, applying business rules to guide the flow of the case. Accordingly, the transfer system supports online scheduling of genetic testing and other appointments. Protech's solution includes an event driven process that examines case status, evaluates case conditions, and selects appropriate services and workflows for cases. It integrates scheduling and document generation components facilitating the online display of notices at specific steps in the workflow using a forms processor, provides the ability to interact with these notices, add information, notes, and electronic signatures on notices, and provides the ability to perform scheduling online at relevant steps.

To illustrate our experience in implementation of the hearing process, the below section details the solution provided to the State of New Jersey and the NJKiDS integration with the court system FACTS (Family Automated Court Trial Services).

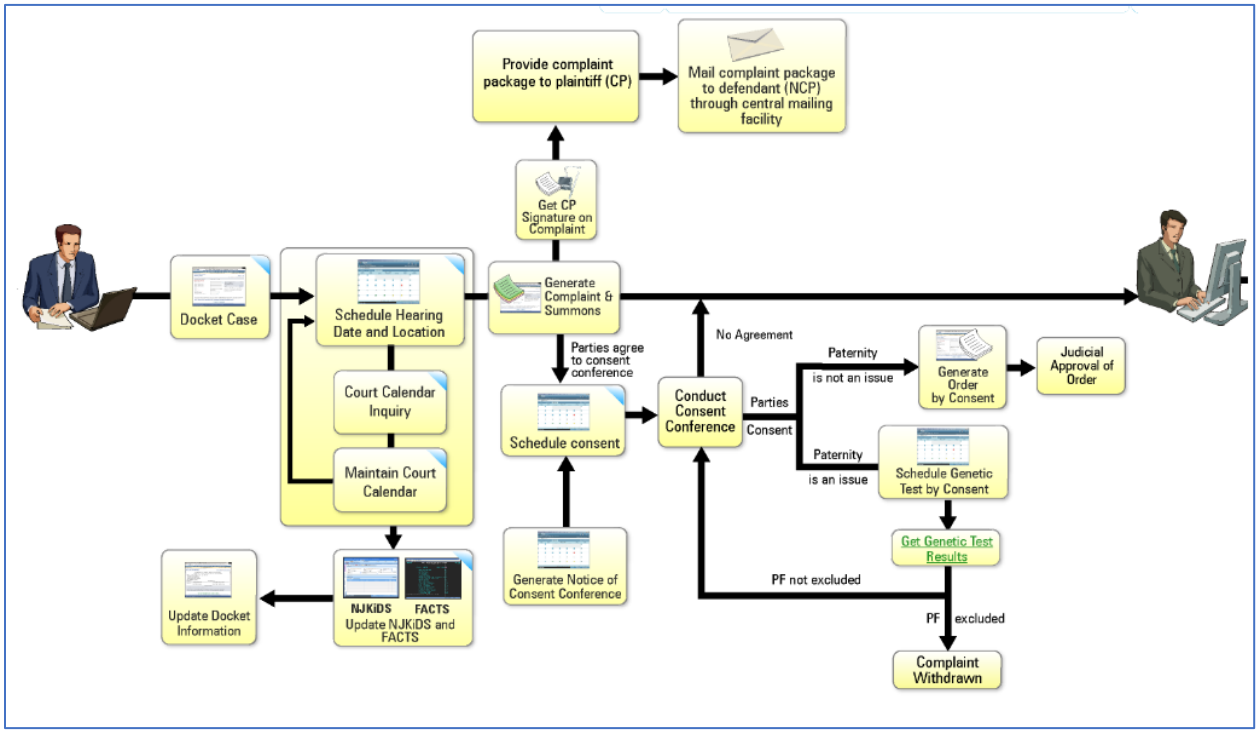

Figure 3.4 (2) - 158. Example Docket and Scheduling Workflow
Users can docket cases, schedule hearing and generate notices.

The integration service enables the core OCSE application to interact with the calendar component in the court system to identify an available date/time and update it with the proceeding information recorded by the user. This enables the completion of case docketing and scheduling processes without having to exit the core OCSE application, therefore, providing a seamless experience to the user.

One of the features of the New Jersey implementation is the ability to obtain digitized signatures from the custodial parent on the complaint. This ensures the signed copy of the form is available online for viewing and reprinting. Additionally, a copy of the complaint is also mailed to the noncustodial parent named in the application.

While the scheduling component of the court interface is based on the scheduling interface of the New Jersey implementation, substantial customization was required to meet the needs of the court system. For example, the location of the hearing is dependent on the specific step of the workflow. Documents generated from this step in the workflow are listed and displayed in conjunction with this window and are specific to the steps in the workflow. If the user wishes to override the scheduling availability on the court calendar and schedule a hearing for a specific date, the 'accept scheduling' feature allows for this functionality.

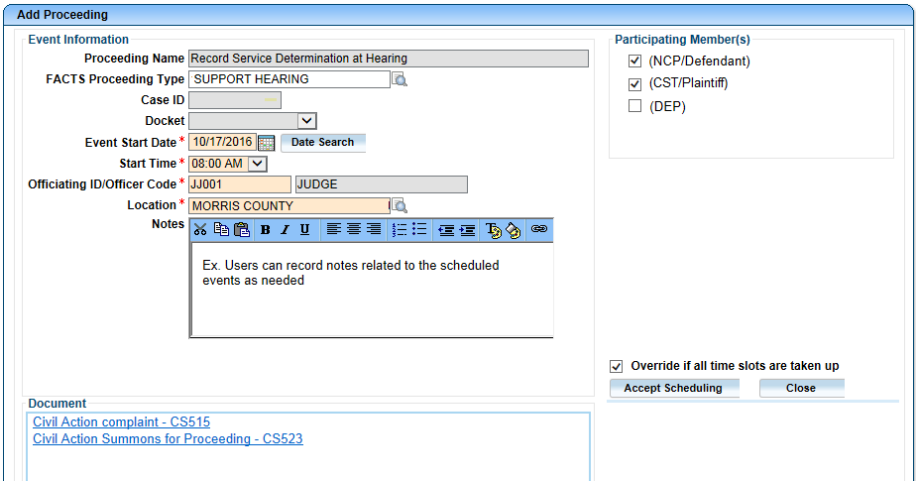

Figure 3.4 (2) - 159. Example of Online Scheduling
Scheduling and Document Generation are integrated into the workflows

The scheduling component also allows for rescheduling and canceling scheduled hearings or appointments and generation of the appropriate notices. These events are comprehensively recorded in the case journal along with the notices.

The New Jersey system provides a detailed calendar of scheduled events for a case through the schedule processor screen.

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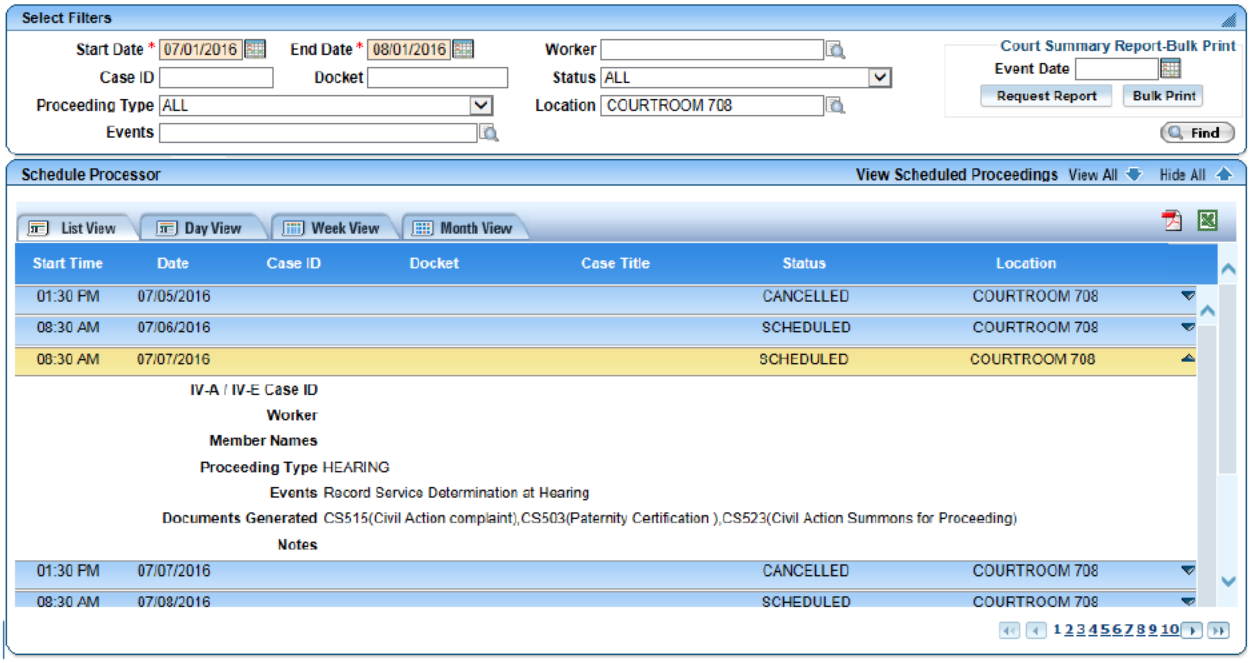

Figure 3.4 (2) - 160. Example of a Schedule Processor

Users can view a list of scheduled hearings and appointments.

REQUIREMENT: (#772) Users must have the ability to make, cancel, and change appointments in their calendars with the system recording appropriate information in the case or participant tables.

Protech's schedule processor can be used to list all appointments for a worker on a specific date. Using this calendar, as shown in the above illustration, a caseworker can review case schedules at a glance, record unscheduled appointments, reschedule or cancel appointments, and reprint notices and other documents related to the appointment from the electronic case file. These event updates are comprehensively recorded in the case journal.

(2.9.14) Specialization Management

REQUIREMENT: (#773) The system must establish and maintain specialized staff functions and assignments by office.
REQUIREMENT: (#774) Authorized local users must be able to maintain assignments of specialized functions to staff.
REQUIREMENT: (#775) System monitoring and processing logic must use these specialization data to direct alerts and documents to the currently assigned staff for specific processes.

Protech's solution utilizes a role based approach to ensure that access to functions is authorized. The application functionality is divided into granular tasks to which access must be controlled. A business role is defined on the system that can be given a specific type of access. Users are not assigned permissions directly; rather, they acquire them through their role (or roles). Use of additional configurable security protocols, which consider user roles, available at a system or subsystem level, screen level or even an individual process within an online screen ensures separation of financial duties.

Input screens are used to add and maintain user role assignments. This solution also includes screens for recording assignment rules for an office, team or worker. The system can support case assignment based on alpha ranges and other assignment rules such as NCP Name, CST Name, case type, load balancing, etc. County specific case assignment rules are defined for each of the offices with the order in which the rules need to be applied. The system uses the designated assignment rules in automated case assignment and directs alerts accordingly.

Worker assignment occurs automatically or manually based on the configured assignment processes for the office location to which the case belongs. For both automated and manual case assignment, the system uses configurable user assignment rules to route cases to caseworkers across the state, directing the case to the appropriate function, and notifies the assigned worker of the case assignment.

The below illustration provides an example of the automatic assignment functionality available as defined and implemented by the Protech Team in another state. For example, automatic case assignment occurs based on the system reading the case information and determining the correct location and the correct functional role for the case based on the current needs of the case (e.g., establishment, locate, enforcement, etc.). The system then determines the alpha range that the case belongs to for the office and the role identified by the system and makes the assignment accordingly.

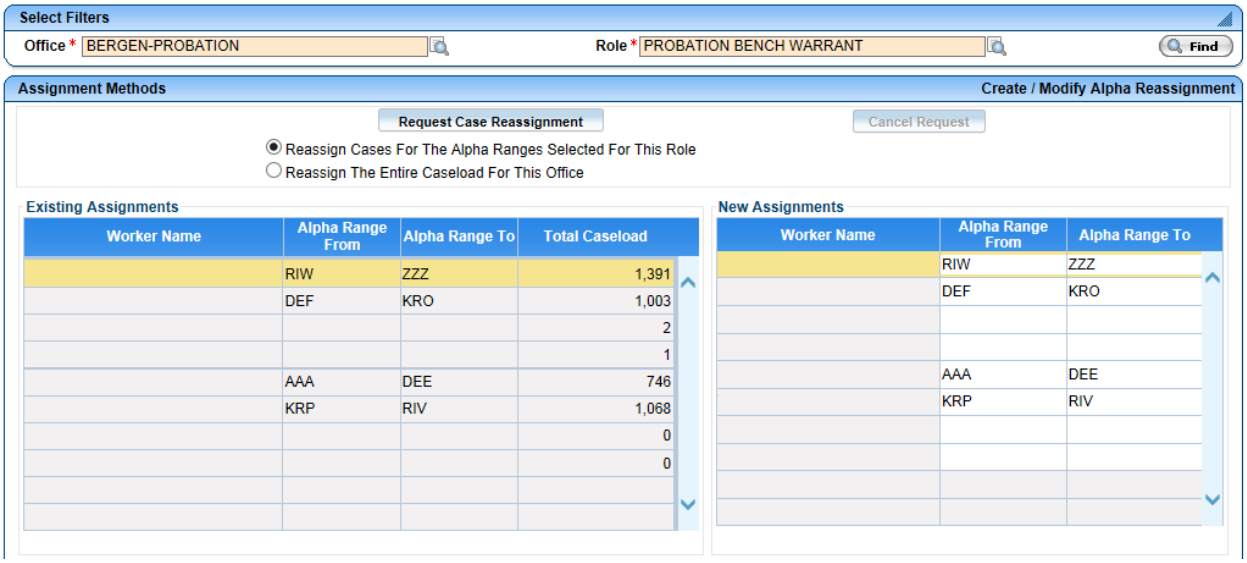

Figure 3.4 (2) - 161. Example of Assignment Methods by Alpha Split

Distribution of cases is shown across multiple workers available, for a specific role, in a specific location.

Authorized users can manually reassign cases on a variety of levels within an office. Reassignment can be manually initiated for an individual case, for a specific type of role/functional team in an office, or for a specific worker in an office. Users can also view the current load for other workers in the office when making reassignment decisions.

Our solution for Nevada will be customized to the State's specialization management and caseload assignment requirements and will include the ability to direct alerts and documents to the currently assigned staff for specific processes.

(2.9.15) Caseload Assignment

REQUIREMENT: (#776) The system must automatically assign cases to a child support specialist for overall case management.
REQUIREMENT: (#777) The assignment algorithms must be county and office specific and allow for alphabetic distribution and caseload leveling assignment options.

As noted in response to Specialization Management requirements, our solution can support case assignment based on alphabetic distribution and caseload leveling. Case workers are assigned based on the case assignment rules for the office. Cases are assigned a primary caseworker responsible for overall

case management and assign workers with specialized roles based on the current needs of the case (e.g., establishment, locate, enforcement, etc.).

REQUIREMENT: (#778) The system must support reassignment of a single case or groups of cases between or within an office upon update of the assignment algorithms or staff responsibilities.

Protech proposes the NCSEAS solution include flexibility for restructuring caseload assignments as the business need within an office arises. Based on experience, we propose the following minimum functionality. We will work with the State to fully define and develop this functionality to meet their needs.

- *Reassigning the caseload for an entire office/location*
- *Reassigning selected segments of a caseload*
- *Manually assigning a specific case(s) to a specific worker(s)*
- *Reassigning all cases for a specific worker*
- *Reassigning all cases for a specific function in an office/location*

We conduct requirements validation and design sessions to determine the level of flexibility and state's specific requirements.

REQUIREMENT: (#779) The system must also support manual case reassignment of a single case or groups of cases between or within an office.

As a representative example, the solution implemented by Protech for another state allows users to manually:

- *Reassign a single case by role within an office*
- *Transfer a single case to another office which results in auto reassignment of all pertinent roles (primary and specialized for the new case office)*
- *Reassign group of cases by role within an office*
- *Request batch reassignment of a case load by office/role combination*

REQUIREMENT: (#780) The system must include edits to prevent the assignment of a case to a worker with whom a conflict of interest exists.

Protech's solution uses a confidential case and family violence indicator to identify high profile cases and cases with participants requiring additional security measures to limit user access. Users with appropriate specialized roles, permitting handling of such cases, will be considered during auto and manual reassignment. Validations preclude manual assignment of a case with a high profile or family violence distinction to a worker without the associated role for the office location and alpha split.

Another security measure addressed within Protech's solution is case and participant specific restrictions precluding access and assignment of a specific case ID or cases associated with a specific participant id by the worker (user). An input screen allows an authorized user to identify cases and participants to which access is restricted for a user. Neither batch processes nor online updates permit assignment of the identified cases (or cases associated with the identified participant) to users where restrictions are identified.

REQUIREMENT: (#781) The system must accommodate an office maintaining ownership of a case while allowing supervisors to assign specific tasks elsewhere (e.g., special collections, modifications).

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Our role-based approach, which requires dividing application functionality into granular tasks to identify business roles, was described in response to requirements #773, #774 and #775. The assignment of the primary case worker considers the office in which the case is assigned. The assignment of workers for specialized functions (roles) may be within the same office, another office within the same county or a central office. For example, the worker responsible for the workflow in response to NCP contest of tax offset may be a central worker. Our solution supports the assignment of specific tasks or functions to a worker in an office that differs from the current office of primary case assignment.

REQUIREMENT: (#782) The system must allow a worker to take ownership of all of a participant's cases.

Details and conditions for case assignment by the participant will be discussed in JAD sessions.

REQUIREMENT: (#783) The system must allow case assignments by worker, team, unit, office, multi-office, and county.

The system will support the designation of user roles and support assignment rules for a worker, team, unit, office, multi-office, and county. We will work with the State to ensure the NCSEAS implementation adheres to Nevada's case assignment requirements.

(2.9.16) Parameter File Management

REQUIREMENT: (#784) The system must provide for and utilize system parameter tables to allow program management staff the ability to update the system parameters.
REQUIREMENT: (#785) These parameters include but are not limited to:

- Workflow processes, steps, and next actions
- Debt types, debt priority, and distribution control
- Interest rate control
- State office specialized manager assignments
- Local office specialized manager assignments
- Genetic test locations
- Conference room locations
- Hearing room locations
- Licensing authority agencies names and addresses
- FIPS code table (which includes EFT authorization data)
- Local office addresses
- Sheriff office addresses
- List of value descriptions
- Attorney names and addresses
- Insurance company names and addresses
- Town clerk addresses (or office that handles recording liens)
- Banks and other financial institutions names and addresses
- County abbreviations and other control information
- County office address and other control information
- County team identification information
- Country abbreviations and reciprocity agreement information
- Disbursement special message text
- Document inventory
- Department of Corrections addresses
- Freeze and seize limits
- Department of Labor local addresses
-

REQUIREMENT: (#786) The system must track parameter changes by person, date, and parameter changed.

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Parameters identified in #785 and others are maintained on database tables that are modifiable through online screens by user administrators and managers. The system maintains the history of such changes including date of the update and the user completing the update.

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V-3.5 Security Standards

3.5.1 State Security Standards

REQUIREMENT:

11.2.3.6/3.5 Security standards are included within the technical requirements identified in Section 4.4, Technical Requirements. In addition, the following security standards / requirements will be included:
11.2.3.6/3.5.1 System must meet State security standards for transmission of personal information as outlined in NRS 205.4742 and NRS 603A.

The security and confidentiality of personal information is a priority of the Protech Team for Nevada Child Support Enforcement Automated System (NCSEAS) implementation. NRS 603 A provides specific instructions such as:

- *"Personal information" means a person's first name or first initial and last name in combination with any one or more of the following data elements:*
  - *Social security number.*
  - *Driver's license number, driver authorization card number, or identification card number.*
  - *Account number, credit card number, or debit card number, in combination with any required security code, access code, or password that would permit access to the person's financial account.*
  - *A medical identification number or a health insurance identification number.*
  - *A user name, unique identifier, or electronic mail address in combination with a password, access code, or security question and answer that would permit access to an online account.*

Due to the sensitive nature of information associated with child support enforcement business processes, and in alignment with Nevada's security standards, we will design the system to comply with all applicable federal and state child support laws including NRS 205.4742 and NRS 603A.

We will ensure the system provides encryption as specified in NIST SP 800-53, Rev. 2. To meet the appropriate federal, IRS, NRS 205.4742 and NRS 603A requirements, the system will provide encryption capabilities that are FIPS 140-2 validated. Secure Socket Layer (SSL) will be used to encrypt data between the users' desktops and the application. Data will be encrypted between the system and external interfaces using existing transport encryption.

3.5.2 Protection of Sensitive Information

3.5.2.1 Sensitive Information in Existing Legacy Applications

3.5.2.2 Confidential Personal Data

3.5.2.3 Sensitive Data

REQUIREMENT:

11.2.3.6/3.5.2 Protection of sensitive information will include the following:
3.5.2.1 Sensitive information in existing legacy applications will encrypt data as is practical.
3.5.2.2 Confidential Personal Data will be encrypted whenever possible.
3.5.2.3 Sensitive Data will be encrypted in all newly-developed applications

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Protech's solution provides an encryption algorithm as a configuration option, providing varying levels of security and performance for different types of data transfers. Protech's solution supports the following encryption algorithms to protect the privacy of network data transmissions:

RSA Encryption

RSA is one of the first practical public-key cryptosystems and is widely used for secure data transmission. In such a cryptosystem, the encryption key is public and differs from the decryption key which is kept secret. In RSA, this asymmetry is based on the practical difficulty of factoring the product of two large prime numbers.

RSA is a relatively slow algorithm, and because of this it is less commonly used to directly encrypt user data. More often, RSA passes encrypted shared keys for symmetric key cryptography which in turn can perform bulk encryption-decryption operations at much higher speed. For the RSA algorithm, Protech provides encryption key lengths of 128-bits, 256-bits, 512-bits, 1024-bits, and 2048-bits. RSA claims that 2048-bit keys will remain sufficient until 2030. An RSA key length of 3072-bits should be used if security is required beyond 2030.

DES Encryption

Protech's solution implements the U.S. Data Encryption Standard algorithm (DES) with a standard, optimized 56-bit key encryption algorithm and also provides DES40, a 40-bit version, for backward compatibility.

Triple-DES Encryption

Our Solution also supports Triple-DES encryption (3DES), which encrypts message data with three passes of the DES algorithm. 3DES provides a high degree of message security, but with a performance penalty. The magnitude of penalty depends on the speed of the processor performing the encryption. 3DES typically takes three times as long to encrypt a data block as compared with the standard DES algorithm. 3DES is available in two-key and three-key versions, with effective key lengths of 112-bits and 168-bits, respectively. Both versions operate in outer Cipher Block Chaining (CBC) mode.

Advanced Encryption Standard

Approved by the National Institute of Standards and Technology (NIST) in Federal Information Processing Standards (FIPS) Publication 197, Advanced Encryption Standard (AES) is a cryptographic algorithm standard developed to replace DES. AES is a symmetric block cipher that can process data blocks of 128 bits, using cipher keys with lengths of 128, 192, and 256 bits, which are referred to as AES-128, AES-192, and AES-256, respectively. All three versions operate in outer-CBC mode.

We work with the State's subject matter experts during the SDLC process related to encryption and implement using Protech's security management methodology described in section 5.8 Security Management Plan.

3.5.3 Documented Security Specifications

REQUIREMENT:

11.2.3.6/3.5.3 All information technology services and systems developed or acquired by agencies shall have documented security specifications that include an analysis of security risks and recommended controls (including access control systems and contingency plans).

The Protech Team has been involved in implementing multiple child support systems across the country for many years. In all these implementations, we have used the best practices for security and complied with CSEP security standards which include documented security specifications, requirements, and controls.

We follow NIST's Risk Management Framework (RMF) to document and implement security NIST standards through security life cycle as described in the figure below.

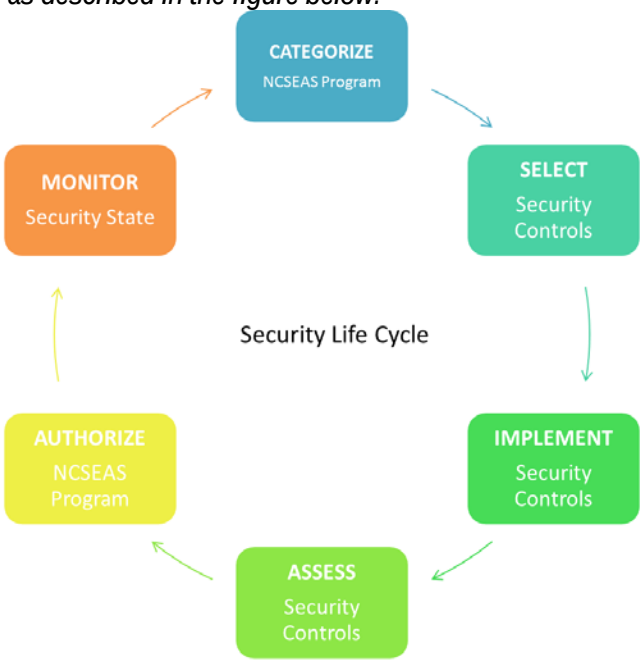

Figure 3.5-1. Implementation Process of NIST Standards

The six-step process ensures successful implementation of NIST standards through:

CATEGORIZATION: Definition of criticality/sensitivity of NCSEAS program components according to potential worst-case, adverse impact to the program.

SELECTION: Selection of baseline security controls; applying supplement controls as needed based on risk assessment.

IMPLEMENTATION: Implementation security controls within NCSEAS program architecture using systems engineering best practices; apply security configuration settings.

ASSESSMENT: Determination of security control effectiveness (i.e., controls implemented correctly, operating as intended, meeting the security requirements of NCSEAS program).

AUTHORIZATION: Determination of risk to NCSEAS program components; if acceptable, authorize access to program components.

MONITORING: Continuous tracking of changes to the NCSEAS program components that may affect security controls and reassess control effectiveness.

3.5.4 Security Requirements

REQUIREMENT:

11.2.3.6/3.5.4 Security requirements shall be developed at the same time system planners define the requirements of the system. Requirements must permit updating security requirements as new threats/vulnerabilities are identified and/or new technologies implemented.

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We follow our proven security management methodology, which is aligned with standard SDLC. Our methodology covers security management activities from requirements traceability to compliance management.

We anticipate that new security and privacy requirements will be enacted during the life of the NCSEAS program and that many of these requirements may overlap or strengthen existing mandates. We use the security Requirements Traceability Matrix (RTM) to track state and federal security and privacy requirements for the proposed NCSEAS solution. Our process enables us to incorporate new and update existing security requirements as needed.

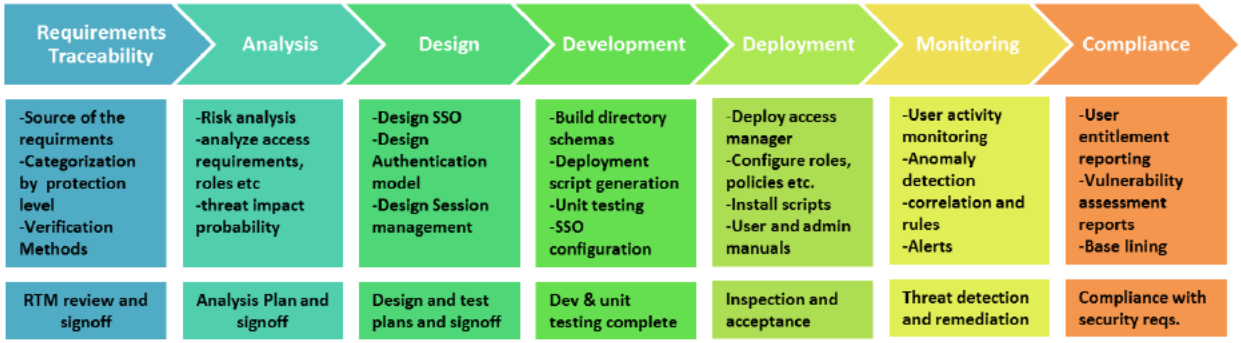

Figure 3.5-2. Protech's Security Management Methodology

Security Activities in Analysis, Design, Development, and Deployment Phases	
Phase	**Activities**
ANALYSIS	• Understand existing application architecture • Analysis of attribute access requirements • Analysis of existing role definitions and access policies • Analysis of authentication requirements for internal and external users • Analysis of authorization and fine-grained access control requirements • Analyze session management requirements • Analyze password policies and user naming convention requirements • Analyze SSO requirements • Analyze auditing and reporting requirements • Analyze the message level security requirements • Analyze portal/web services/applications for integration with Security Layer • Analyze data migration and user identity consolidation requirements • Analyze the directory server schema and DIT structure • Analyze data privacy and encryption requirements • Analyze the cross domain SSO requirements • User acceptance test case generation • Requirement and UAT document review and signoff • Analyze availability and performance needs

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Security Activities in Analysis, Design, Development, and Deployment Phases	
Phase	**Activities**
DESIGN	• Design authentication model (User ID/password based) • Design authorization and fine-grained access control mechanism • Design single sign on model • Design application integration methodology for each application with security layer • Design administration GUI wireframes • Design of self-registration, self-service, change password and reset password GUI • Design definition of logging and reporting policies • Deployment design of the Web/application server agents or plug-ins • High level design for multi-factor authentication and reports generation • User migration high-level design and migration methodology • Design of provisioning components • Design of Novell's e-directory server (LDAP v3.0) component • Design access control and authentication component • Design of self-registration, self-service, change password and reset password GUI auditing log retention and archival policies • Low-level design of reports • Low-level design for application integration with security layer • Roles and access policy definition • SSL configuration and encryption design • Graphical user interface Design (GUI, Wireframes, mockups, etc.) • Design web services security • User migration low-level design • Documentation • Build unit/integration/regression/system test plan • Unit test case generation
DEVELOPMENT	• Create repository • Directory server schema build • Configuration of LDAP-based Novell's e-directory servers (must support LDAP v3.0) as identity repository • Implementation of provisioning and de-provisioning capabilities • Implementation of delegation administration and maintenance of password system • Implementation of multi factor authentication • Administration GUI customization and forms customization • Generation of reports • SSO configuration for web/application servers agents or plug-ins • Implementation of message-level security such as WS-Security, XML encryption, XML Signature, WS-Trust, WS-Secure Conversation and WS-Security Policy, and SAML • User migration utility and process definition • Implementation of self-registration and self-service password reset activities • Role and policy creation script/document

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Security Activities in Analysis, Design, Development, and Deployment Phases	
Phase	**Activities**
DEPLOY	• Verification of prerequisite software and hardware • Deployment of directory server schema and DIT • Deployment of Web or application server agents or plug-ins in all environments • Deployment of custom components • Configuration of custom roles, security policies, session parameters, etc. • Scripts for rollout and QA rollout • Install script, installation guide • User manual, administration manual • Troubleshooting guide • System/functional testing • Regression testing • Integration testing • UAT preparation • UAT testing

3.5.5 Security Requirements

REQUIREMENT:

11.2.3.6/3.5.5 Security requirements and Evaluation/Test Procedures

Figure 3.5-3. Protech's Security Management Methodology

As outlined in 3.5.4, our security management methodology, we identify and validate information security requirements during the requirements traceability phase. We then:

- ***Use approved requirements traceability matrix (RTM) as the basis***
- ***Develop specifications that include information security requirements from RTM that address technical, administrative, physical and personnel security requirements***
- ***Develop evaluation and test procedures for use in the selection***
- ***Participate in evaluation of the proposals received and document to ensure that they address and meet the minimum information security requirements***
- ***Recommend acquisition based on evaluation results***

3.5.6 Unauthorized Access

REQUIREMENT:

11.2.3.6/3.5.6 Systems developed by either internal State or contracted system developers shall not include back doors, or other code that would cause or allow unauthorized access or manipulation of code or data.

During testing phase, Protech will participate in vulnerability testing with the State team.

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Protech recommends security scanning tools for dynamic, static application security testing, glass-box testing and runtime analysis. The following techniques will be utilized:

Static Analysis: ***Examines source code for potential vulnerabilities, facilitating detection of vulnerabilities earlier in the development cycle.***

Dynamic Analysis: ***Tests running applications at later stages in the development cycle by probing them in a similar fashion as potential hackers might. This makes it easier for organizations to connect vulnerabilities with potential exploits.***

Hybrid Analysis: ***Brings dynamic and static analysis together to correlate and verify results. It traces issues identified through dynamic analysis to the offending line of code and validates issues identified in static analysis with external testing.***

JavaScript Client-side Analysis: ***Analyzes code downloaded to the client. The more functionality the organization performs client-side, the greater the potential for client-side vulnerabilities and exploits.***

Interactive Analysis: ***Places runtime agents on the application machine and analyzes applications as they are tested. By combining aspects of dynamic and static analysis at run time, organizations can detect more vulnerability with higher accuracy.***

Quarterly Scans: ***Quarterly scans of externally accessible web services are a good feature of pre-emptive vulnerability management. Protech will conduct these scans randomly on selected samples and perform remediation measures based on the results of the scans. Protech will discuss with the State the use of tools like IBM Appscan to perform these scans and generate reports. Protech will also advice the State on the severity and corrective action required for vulnerabilities noted.***

3.5.7 Security Specifications

REQUIREMENT:

11.2.3.6/3.5.7 Security specifications shall be developed by the system developer for approval by the agency owning the system at appropriate points of the system development or acquisition cycle.

Our security management methodology includes development of security specification documents for agency review and approval. Each security specification document will be reviewed with the agency's security team and obtain their approval. Please refer to the table below for security specification documents developed in each phase.

Security Requirements Management in the Acquisition Process	
Phase	**Security Specification Document(s)**
Requirements Traceability	Requirements Traceability Matrix (RTM)
Analysis	Security Analysis Document
Design	Security Design Document Security Test Plan Document
Development	Security Unit Testing Results Document
Deployment	Security Acceptance Results Document

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3.5.8 Change Control and Approval Process

REQUIREMENT:

11.2.3.6/3.5.8 All system development projects must include a documented change control and approval process and must address the security implications of all changes recommended and approved to a particular service or system. The responsible agency must authorize all changes.

The change management plan, delivered as a component to the project management plan, provides a formal change control process which includes addressing security implications related to the change. The figure below shows the change control process which includes submission of a "statement of impact". This statement of impact will be reviewed by the system development manager and then by the change control board.

Statement of impact identifies:

- *Potential security risk areas (real and possible) of a proposed change*
- *Safeguards (design requirements) to address potential risks*
- *Security testing plan*

Figure 3.5-4. Protech's Security Management Methodology

We recommend the use of the SharePoint project management website to maintain a change request log, wherein all requests are tracked from initial receipt through final disposition, but are open to any other tool recommended by the State.

3.5.9 Disposing of Obsolete Information

REQUIREMENT:

11.2.3.6/3.5.9 Application systems and information that become obsolete and no longer used must be disposed of by appropriate procedures. The application and associated information must be preserved, discarded, or destroyed in accordance with Electronic Record and Record Management requirements defined in NRS 239 and NAC 239, Records Management.

Protech's disposal activities ensure the orderly termination of obsolete systems and preserve the vital information about the system so that some or all of the information may be reactivated in the future, if necessary. Particular emphasis is given to proper preservation of the data processed by the system so that the data is effectively migrated to another system or archived in accordance with applicable records management regulations and policies including NRS 239 and NAC 239.

In this phase, we develop disposal plans for discarding system information, hardware, and software, and making the transition to a new system. The information, hardware, and software may be moved to another system, archived, discarded, or destroyed.

Key security activities for this disposal phase include:

- *Building and executing a disposal/transition plan;*
- *Archiving of critical information as per federal, state and DWSS security requirements, policies, and procedures;*
- *Sanitization of media; and*
- *Disposal of hardware and software*

The disposal activities will be controlled through the change control process described in 3.5.8 to ensure security impact including compliance with records management requirements.

3.5.10 Compliance with State Information Security Policy

3.5.10.1 Separate Development, Test, Pre-production, and Production Environments

3.5.10.2 Transfer from a Development to a Production Environment

REQUIREMENT:

11.2.3.6/3.5.10 Software development projects must comply with State Information Security Consolidated Policy 100, Section 3.6, Software Development and Maintenance and State Standard 131, "Security for System Development."
3.5.10.1 Separate development, test, pre-production, and production environments must be established on State systems.
3.5.10.2 Processes must be documented and implemented to control the transfer of software from a development environment to a production environment.

Protech's solution proposes the following logical environments within each physical environment for the proposed NCSEAS system:

- *Development*
  - *Development (integrated) (batch and online)*
  - *Conversion development*
  - *Integration and system testing*
- *Testing*
  - *User acceptance*
  - *Federal certification*
  - *Performance testing*
- *Training*
  - *Training*
  - *Sandbox*
  - *Staging*
- *Production*

Additional details about the management of proposed environments can be found in the technical approach plan. All changes from development to a production environment follow a systematic change control process.

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3.5.10.3 Development of Software and Tools

REQUIREMENT:

11.2.3.6/3.5.10.3 Development of software and tools must be maintained on computer systems isolated from a production environment.

As outlined in 3.5.10, Protech proposes separate environments for development and production with the production environment completely isolated from the development environment. Developers only update the corresponding changes to a private workspace of the developer allotted within the development environment. The developers check-in the code to the development stream. The developer will initially unit test the code in the private schema.

In addition, Protech follows the change control process to promote changes from the development environment to the system integration testing environment.

3.5.10.4 Access to Compilers, Editors, and Other System Utilities

REQUIREMENT:

11.2.3.6/3.5.10.4 Access to compilers, editors, and other system utilities must be removed from production systems.

Installation of any utility or software objects must go through the configuration management process for the project. Configuration Control (CC) is the systematic proposal, justification, evaluation, coordination, and approval or disapproval of proposed changes. This systematic process ensures that compilers, editor and other system utilities are not installed in production environment.

In addition, Protech recommends periodic internal and external configuration audits to validate the completeness of the configuration items and the removal of compilers and other system utilities.

To prevent users from accessing the production database via tools, firewall rules will be implemented to block access to the applicable port on the production database server. The servers that should be allowed to access the database via this port are the application servers, batch-scheduling servers, and the reporting servers.

3.5.10.5 Establishment of Controls

REQUIREMENT:

11.2.3.6/3.5.10.5 Controls must be established to issue short-term access to development staff to correct problems with production systems, allowing only necessary access

Development staff normally has access to only the development and test environments, but not production. Development staff will occasionally need short-term access when production systems have problems and require troubleshooting.

Protech recommends Novell's Privileged Account Manager tool to:

- *Grant only the privileges developers need for the short-term*
- *Control, track and audit on all credential-based systems, including:*
    - *Applications (e.g. SAP System)*
    - *Databases DB2*
    - *Cloud services (e.g. Salesforce.com)*
    - *Secure Keys (e.g. Office license keys)*
    - *UNIX, Linux and Windows platforms*

- *Virtual servers (e.g. VMWare ESXi)*

The Privileged Account Manager extends risk-based activity control to deliver automated policy enforcement during privileged user sessions. If a user performs a risky activity, such as accessing restricted data or stopping a service, an administrator can configure Privileged Account Manager to disconnect a session automatically and revoke a user from accessing any privileged accounts.

The unique risk-based profiling and session control capabilities of Privileged Account Manager enable fast and easy identification and disruption of risky user activity.

3.5.10.6 Security Requirements and Controls

REQUIREMENT:

11.2.3.6/3.5.10.6 Security requirements and controls must be identified, incorporated into, and verified throughout the planning, development, and testing phases of all software development projects. Security staff must be included in all phases of the System Development Lifecycle (SDLC) from the requirement definitions phase through implementation phase.

We follow our proven security management methodology, which is aligned with standard SDLC. Our methodology includes security staff in each phase of SDLC to define, design, implement, and verify security requirements. Please refer to figure 3.5-2 for a detailed list of activities performed in each phase.

3.5.11 Network Access Control Solution

REQUIREMENT:

11.2.3.6/3.5.11 All connections to the DWSS CSE system shall be through a Network Access Control solution, and all data in transit between remote location and the DWSS CS system shall be encrypted using Federal Information Processing standards (FIPS) 140-2 encryption standards.

To meet the appropriate federal and IRS requirements, the Protech Team will ensure the system provides encryption as specified in FIPS 140-2 encryption standards. On the desktop systems, Protech recommends using PGP Desktop to provide FIPS-validated encryptions. Barracuda IDS/IPS appliances utilize FIPS validated encryption. The RedHat Enterprise Linux has an available FIPS 140-2 crypto module. In addition, because the external interfaces with other systems are already in-place, Protech assumes that, to minimize the impact on current operations, the existing encryption for these interfaces can be used.

3.5.12 Restriction of Access

REQUIREMENT:

11.2.3.6/3.5.12 The DWSS CSE system shall support restriction of access to, and disclosure of, the FPLS information to authorized personnel who need to access FPLS information to perform their official duties in connection with the authorized purposes specified in the security agreement.

Federal program regulations define timeframes for the completion of locate activities. Specifically, the regulations state that, "within 75 calendar days of determining that location is necessary, [the State must] access all appropriate location sources including transmitting appropriate cases to the Federal PLS". An exception is that the responding state for an interstate case is not required to access the FPLS for cases requiring location activities.

FPLS regulations also permit the use of the FPLS by attorneys and courts in matters involving child custody and visitation. The intent of this provision is directed at instances of parental kidnapping across jurisdictions. The procedures and mechanism for providing this access is typically controlled manually, by Central Office personnel. Requests for use of the FPLS sources are normally infrequent.

State IV-D agencies are required to submit annually, a certification of compliance with safeguard and security requirements relating to locate information received from the FPLS. Data received from the FPLS/FCR must be safeguarded in local offices as well as in the data system.

State Parent Locator Unit (SPLU)

Each state IV-D agency is required to establish a state parent locator service (reference 45 CFR Part 302.38). In the early years of the Title IV-D program, the SPLS was typically a manual process with minimal automation. With technology's progression, the SPLS is primarily represented by the Locate subsystem of certified child support systems. The locate portal illustrates the level of technology and design that is available to support the locate function.

The state parent location unit has access to the same locate resources as all automated or manual users of the system. Any SPLS locate action taken in the system is recorded in the case's diary; alerts are generated to the assigned locate resource when additional action or review is required.

The Protech Team commits to a system design for the NCSEAS child support system that is compliant with federal program and certification guidelines. Our team, exceptionally knowledgeable of the federal requirements, provides this functionality to support the data exchange with the OCSE in multiple states.

As outlined in response to requirement 41 of 3.09 Security Requirements section, Protech uses a combination of attribute based access control (ABAC) along with RBAC mechanism in the security layer which ensures authentication and authorization of FPLS information to authorized security personnel only. Please refer to response 41 in 3.09 security requirements section for additional details.

3.5.13 Utilize and Maintain Technological (Logical) Access Controls

REQUIREMENT:

11.2.3.6/3.5.13 The DWSS CSE system shall utilize and maintain technological (logical) access controls that limit access to FPLS information and CS program information to only those personnel who are authorized for such access based on their official duties and identified in the records maintained by DWSS.

Access will be controlled in accordance with the security architecture established for NCSEAS as illustrated in the security architecture section of 3.09 security requirements. The security architecture will determine the access level to authenticated users and services. Our solution uses Novell's Access Manager and Identity Manager along with the application's RBAC/ABAC modules for authentication and authorization. Please refer to response 41 in 3.09 security requirements section for additional details.

3.5.14 Prevention of Browsing with Technical Controls

REQUIREMENT:

11.2.3.6/3.5.14 The DWSS CSE system shall prevent browsing with technical controls that limit access to FPLS information and CSE program information to assigned cases and areas of responsibility.

Our security infrastructure provides for a flexible security implementation by employing multiple levels of abstraction for defining and managing the security information using a role-based and attribute bases security access control mechanism. The policies can use any type of attributes (case attributes, user attributes, resource attributes, object, environment attributes etc.). For example: IF the requestor is a supervisor, THEN allow read/write access to FPLS information. This model proves very flexible for supporting the definition of roles and responsibilities (parameter driven) for various business and technical transaction types (e.g., account adjustment, case closure, table maintenance) and for groups and levels of users such as office location, business application and sub-applications, and actions.

The security mechanisms described above for the online system are also used for batch processing, reporting, and ad hoc querying capabilities. Batch users are defined in a security group for batch; the batch user(s) have the appropriate rights to execute the batch programs in parallel. Please refer to response 41 in 3.09 security requirements section for additional details.

3.5.15 Transmit and Store all FPLS Information

REQUIREMENT:

11.2.3.6/3.5.15 The DWSS CSE system shall transmit and store all FPLS information in a manner that safeguards the information and prohibits unauthorized access. DWSS and OCSE shall exchange CSE program information via a mutually approved and secure data transfer method which utilizes FIPS 140-2 encryption standards.

FPLS information operated by OCSE provided specific guidance on interface requirements including the file format, record layout and mode of data transfer. Data transmission is performed using the CONNECT: Direct protocol

CONNECT: Direct is a data transfer software product which allows data centers within and across networks to send and receive large amounts of data. The person, case and locate records are transmitted to the FCR via CONNECT: Direct in the FCR input transaction record format. The CONNECT: Direct software connects each State to SSA's National Computer Center (NCC), which houses the FCR. Each State has a copy of the CONNECT: Direct product to submit data using the SSA network.

To initiate the transfer of data via CONNECT:Direct, a state must initiate predefined processes that consist of single 'COPY' statements or combinations of multiple statements separated by conditional logic. Processes can trigger transfers at a requested time under predetermined criteria. Six different activities may be specified in a process:

1. *Move files among systems,*
2. *Submit jobs,*
3. *Execute programs,*
4. *Submit other processes,*
5. *Build and resolve symbolic values, and*
6. *Alter the sequence of process execution through conditional logic.*

CONNECT: Direct has a checkpoint/restart feature. It eliminates the need to retransmit an entire file in the event of a transmission failure. If a transfer error occurs, the CONNECT:Direct software automatically restarts transmission at the most recent checkpoint. CONNECT:Direct also automatically generates online statistics for security, auditing and accounting purposes. This allows states to determine the usage of network resources and to determine how to improve network efficiency.

Technical participants of the State and the Protech Team define the detailed design of this interface with participation from DWSS and OCSE.

3.5.16 Information Safeguards

REQUIREMENT:

11.2.3.6/3.5.16 The DWSS CSE system shall transmit and store all CSE program information in a manner that safeguards the information and prohibits unauthorized access. DWSS shall use appropriate measures when exchanging CS program information among other state CSE agencies.

Protech's Solution provides encryption algorithms as a configuration option, providing varying levels of security and performance for different types of data transmittals and storage of CSE program information. Please refer to the supported encryption methods described in detail in section 3.5.2.

Our solution uses Novell's Access Manager and Identity Manager along with the application's RBAC/ABAC modules for authentication and authorization. Please refer to response 41 in 3.09 security requirements section for additional details on access control and authorization management.

3.5.17 Remote Access to FPLS Information

REQUIREMENT:

11.2.3.6/3.5.17 DWSS shall prohibit remote access to FPLS information, except through the use of a secure and encrypted (FIPS 140-2 compliant) transmission link and using minimum two-factor authentication, as required by the federal Office of Management and Budget Memorandum 06-16 (OMB M-06-16). DWSS shall control remote access through a limited number of managed access control points. If DWSS cannot provide two-factor authentication, DWSS shall submit to OCSE a written description of compensating controls, subject to written approval by OCSE prior to allowing remote access.

Remote access to FPLS information will be provided in compliance with internal security policies and state/federal guidelines. While providing remote access, compliance with the following will be addressed:

- *NIST Publication 800-46 Revision 1, Guide to Enterprise Telework and Remote Access Security*
- *Access in line with Data and System Security Classifications*
- *Use of FIPS 140-2 encryption*
- *Spyware scanning*
- *Virus scanning*
- *Physical and logical security*
- *Two-factor authentication*

Two-Factor Authentication (2FA) (also known as 2-Step Verification) is a system that employs two methods to identify an individual. More secure than reusable passwords, when a token's random number is combined with a secret PIN, the resulting passcode provides positive identification, and more reliable user authentication.

Protech assumes that remote system access will rely on existing VPN solutions that are already deployed and in use by the State of Nevada. If existing Nevada remote access capabilities cannot be leveraged, we will work with DWSS to incorporate remote access authentication into the Novell's SSL VPN module solution.

3.5.18 Time-out Functions

REQUIREMENT:

11.2.3.6/3.5.18 The DWSS CSE system shall utilize a time-out function for remote access and mobile devices that requires a user to re-authenticate after no more than thirty (30) minutes of inactivity.

Once the user has remotely logged into the application, he/she can navigate between the screens and access data. The system keeps track of the amount of idle time between navigations and times-out the application if the user is not active for a predetermined period of time. Subsequently, the system redirects the user to a login screen when accessed. This ensures no one can access the idle system and unauthenticated data access is avoided.

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The logged-in user status is stored in the application session immediately after successful login. A session timeout parameter is set in the application server. If the system is idle for 30 minutes, the application server destroys the session and the logged-in user status is removed from the session.

Every request is checked for the user status in the HTTP Handler before processing the request. Once the application server destroys the session the request will be rejected by the HTTP Handler and redirected to login page. The user must re-login to proceed further.

3.5.19 Generation of Audit Records for FPLS Information

REQUIREMENT:

11.2.3.6/3.5.19 The DWSS CSE system shall generate audit records for FPLS information that, as a minimum, collect data associated with each query transaction to its initiator, capture date and time of system events and types of events. This functionality should be designed to interface with the current DWSS Splunk implementation.

The proposed Protech solution captures sufficient information in audit records to establish what events occurred, the sources of the events, and the outcomes of the events. This includes, at a minimum:

- *Date and time of the event*
- *Component of the information system (e.g., software component, file, hardware component) where the event (i.e., accessed, modified, or deleted) occurred*
- *Type of event*
- *User identity*
- *Outcome (success or failure) of the event*
- *Additional audit information*

Our solution integrates audit information from FPLS events and other CSE program related events to Novell's SIEM solution as well as Splunk. Our architecture is flexible to ingest audit events directly from the CSE system into Splunk or normalized data from SIEM to Splunk.

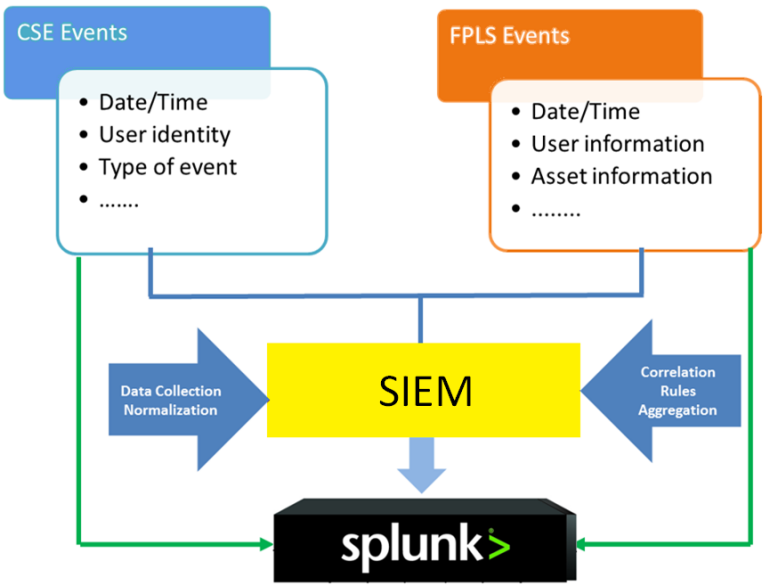

Figure 3.5-5. Audit Data Integration with Splunk

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3.5.20 Log Data Extracts for FPLS Information

REQUIREMENT:

11.2.3.6/3.5.20 The DWSS CSE system shall log each computer readable data extract (secondary store or file with duplicate CSE program information) from any databases holding FPLS information. This functionality should be designed to interface with the current DWSS Splunk implementation.

As outlined in 3.5.19, every event associated with FPLS information will be logged including each computer readable data extract. Protech will work with DWSS to design and implement additional audit information to ensure the system generates audit records containing DWSS defined additional information. In addition, we will work with DWSS to format the log file to interface with DWSS's Splunk implementation.

3.5.21 Log Data Extracts for CSE Program Information

REQUIREMENT:

11.2.3.6/3.5.21 The DWSS CSE system shall log each computer readable data extract (secondary store or file with duplicate CSE program information) from any databases holding CSE program information. This functionality should be designed to interface with the current DWSS Splunk implementation.

As outlined in 3.5.19, every event associated with CSE program information will be logged, including each computer readable data extract. This information will be integrated with Splunk as illustrated in Figure 3.5-5.

3.5.22 Erasure of Electronic Records Containing FPLS and CSE Program Information

REQUIREMENT:

11.2.3.6/3.5.22 The DWSS CSE system shall support erasure of electronic records containing FPLS information and CSE program information when data is no longer required for authorized purposes. FPLS information and CSE program information in an individual's case file should be safeguarded per the security requirements in this document. FPLS information and CS program information that is made part of an individual's case file may be retained in the individual's case file based on DWSS' rules and procedures for case file retention.

The erasure of FPLS and CSE program information will follow the systematic disposal process described in 3.5.9.

3.5.23 Utilization of Network Access Control (NAC)

REQUIREMENT:

11.2.3.6/3.5.23 The DWSS CSE system shall utilize the existing Network Access Control (NAC) (also known as Network Admission Control) solution in conjunction with a virtual private network (VPN) option to enforce security policy compliance on all state and non-state devices that attempt to gain access to, or use, FPLS information.

Protech's solution utilizes the existing NAC solution along with VPN to enforce security policies on all state and non-state devices to access or use FPLS information.

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V-3.6 Requirements Matrix

3.6.1 Platform Requirements

3.6.2 Meeting Requirements with the Proposed System Design

3.6.3 Data Element/Function Cross-referenced to Project Plan Task Number

3.6.4 How Each Requirement is Satisfied

3.6.5 Condition Description of Each Requirement

3.6.6 Firm Fixed Price Requirements

3.6.7 How the Proposed System Meets Requirements

REQUIREMENT:

12.2.3.6/3.6 Refer to Attachment N (Requirements Matrix) and Attachment O (Implementation Vendor Requirements).
3.6.1 Present the platform requirements for efficient operation of the system.
3.6.2 Review the requirements matrix carefully to insure that the proposed system design addresses all of the requirements.
3.6.3 Tie each data element/function to the vendor's project plan by task number.
3.6.4 Respond to all of the requirements by properly coding and indicating how the requirement is satisfied. The proposed costs and project plan must reflect the effort needed to satisfy the requirements.
3.6.5 Identify, for each of the system requirements identified in the requirements matrix, whether it is:
3.6.6 Identify whether each requirement is in the firm fixed price included within the cost proposal.
3.6.7 Describe how the proposed system meets the requirements specified within this RFP.

All Attachment M – Implementation Vendor Requirements have been addressed and are presented in SECTION X using the Requirements Matrix provided in Attachment L including a description of how the vendor/proposed solution will meet each requirement.

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Section VI

Scope of Work

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SECTION VI

VI-4.0 Scope of Work

REQUIREMENT:

11.2.2.6/4. Vendors must place their written response(s) in bold/italics immediately following the applicable RFP question, statement, and/or section.

The scope of work is broken down into tasks, activities, and deliverables. The tasks and activities within this section are not necessarily listed in the order that they should be completed. Vendors must reflect within their proposal, and preliminary project plan their recommended approach to scheduling and accomplishing all tasks and activities identified within this RFP.

Protech will manage and coordinate all NCSEAS project phases from the inception to the closure of the contract. Protech's project management methodology, known as Protech-PM uses specific standards defined by the Project management Institute (PMI) included in the PMBOK® Fifth Edition as the cornerstone of our project management practice. Protech-PM provides the processes, tools, and templates for the management of NCSEAS from project initiation through system implementation to end-users. Protech-PM will provide ongoing management throughout the project lifecycle's five distinct phases - project initiation, planning, execution, controlling, and closing.

Furthermore, Protech's augmented waterfall approach will also ensure ongoing management throughout the following NCSEAS system development phases:

- *Requirements Definition*
- *Design*
- *Code Development*
- *Test*
- *Train*
- *Implementation*
- *Certify*
- *Post Implementation support (Warranty)*

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VI-4.1 Vendor Response to Scope of Work

4.1.1 Meeting the Requirements Described in Sections 4.4 through 4.39

REQUIREMENT:

11.2.2.6/4.1.1 Within the proposal, vendors must provide information regarding their approach to meeting the requirements described within Sections 4.4 through 4.39.

Protech has provided our approach to meeting all scope of work requirements in Sections 4.4 – 4.39.

4.1.2 Subcontractor(s)

REQUIREMENT:

11.2.2.6/4.1.2 If subcontractors will be used for any of the tasks, vendors must indicate what tasks and the percentage of time subcontractor(s) will spend on those tasks.

Scope of Work Subcontractor Tasks		
Deliverable Tasks	Vendor/Subcontractor	Percentage of Time
4.3.3.1 Project Initiation and Management	Protech	4
4.4.3.1 Project Site Establishment, Maintenance and Management	Protech	2
4.5.3.1 Project Schedule	Protech	1
4.6.3.1 Weekly Meetings and Minutes 4.6.3.2 Weekly Reports 4.6.3.3 Monthly Reports	Protech	1
4.7.3.1 Technical Approach Plan 4.7.3.2 Successful Execution of the Technical Approach Plan	Tech Mahindra	1
4.8.3.1 Business Continuity and Disaster Recovery Plan.	Tech Mahindra	1
4.9.3.1 System Capacity Plan 4.9.3.2 Successful Execution of the System Capacity Plan	Tech Mahindra	1
4.10.3.1 Development Hardware and Software Purchase Plan 4.10.3.2 Successful Execution of the Development Hardware and Software Purchase Plan	Tech Mahindra	1
4.11.3.1 Production Hardware and Software Configuration Plan 4.11.3.2 Successful Execution of the Production Hardware and Software Configuration Plan	Tech Mahindra	1
4.12.3.1 Database Development Plan 4.12.3.2 Successful Execution of the Database Development Plan	Protech	1
4.13.3.1 Application Development Plan 4.13.3.2 Successful execution of the Application Development Plan	Protech	1
4.14.3.1 Ease of Use Management Plan 4.14.3.2 Successful Execution of the Ease of Use Plan	Protech	1
4.15.3.1 Database Configuration Management Plan 4.15.3.2 Successful Execution of the Database Configuration Management Plan	Tech Mahindra	1
4.16.3.1 Data Governance Plan 4.16.3.2 Successful Execution of the Data Governance Plan	Tech Mahindra	1
4.17.3.1 Release Management Plan 4.17.3.2 Successful Execution of the Release Management Plan	Protech	1

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Scope of Work Subcontractor Tasks		
Deliverable Tasks	Vendor/Subcontractor	Percentage of Time
4.18.3.1 Data Conversion Management Plan 4.18.3.2 Successful Execution of the Data Conversion Management Plan	Protech	1
4.19.3.1 Test Management Plan 4.19.3.2 Successful Execution of the Test Management Plan	Protech	1
4.20.3.1 Training Management Plan 4.20.3.2 Successful Execution of the Training Management Plan	Courtland Consulting	1
4.21.3.1 Web-Based Training Development Plan 4.21.3.2 Successful Execution of the Web-Based Training Management Plan	Courtland Consulting	1
4.22.3.1 Security Management Plan 4.22.3.2 Successful Execution of the Security Management Plan	Tech Mahindra	2
4.23.3.1 Operations Support Plan 4.23.3.2 Successful Execution of the Operations Support Plan	Protech	1
4.24.3.1 Maintenance Transition Plan 4.24.3.2 Successful Execution of the Maintenance Transition Plan	Protech	1
4.25.3.1 Warranty Support Plan 4.25.3.2 Successful Execution of the Warranty Support Plan	Protech	1
4.26.3.1 Purchased and Installed Development Hardware and Software; Purchased Operations Hardware and Software	Protech	1
4.27.3.1 Functional and Technical Requirements 4.27.3.2 Conduct JAD Sessions 4.27.3.3 Requirements Traceability Matrix 4.27.3.4 Functional Design 4.27.3.6 Detailed Requirements	Protech	7
4.27.3.5 Technical Design	Tech Mahindra	3
4.28.3.1 Development, Modification and Conversion of System Software 4.28.3.4 Unit Test Results.	Protech	7
4.28.3.2 Module Inventory 4.28.3.3 Environments	Tech Mahindra	3
4.29.3.1 Data Conversion 4.29.3.2 Conversion and Testing Plan 4.29.3.3 Conversion and Testing Report	Protech	8
4.30.3.1 Integration, System, and Performance Testing 4.30.3.2 Acceptance Testing 4.30.3.3 Test Plans 4.30.3.4 Acceptance Test Reports 4.30.3.5 User Acceptance Test Training Materials 4.30.3.6 User Acceptance Test Plan Template	Protech	8

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Scope of Work Subcontractor Tasks		
Deliverable Tasks	Vendor/Subcontractor	Percentage of Time
4.31.3.1 Training Management and Development 4.31.3.2 Training Materials 4.31.3.3 Training Manual 4.31.3.4 Conduct Training 4.31.3.4 Web-Based Training Center 4.31.3.5 System Training Reports	Courtland Consulting	5
4.32.3.1 System Implementation and Support 4.32.3.4 Fully Implemented, Functional and Operational Statewide System	Protech	5
4.32.3.2 Implementation and Initialization Plan and Report 4.32.3.3 Implementation Rollout Reports	Courtland Consulting	5
4.33.3.1 Initial Maintenance and System Operation 4.33.3.2 Periodic Help Desk Reports 4.33.3.3 Periodic Warranty Support Reports 4.33.3.4 Periodic Operations Reports 4.33.3.5 Maintenance Transition Report 4.33.3.6 Warranty Completion Report	Protech	6
4.34.3.1 Federal Certification Support 4.34.3.2 Federal Certification Compliance Narrative 4.34.3.3 PRWORA Test Documentation 4.34.3.4 Federal Certification Compliance Demonstration 4.34.3.5 Federal Certification Compliance	Protech	5
4.35.3.1 Knowledge Transfer Plan and Procedures 4.35.3.2 Successful Execution of the Knowledge Transfer Plan and Procedures 4.35.3.5 Operations Plan 4.35.3.6 Successful Execution of the Operations Plan 4.35.3.7 Operations Transition Plan 4.35.3.8 Successful Execution of the Operations Transition Plan	Protech	5
4.35.3.3 Maintenance Training Plan 4.35.3.4 Successful Execution of the Maintenance Training Plan 4.35.3.10 Customer Support Procedures 4.35.3.11 Help Desk Management Plan 4.35.3.12 Successful Execution of the Helpdesk Management Plan	Courtland Consulting	2
4.35.3.9 Technical Support Procedures	Tech Mahindra	1
4.36.3.1 Project Completion Report	Protech	1

4.1.3 Response Limited to Five (5) Pages per Task

REQUIREMENT:

11.2.2.6/4.1.3 Vendor's response must be limited to no more than five (5) pages per task not including appendices, samples, and/or exhibits.

Appendix A contains additional details from Section 5.18 of our response.

VI-4.2 Overview of Implementation Contractor's Services

4.2.1 Services Provided by the Implementation Contractor

4.2.1.1 Joint Application Design (JAD) Sessions
4.2.1.2 Detailed Functional and Technical Design Documents
4.2.1.3 Recommend Hardware and Software Components
4.2.1.4 Acquire, Install, and Configure the Hardware and Software
4.2.1.5 Support Installation and Configuration of Hardware and Software
4.2.1.6 Develop the NCSEAS application Software as Designed
4.2.1.7 Testing and Support
4.2.1.8 Develop Required Interfaces
4.2.1.9 Convert Applicable Data
4.2.1.10 Functional and Technical System Documentation
4.2.1.11 Functional and Technical Training
4.2.1.12 Pilot and Phased Implementation
4.2.1.13 Support Initial System Operations
4.2.1.14 On-site support of User Staff
4.2.1.15 Post-implementation Support and Warranty
4.2.1.16 Support System Certification
4.2.1.17 Transition of Responsibility
4.2.1.18 Project Management, Reporting, and Communication

REQUIREMENT:

11.2.2.6/4.2 The following section defines the Implementation Contractor's specific scope of responsibility and work within each of the identified project activities.
11.2.2.6/4.2.1 The Implementation Contractor will provide the following services in support of the NCSEAS project:
11.2.2.6/4.2.1.1 Conduct Joint Application Design (JAD) sessions to document and elaborate all functional and technical requirements. JAD sessions will be held in Carson City and attended by all stakeholders including State and County Program staff in person or via teleconference.
11.2.2.6/4.2.1.2 Develop detailed functional and technical design documents.
11.2.2.6/4.2.1.3 Recommend hardware and software components necessary to support the system's architecture, including environments necessary for development, testing, training, production, and disaster recovery.
11.2.2.6/4.2.1.4 Acquire, install, and configure the hardware and software needed for the development of the NCSEAS.
11.2.2.6/4.2.1.5 Support the installation and configuration of hardware and software necessary to run the NCSEAS application in each of the required environments.
11.2.2.6/4.2.1.6 Develop the NCSEAS application software as designed.
11.2.2.6/4.2.1.7 Test and support the testing of all aspects of the system.
11.2.2.6/4.2.1.8 Develop all required interfaces between the NCSEAS and other systems.
11.2.2.6/4.2.1.9 Convert applicable data from the legacy NOMADS
11.2.2.6/4.2.1.10 Develop functional and technical system documentation.
11.2.2.6/4.2.1.11 Develop and deliver functional and technical training
11.2.2.6/4.2.1.12 Implement the NCSEAS in a pilot and then rollout the application to all other users in a logically phased implementation.
11.2.2.6/4.2.1.13 Support initial system operations.
11.2.2.6/4.2.1.14 Provide on-site support of user staff in offices using the NCSEAS.
11.2.2.6/4.2.1.15 Provide post-implementation system maintenance support and warranty of the NCSEAS software for twenty-four (24) months following full statewide implementation
11.2.2.6/4.2.1.16 Provide support for acquisition of required federal Office of Child Support Enforcement (OCSE) system certification for the NCSEAS
11.2.2.6/4.2.1.17 Transition the responsibility for maintaining and operating the NCSEAS to the Program
11.2.2.6/4.2.1.18 Provide design, development, and implementation project management, reporting, and communication to enable the project's success

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Protech brings to the NCSEAS project a mature project management methodology and systems/software development life cycle based on our extensive experience and capabilities. The Protech Project Management Methodology (Protech-PM) is flexible to work within a client specified methodology.

Exceeding Expectations

Leveraging the PMI's best practices and enhancing them to suit the unique needs of each of our projects, Protech will successfully plan, control and manage the NCSEAS project and surpass the Division's expectations for quality and satisfaction.

Protech-PM is fully consistent with the best practices of the PMBOK® (Project Management Institute's Project Management Body of Knowledge). This model is widely accepted for effective project execution and management. Formally documented and electronically available to our entire team, this methodology includes an array of processes, policies, and tools for a proven and repeatable approach to system and software development that we will apply for the DWSS.

Protech will utilize a project management approach that will establish a cohesive team structure and provide focus on the mission-critical tasks outlined in Section 5.1.1 (and the nineteen (19) subtasks) of the RFP. All activities are planned as individual phases within the schedule and tracked and managed to completion. In short, we identify problems early and implement solutions to those problems to ensure a successful delivery. To fulfill this objective our project management methods, focus on the following:

- ***Proactive project management***
- ***Emphasis on quality***
- ***Utilization of an experienced team of qualified staff***

Protech understands that the NCSEAS project will be based on transferring the California Child Support and Enforcement System (CA CSES). The scope of work (RFP Section 5.1 – Implementation Contractor's Services) outlines nineteen major tasks that must be planned, managed, executed, and closed out to complete the successful implementation of NCSEAS.

In our proposal, we have described our methodology, control mechanisms, and the various processes that will meet the service requirements for the NCSEAS project. As such, we know that it is vitally important that the scope of changes to the system are meticulously managed, tracked, and controlled. Diligence in managing the scope of changes to the system is critical to ensuring that the NCSEAS system is built to meet the objectives and requirements of the system.

As we describe each service requirement in detail within this proposal, we would like to provide a cross-reference to the pertinent sections in the form of a table. Please refer to each service area and proposal section for the detailed description of our solution and how we intend to meet the goals and objectives of each task.

Services	Description of Services	Cross Reference to Proposal Section
4.2.1.1	Conduct Joint Application Design (JAD) sessions to document and elaborate all functional and technical requirements.	
4.2.1.2	Develop detailed functional and technical design documents.	**4.27**
4.2.1.3	Recommend the software and hardware components necessary to support the system's architecture, including environments necessary for development, testing, training, production, and disaster recovery.	**4.7, 4.8, 4.9**
4.2.1.4	Acquire, install, and configure the hardware and software needed for the development of NCSEAS.	**4.8, 4.11, 4.26**
4.2.1.5	Support the installation and configuration of hardware and software necessary to run the NCSEAS application in each of the	**4.11, 4.15, 4.16, 5.11**

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Services	Description of Services	Cross Reference to Proposal Section
	required environments.	
4.2.1.6	Develop the NCSEAS application software as designed.	**4.12, 4.13, 4.22, 4.28, 5.10, 5.12**
4.2.1.7	Test and support the testing of all aspects of the system.	**4.13, 4.19, 4.30, 5.13**
4.2.1.8	Develop all required interfaces between NCSEAS and other systems.	**4.13**
4.2.1.9	Convert applicable data from the legacy NOMADS.	**4.18, 4.29**
4.2.1.10	Develop functional and technical system documentation.	**4.13, 4.12**
4.2.1.11	Develop and deliver functional and technical training.	**4.13, 4.20, 4.21, 4.31**
4.2.1.12	Implement NCSEAS in a pilot and then roll out the application to all other users in a logically phased implementation.	**4.17, 4.32**
4.2.1.13	Support initial system operations.	**4.23, 4.32, 4.33**
4.2.1.14	Provide on-site support of user staff in offices using NCSEAS.	**4.31, 4.32**
4.2.1.15	post-implementation system maintenance support and warranty of the NCSEAS software for twenty-four (24) months following full statewide implementation	**4.25, 4.33, 4.34**
4.2.1.16	Provide support for acquisition of required federal Office of Child Support Enforcement (OCSE) system certification for the NCSEAS	**4.25, 4.33**
4.2.1.17	Transition the responsibility for maintaining and operating the NCSEAS to the Program.	**4.5, 4.24, 4.35**
4.2.1.18	Provide design, development, and implementation project management, reporting, and communication to enable the project's success	**4.3, 4.5, 4.6, 4.36, 4.38, 4.39, 5.7**

4.2.2 Cooperative Effort

REQUIREMENT:

11.2.2.6/4.2.2 The goal of this RFP is to select a vendor who can design, build, test, and deploy a new statewide child support system that will significantly advance the work of Nevada's CSEP and transition the care of this new system to the Program in a way that will allow the system to support the Program for years to come. The starting point for this project is the existing California system, but the project is not meant to simply recreate these components in the Nevada data center. Rather, the code of the new system needs to be constructed with the unique goals and attributes of the Nevada child support constituents and stakeholders in mind. Accordingly, the project to develop and implement the NCSEAS must be a cooperative effort between the Implementation Contractor, the Program, and the staff contracted to assist the Program in this endeavor.

Our experience with design, development, and implementation of child support systems across the nation is evident from the state-wide systems that we have successfully implemented, and the assistance we have provided in achieving federal certification. Our system implementations have been for the most part transfer solutions, wherein we began the system development life cycle with a baseline system and transformed the solution to meet specific requirements for each state.

We used augmented, waterfall-based system implementations, for every one of our large-scale projects such as for the State of Delaware and the State of New Jersey. The augmentation was primarily a series of compact, manageable risk-discovery and mitigation projects, addressing various aspects of the SDLC, to address risk early in the project.

Using our baseline system from the Michigan Child Support System in Wayne County and applying portions of functionality from Maine and Massachusetts, we developed a fully CFR compliant JAVA based solution within the prescribed project timeline. The experience we bring to this project is a culmination of over 20 years of system implementation expertise tied to our successful implementations in Arkansas, Massachusetts, Maine, New Jersey, Delaware and New Hampshire.

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With the experience and know-how of process, technology, lessons learned, and challenges that are typical with system transfers, we at Protech are uniquely qualified to build the new child support system for the State of Nevada. Our collaborative approach, and the team's primary goal of "listening to the customer" paves the way for defining a roadmap towards implementing the NCSEAS system within the anticipated timeline of 42 months. We work closely with Stakeholders and follow an "address risk as early as possible" approach that is at the foundation of our successful endeavors.

The primary reason to adopt a structured methodology within each phase was to leverage the transfer systems of Michigan, Maine, and Massachusetts. As we transferred key functions from these states, each developed over the course of many years, it was prudent to think of supplemental iterations as a quality control and schedule management strategy. Integrating these into the waterfall methodology required a creative approach, only achievable with stringent planning, management, and execution. The lessons learned, the challenges encountered, and the success of the DACSES and NJKiDS implementations are unique differentiators Protech brings to NCSEAS. Applying PM-BOK based methodologies will be our primary goal to align with the DWSS program. An augmented waterfall approach would speed up design, development, and implementation of the NCSEAS system and we will work with the State to highlight the areas and phases where we think it would be beneficial for the project.

4.2.3 Required Services and Products

REQUIREMENT:

11.2.2.6/4.2.3 Accordingly, the Implementation Contractor will be required to develop and attain approval for a series of deliverables that will ensure the project is meeting Program expectations for the new system. The required services and products for the Implementation Contractor to provide include critical system planning and development components.

Our project management framework (Protech–PM) emphasizes the need for monitoring, controlling, and managing milestones over the course of the entire project schedule. One of the milestones that DWSS and Protech will continuously monitor to measure project performance is the tracking of project deliverables. At the end of each major task, deliverables are drafted, revised, and formally reviewed. The deliverables will capture the specifics of each task with precise definitions, tables of contents, and details related to the task or phase. One of the key project milestones regarding delivery and overall management of the project is the DWSS "acceptance" rate of deliverables.

Protech has established formal processes to conduct reviews for deliverables that require varying levels of input from the system users. Protech will use processes such as design review meetings, conference room pilots, and code walkthroughs in the review of DWSS deliverables. Formal reviews will be scheduled based on the completion status of deliverables per the project schedule and will be scheduled at the client site. Some deliverables that fall in this category include System Specification Review, Design Review, Test Readiness Review, Installation Readiness Review, and Operational Readiness Review. Protech will ensure that the appropriate Protech team member(s) prepare for, attend, and participate in these formal review processes.

The process of deliverable submission and review allows both the DWSS and Protech to maintain control over the status of the deliverables for the NCSEAS project. As each deliverable is completed and reviewed, Protech will initiate a request for approval from the DWSS through a sign-off form. Protech will request deliverables be approved as they are completed. Please refer to the Project Methodology portion of this proposal (Section 4.5) for a detailed description of the process, templates, and submission process.

4.2.4 Change Control Procedure

REQUIREMENT:

11.2.2.6/4.2.4 The change control procedure established by the PMO contractor must be used to address requested changes in design and implementation. Design, development, and testing staff must initiate Change Control Requests when encountering

inconsistencies or opportunities for refinement in the application. The Project Control Manager, together with assigned management staff, will review and make a determination on the change control requests. This procedure will provide a clearance process for resolving the inconsistencies or incorporating refinements to the systems. The change control process must document approved changes to the functional and technical designs, test plans, training plans, and other applicable deliverables.

Control and management of change are vital to the NCSEAS project's success. Change Requests (CR) normally modify or enhance the baseline system, procedures, documentation, and application programs. Change requests can also alter the initial scope of the project or add/modify functionality after the system design has been baselined. Proper management and control of changes add clarity and structure to the planning and managing of changes.

Any potential changes to project scope will be managed through a change control process that will involve initiation, evaluation, review, approval/rejection, status tracking, and reporting. When a change to project scope is requested, the Protech project manager will work with the project team to determine the scope of the change and its impact on the project schedule and the operation of the system.

The change request is managed throughout its lifecycle and is stored for historical viewing. The Protech project manager will request a meeting with the NCSEAS PMO manager to discuss the impact on the project schedule, resource requirements, and functionality of the NCSEAS system to determine the appropriate action items.

The key components of this process include:

- *Change request forms*
- *Change request tracking tools (i.e., spreadsheet or database)*
- *Change control approval processes*

A change request form must be designed to capture three critical pieces of information:

- *What is the requested change?*
- *What is the impact of the change on the program?*
- *Is it approved, denied, or deferred?*

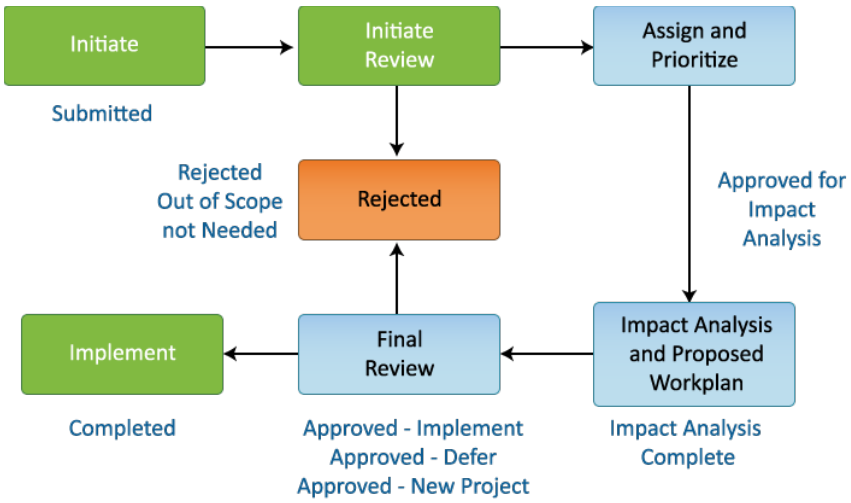

Figure 4.2-1. Change Control Process

Once the change control is approved, all relevant documentation (requirements, functional design, technical design, RTM, test processes and scripts, training related changes) will be updated or created. The changes are either applied to the existing deliverables, or new versions are created. All change orders are cataloged, tracked for completion, and validated during management meetings to measure project performance and track project costs.

4.2.5 Deliverable Review, Approval, and Communication

REQUIREMENT:

11.2.2.6/4.2.5 The Program's Project Management Team will review deliverables and communicate desired changes to the Implementation Contractor in accordance with a Deliverable Approval Plan developed by the PMO contractor. The Implementation Contractor will modify the deliverables as appropriate. The Implementation Contractor may proceed ***on*** subsequent tasks while awaiting the results of the review. However, the Implementation Contractor will factor the changes into the subsequent tasks as soon as project staff agree on the changes. The Implementation Contractor will submit deliverables using the Microsoft Office Suite, including Word, Project, Excel, Visio, PowerPoint, etc.

Deliverable Acceptance

Protech feels strongly that deliverable review and acceptance is a team effort. In other words, stakeholder expectations should be managed throughout the project lifecycle to ensure that deliverables meet acceptance criteria and do not contain surprises. Similarly, Protech applies an ongoing quality management effort during project delivery to ensure that deliverables meet quality and content expectations. We conduct walkthroughs wherever appropriate to provide and discuss the final deliverable; this ensures that deliverables are understood by all stakeholders from the beginning, and reduces the need for corrective re-work. With this approach, the Protech Team will consistently meet expectations, gain high levels of stakeholder satisfaction, and pave the way for rapid turnaround times on deliverable acceptance. Protech refers to the process of managing project phases and activities to pre-defined acceptance criteria as the Protech Milestone Review Process that will be tailored to fulfill the requirements set forth by the Deliverable Approval Plan developed by the PMO contractor.

The Protech Milestone Review Process

It is imperative that project goals and objectives are properly established at the beginning of each project and carefully monitored over the life of the project. Protech has achieved success in this area by establishing periodic project milestone reviews and establishing a clear line of communication for the review and approval of project deliverables. Protech will work with DWSS and the PMO contractor to identify milestone review checkpoints and project deliverables as we work through each project phase. We will develop a mechanism for monitoring project milestones and establish an agreed-upon criteria for approving project milestones and deliverables before we move to the next phase of the project.

Identify Project Milestone Checkpoints

Our experience has shown that milestones are typically established based on both internal and external project drivers. Although these drivers are distinct, the milestone review process associated with them follows a similar approach.

Internal Project Drivers are associated with the successful completion of project deliverables and their ultimate acceptance by DWSS. The review of deliverables is a major component of the milestone review process. Our PMO team will work with DWSS to define an acceptable deliverable review and approval process so that the deliverable approval process flows promptly and does not negatively impact the project timelines.

The deliverable approval will be supplemented by some intermediate steps as follows:

- *Structured walkthrough of key deliverables*
- *Informal reviews of deliverables as they are developed*
- *Code reviews*
- *Design reviews*

External Project Drivers - Protech will use milestone reviews as a key checkpoint for the NCSEAS project team to assess external factors that may impact the progress of the project. Some external factors could include legislative changes, budgets changes, or revision of priorities by project stakeholders. Milestone reviews can also be used to assess project goals, accomplishments, and risk factors, and to ensure deliverables are approved promptly. The conclusion of a milestone review will provide a set of recommendations that will be applied to subsequent project phases. In many cases, milestone review checkpoints will be established depending on the scope and size of the project activity. For example, if the activity in question is a change request that requires major system changes, then a rigorous milestone review may be required. Once we have established the project milestone review checkpoints, we will work with DWSS to develop a process to monitor milestone reviews.

All Protech deliverables are prepared with the Microsoft Office suite of products and, wherever applicable, documents will also be submitted in PDF format.

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VI-4.3 Project Initiation and Management

4.3.1 Objective

REQUIREMENT:

11.2.2.6/4.3.1 The project initiation and management of the project will be ongoing for the duration of the contract.

Protech will manage and coordinate all project phases from the inception to the closure of the contract. Protech has adapted the Project Management Institute's framework as the foundation for the project management methodology and identifies this methodology as Protech-PM. Protech-PM addresses the management of NCSEAS from project initiation through system implementation to end-users. Protech-PM will provide ongoing management throughout the project lifecycle's five distinct phases - project initiation, planning, execution, controlling, and closing.

Furthermore, Protech's augmented waterfall approach will also ensure ongoing management throughout the following NCSEAS system development phases:

- *Requirements Definition*
- *Design*
- *Code Development*
- *Test*
- *Train*
- *Implementation*
- *Certify*
- *Post Implementation support (Warranty)*

4.3.2 Activities

4.3.2.1 Project Management Approach

REQUIREMENT:

11.2.2.6/4.3.2 The project initiation and management of the project will be ongoing for the duration of the contract.
4.3.2.1(A) The Implementation Contractor's project management approach must be consistent with the project planning structures and plans developed by the Project Management Office (PMO) contractor. These structures and plans will align with the principles of the Project Management Body of Knowledge (PMBOK).

The project initiation and project management activities will be ongoing from inception to project closure, and our approach to project management ensures a close coordination with all planning structures and plans developed by the Project Management Office (PMO) contractor. The Protech Team will establish a CSEAS Project Management Office that will hold responsibility for ensuring consistency between Protech's internal methodologies to the needs, planning structures, and overall plans for the NCSEAS project as established by the Project Management Office (PMO) contractor.

Protech's Project Management Methodology (Protech-PM) provides a framework that fully aligns with the planning and management models espoused within the Project Management Institute. Protech's Project Management Methodology (Protech-PM) closely aligns with the PMBOK® Fifth Edition's process, groups, and knowledge areas but also incorporates the governing concepts of the Institute of Electrical and Electronics Engineers (IEEE).

With the inclusion of PMBOK® as a standard for the discipline of the project management framework, Protech has leveraged the best practices and industry practices to create a well-defined and robust methodology. Collectively, each of the five process groups provides the framework for completing the tasks

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of the NCSEAS project, including managing the project along the dimensions depicted in the following figure.

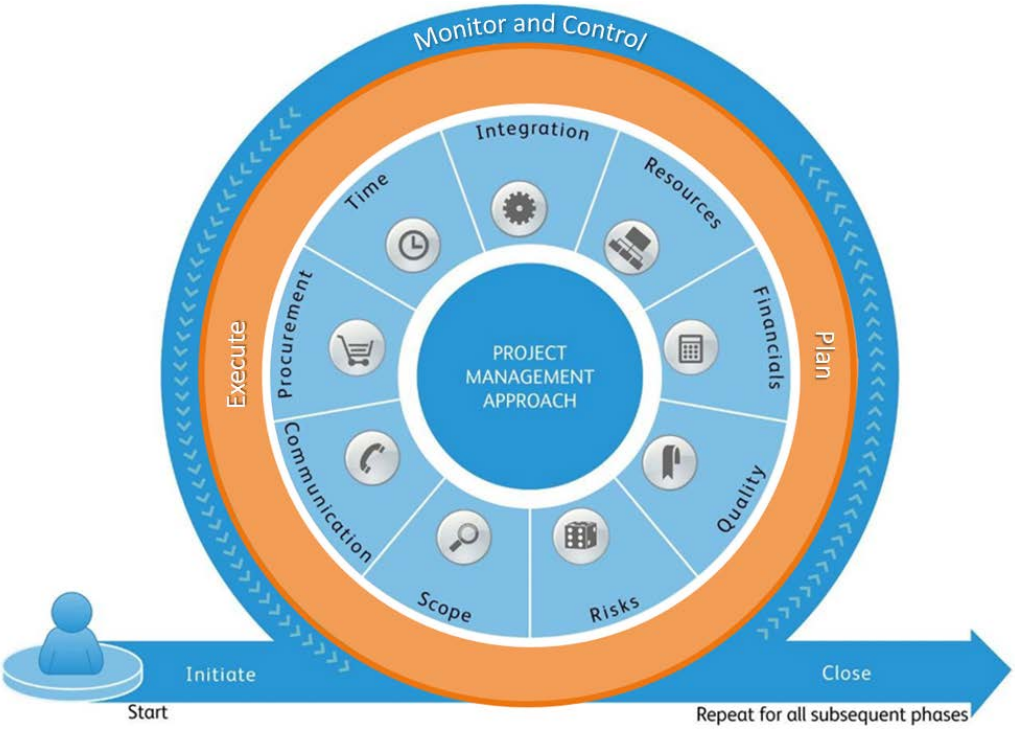

Figure 4.3-1. Protech-PM Alignment with PMBOK

Our proven project management approach, built on the recognized project management areas of knowledge outlined in the PMBOK Guide, provides for rigorous control over every phase, task, and process of the NCSEAS project and allows for seamless integration of planning approaches established by the Project Management Office (PMO) contractor.

The following section illustrates the various phases of the Protech-PM project life cycle, a repeatable process that we apply, execute, and manage across our projects. Each phase of the project lifecycle will have key deliverables and tasks.

Project Initiation Phase

This phase represents the conceptual staging of project management for the NCSEAS project. During the initiation phase, we will specify what the project should accomplish as well as gain executive level support. Control processes are established; the scope and work breakdown structure are identified; the resource, schedule, and cost baselines are drafted; and methodologies are identified. The Protech project manager is identified, and the project team and an organizational project chart are defined for the NCSEAS project. Project initiation includes all activities conducted at the beginning of each phase to determine or reaffirm stakeholders and to review, document, and approve the business criteria and strategy for the phase.

Planning Phase

As part of this phase, Protech will finalize the NCSEAS project plan and all sub-plans required by the RFP. The project plan will outline the overall project methodology and the scope of work and effort that will be required to complete the NCSEAS project. Protech will document the statement of work and the roles and responsibilities of those involved in delivering the solution. The project schedule will be updated using Microsoft Project. This schedule will assist in projecting timeframes and determine critical path and resource commitments. The project plan phase includes the development and maintenance of an effective method for

accomplishing the business needs and objectives that the phase will address. This includes the activities conducted throughout every phase that identifies and reaffirm the processes, practices, procedures, resources, work plans, and deliverables that are needed or expected for successful completion of the business goals and objectives. Resulting artifacts from this phase will align with the planning structures and plans developed by the Project Management Office (PMO) contractor.

Execution Phase

During the execution phase, project effort will focus on participating in, observing, and analyzing the work being accomplished. Most of the project effort is expended during this phase of the project. There is significant overlap in work performed during the execution and control phases of the project. The key deliverables produced in the execution phase represent the final version, or release, of the software. This phase incorporates all activities performed by staff to prepare, review, and accept all project deliverables. These deliverables are defined in the project work plan, which captures and reports on the ongoing progress of the project.

Monitor and Control Phase

Project control mechanisms will measure and report on the progress of the NCSEAS project. Key metrics are collected and analyzed proactively to mitigate project risks and to avoid quality and schedule issues. The key to the controlling process is to compare actual project delivery metrics with the planned delivery metrics and take corrective actions to ensure that the two components converge. The project management team is actively involved in issue management and resolution, scope and risk management, budget monitoring, schedule tracking, and status reporting. The monitor and control phase includes the activities conducted by the management team to continually monitor the progress, quality, and other metrics of planned and unplanned work for each phase. It also includes the corrective actions taken to avoid or resolve performance problems that may endanger the business objectives of the phase.

Closing Phase

The closing phase involves the administrative, contractual, and financial efforts needed to close out the project after NCSEAS has been deployed. A closeout checklist will ensure that all work has been performed to the expectations of the DWSS project sponsor. Project reviews are performed with the project team, and DWSS project sponsors to document "lessons learned." Actual effort spent will be compared to the projected effort and delivery date projections, to ensure that our planning process maintains accuracy. The closing phase also includes the activities conducted at the end of a phase to transition resources from this phase to the next phase or back to their duties outside the project, in addition to the activities required to formally end the phase in an orderly manner and acknowledge lessons learned.

4.3.2.2 Relevant Roles and Responsibilities

REQUIREMENT:

11.2.2.6/4.3.2.1(B) Each planning document developed by the Implementation Contractor will detail the relevant roles and responsibilities among the Implementation Contractor, Program Management Team, and Quality Assurance (QA) contractor.

By Protech-PM, each planning document will contain specifics of every relevant role with a detailed definition of responsibilities for that role. Protech will work closely with State representatives to delineate the scope of responsibilities for each team, including, but not limited to, the implementation contractor, the program management team, the Quality Assurance (Q/A) contractor, and IV&V personnel.

Collaboration is a hallmark of all Protech Team projects. We recognize that the only way to truly realize the State's vision for using the NCSEAS project is to work together to foster a shared understanding of project goals and objectives; collaborate on the design, development, and implementation of NCSEAS; and

ultimately produce a system that facilitates more efficient and effective project operations. One of the key ways in which the Protech Team promotes collaboration within the project organization is by aligning the State and Protech Team governance organizations that have oversight responsibilities. While resource alignment occurs at all levels of the project organization – from the senior project executives to line staff such as designers, developers, and testers – it is imperative that collaboration is established at the highest levels of the project organization to set the tone for all staff members.

All planning documents will define the specific roles and responsibilities and collaboration protocols for those stakeholder organizations with oversight and decision-making responsibility for the NCSEAS project. Stakeholders include Protech, the program management team, and the Quality Assurance (Q/A) contractor.

An example of how we align with State's governing bodies is presented in the following figure.

Figure 4.3-2. State and Protech Project Governance

The Protech Team's organization facilities alignment and communication with State's governing bodies

This figure provides a high-level depiction of how the governance-level State and Protech Team is aligned during the NCSEAS project. As seen in the above illustration, the State governance entities are aligned with the various entities within what Protech defines as our corporate governance team. This team includes the Protech executive steering committee, NCSEAS project director, NCSEAS project manager, the PMO contractor, the quality assurance team, and Protech' corporate Office of the Chief Information Officer (OCIO).

Each planning document will include the role and responsibilities of each member of the project governance that will ensure that the NCSEAS project remains on track and aligned with project goals, requirements, and timelines. All planning documents will take into consideration the dedicated interaction between the program manager team, the Protech Team, and the quality assurance contractor to adopt and tailor the methodologies to the specific aspects of the NCSEAS project.

4.3.2.3 Plan Goals, Objectives, Assumptions, and Constraints

REQUIREMENT:

11.2.2.6/4.3.2.1(C) Each project planning document will first articulate plan goals, objectives, assumptions, and constraints. It will then describe the tasks, subtasks, resources, and schedule necessary to accomplish the plan.

Each planning document will begin with a clear description of the plan's goals, objectives, known assumptions, possible constraints, and how they relate to individual roles. The Project Management Plan, Project Charter, and the Preliminary and Final Project Scope Statements will document all goals, objectives, major assumptions, and constraints. Detailed work plans will be maintained using Microsoft Project to

further outline dependencies among subtasks, resource allocation, schedules, and the project's critical path. The detailed project plan will:

- *Identify the project deliverables and milestones, and the tasks necessary to complete them;*
- *Establish the overall project schedule as well as the schedule and assignments for each deliverable;*
- *Identify dependencies between tasks and deliverables;*
- *Communicate project schedules and task assignments to the team; and*
- *Track and monitor the progress of project tasks and deliverable completion*

Protech-PM methodology establishes an effective project planning method for accomplishing the business needs and objectives, including the articulation of processes, practices, procedures, resources, schedules, and deliverables that are needed or expected for successful completion of each plan's goals, and objectives, taking into consideration all known assumptions and constraints. Identified assumptions and constraints will be factored into all relevant tasks, subtasks and resources to reflect their impact on scheduling to ensure adequate documentation of the project's impact on individual plans. The delivery of detailed project plans where all tasks, subtasks, resources, activities, milestones, and resources are articulated provides a sound foundation for controlling the plan and will help mitigate the risk of project slippage.

4.3.2.4 Implementation Contractor Project Management Responsibilities

1. Kickoff Meeting

REQUIREMENT:

11.2.2.6/4.3.2.1(D) Implementation Contractor Project Management Responsibilities include:
11.2.2.6/4.3.2.1(D) - 1. Prepare for and lead the project kickoff meeting.

Protech will submit the kickoff meeting material for State approval before final distribution and will coordinate, facilitate, and lead the project's kickoff meeting. After reaching an agreement of the meeting's agenda with the State and the PMO contractor, this introductory meeting will review the high-level goals of the project governance and the development processes. Among many other critical goals, this meeting will set the ground rules for all future meetings and will explain all key players and the interaction between the teams. The agenda will also ensure that the project vision, goals, and overall schedule are reviewed and documented, along with any potential risks, issues, and the establishment of ongoing processes.

The kickoff meeting will provide a vehicle to discuss overall deliverables and their timeline and key expectations for communications going forward. Upon the establishment of all working relationships, the formal process begins, orchestrated by each team leader. The kickoff meeting will commence a coordinated integration process for the constant alignment of the project's critical needs with available communications channels.

2. Weekly Project Status Meetings

REQUIREMENT:

11.2.2.6/4.3.2.1(D) – 2. Participate in weekly project status meetings.

Key Protech staff will actively participate in weekly project status meetings. The project management team will work with the PMO contractor and the State to determine the priority and content of all agenda items. Minutes will be provided for all scheduled and unscheduled project status meetings. Protech's team leads will participate in all weekly project status meetings, along with our counterparts, to report to the State's leadership the status and progress of all project activity.

During these meetings, issues and concerns will be recorded and tracked while discussing the potential impact to project's activities. The weekly project status meeting provides a platform to discuss feedback from the State, the PMO contractor, IV&V staff member, and key stakeholders any information contained in

the weekly reports. All entries in the risk register will be discussed to assess the severity of all identified risks and determine the adequacy of all risk responses previously defined. The weekly status meetings will serve to evidence Protech's commitment with the agreed-upon project schedule.

3. Weekly and Monthly Project Status Reports

REQUIREMENT:

11.2.2.6/4.3.2.1(D) - 3**.** Prepare and submit weekly and monthly project status reports.

Protech will compile and submit weekly and monthly project status reports. The reports will consolidate all design, development, operational, and maintenance activities that occurred during the week and a consolidated version will be produced monthly. The report will include details on variance metrics, issues risks and mitigation, and action items.

The weekly and monthly status report will contain a general overview of tasks completed and in-progress within each area, timelines, risks, and their corresponding mitigation strategy. The status reports will also contain issue aging and other metrics including the work performed by off-site teams. Results from our quality assurance processes will also be included in the weekly and monthly reports. Weekly and monthly reports will also consolidate the status of all project deliverables.

4. Project Risk, Issue, and Change Procedures

REQUIREMENT:

11.2.2.6/4.3.2.1(D) - 4**.** Participate in and follow project risk, issue, and change procedures.

Protech will play a vital role in project risk, issue, and change procedure, as outlined in the State-approved Risk Management Plan, Issue Management Plan, and Change Management Plan. We will follow all risk areas very closely and make them an agenda topic for monthly meetings and weekly meetings as necessary. The same approach applies to other important issues and change procedures.

5. Develop and Provide Required Weekly Updates to Project Tasks

REQUIREMENT:

11.2.2.6/4.3.2.1(D) - 5**.** Develop the initial project schedule and provide required weekly updates to tasks in Microsoft (MS) Project.

Protech will work closely with the contractor PMO in the development of the final approved project schedule and Project Management Plan. Protech will also develop and maintain the Project Management Plan and all its supporting documents and appendices. A seasoned professional will be assigned the task of maintaining and monitoring the tasks identified in the Microsoft (MS) Project application.

6. Propose and Support Changes to the Schedule/Plan

REQUIREMENT:

11.2.2.6/4.3.2.1(D) - 6**.** Propose and support changes to the schedule and project management plan as necessary.

Protech will propose, support, and document all changes to the project schedule. Upon acceptance of the project schedule, Protech will create a baseline for measuring and reporting project schedule variances. The Protech project management office will also be responsible for maintaining the Project Management Plan and for monitoring the NCSEAS team's implementation of the project management procedures and standards.

7. Develop and Maintain Project Management Plan

REQUIREMENT:

11.2.2.6/4.3.2.1(D) - 7**.** Develop and maintain a project management plan for Implementation Contractor activities in conformance with the project management plan developed by the PMO contractor.

Protech will draft and maintain a detailed Project Management Plan to account for all implementation activities in full agreement with the guidelines set forth by the PMO contractor. Project plans will be synchronized through weekly meetings with the project management office. Any differences requiring further review will be placed on the weekly meeting agenda.

8. Established Communication Procedures

REQUIREMENT:

11.2.2.6/4.3.2.1(D) - 8**.** Follow established communication procedures with input of all principal project participants.

Protech will document the input of all principal project participants while establishing direct communication with all stakeholders. Protech's communication procedures will identify primary contact points for questions, issues, and discussions.

9. Meeting Agendas, Recordings and Minutes

REQUIREMENT:

11.2.2.6/4.3.2.1(D) - 9**.** Create and distribute agendas and record and distribute the minutes of all applicable meetings.

Protech will prepare and publish meeting agendas before every meeting and will record and distribute minutes after that. Meeting minutes will include the time and place of the meeting, the participants, the topics of discussion, and the status of action items.

10. Federal Audits, Reviews, and Semi-Annual Independent Verification and Validation

REQUIREMENT:

11.2.2.6/4.3.2.1(D) - 10**.** Participate and cooperate in federal audits, reviews, and semi-annual Independent Verification and Validation (IV&V) reviews.

Protech will participate and cooperate with all federal audits, reviews, and independent verification and validations reviews.

4.3.3 Deliverables

4.3.3.1 Project Management

Deliverable number 4.3.3.1, Project Management will encompass all work products resulting from activities 4.3.2 as described in this section.

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VI-4.4 Establishment, Maintenance, and Management of the Project Site

Protech has a consistent track record for successfully building out appropriate facilities within a limited timeframe. Deploying our corporate resources and best practices we can ensure the State of Nevada the establishment of a fully functional and secure site that fulfills and exceeds the State's standards and regulations.

4.4.1 Objective

REQUIREMENT:

11.2.2.6/4.3.1 This task includes the establishment, maintenance, and management of the project site.

Assigned member of a logistics and facility management team will ensure the establishment, maintenance, and management of the project site. This team will be comprised of members that not only understand space planning, safety, and occupancy requirements but are also familiar with the Carson City area. Once the project site is operational, the ongoing responsibilities will be transitioned to the Protech PMO.

4.4.2 Activities

4.4.2.1 Limitations and Conditions

REQUIREMENT:

11.2.2.6/4.4.2.1 Establish, maintain and manage the project site for the duration of the project in accordance with the following limitations and conditions:

The logistics and facility management team will initiate pre-planning activities upon contract award for the entire duration of the project. An important consideration that applies to the facility selection process is properly planning the timeframes associated with logistic/facility management duration.

A. Project Site Operations

REQUIREMENT:

11.2.2.6/4.4.2.1 – A. The project site will begin operations within sixty (60) days of the contract start date.

A fully operational project facility will be available within sixty (60) days from the contract start date. Through our past experiences in installing project teams in new locations, we understand the process by which to set-up the appropriate facilities, network components, office furnishings, and equipment necessary to prepare and promote a strong work environment.

B. Project Site Phase Out

REQUIREMENT:

11.2.2.6/4.4.2.1 – B. The project site will remain in full operation until six (6) months prior to completion of the Maintenance and Operations period, at which time the project site will be phased out, with associated Program and remaining contractor staff ***being transitioned*** to appropriate State locations.

Protech will maintain the site facilities until six (6) months before the completion of the maintenance and operations period. Once this period has expired, Protech will make the necessary arrangements to close the project site as part of the relocation of maintenance and operations to State facilities. The work environment will not be interrupted during the transition period.

C. Timing and Logistics of Phase Out

REQUIREMENT:

11.2.2.6/4.4.2.1 – C. The timing and logistics of the phase out of the project site will be mutually agreed to by the Implementation Contractor and the Program, in accordance with the project plan, the staffing needs of the project at the time of project site phase out, and the availability of space at appropriate State locations.

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The exact timing and detailed logistics for the transitioned phase-out of the project site will be coordinated and mutually agreed upon by the State. The timing and logistics of the phase-out of the project facility will be in accordance with the accepted plan and the availability of the new location identified by the State. All tasks will follow the State-approved project plan.

4.4.2.2 Implementation Contractor Responsibilities

REQUIREMENT:

11.2.2.6/4.4.2.2 Implementation Contractor Responsibilities for the project site include:

Protech reviewed and agreed with all State's requirements of this section, and understands the scope of activities involved within this task. We are also familiar with the facility requirements for Protech's project staff since we have extensive experience in designing, developing and implementing child support enforcement system projects sites. We recognize that this project site will have many critical needs that must be met when preparing and selecting the most appropriate facility.

A. Identify a Suitable Project Site

REQUIREMENT:

11.2.2.6/4.4.2.2 – A. Identify a suitable project site within Carson City and negotiate a lease.

Protech's logistics and facility management team has taken into consideration all the requirements necessary to meet the needs of staff and State when selecting a suitable project site. Our team will work with a prominent commercial real estate agent within the Carson City area and the Carson City Building Department. Protech will ensure that the proposed project site will be a secure facility that meets all ADA requirements. During our site selection process our team will also be coordinating various critical components necessary to secure an adequate lease agreement properly.

B. Project Site Lease

REQUIREMENT:

11.2.2.6/4.4.2.2 – B. Execute the lease as lessee upon contract award and Program approval of the recommended site.

Once the contract has been awarded, and the State has approved the site, Protech's headquarters will proceed with executing the lease for the duration of the project as defined within the RFP. Protech Solutions will be the lessee for the selected facility. Our team will coordinate the lease activities with the State, understanding the need to confirm the project site phase-out requirement found in 5.3.2 C.

C. Alternative Site Project Site

REQUIREMENT:

11.2.2.6/4.4.2.2 – C. Identify and conditionally secure a suitable alternative site in the event the State does not approve the initial site.

As an integral part of the project site selection process, Protech will also identify and conditionally secure a suitable alternative site. This alternative site will provide Protech with an immediate alternative to suggest to the State, should the first choice not be approved or the site be leased to another entity. The alternative site will meet all the safety, environmental, and occupancy requirements/conditions set forth by the State.

D. Provide Furniture, Fixtures, Telecommunications, and Internet Connectivity

REQUIREMENT:

11.2.2.6/4.4.2.2 – D. Build out the project facility to include furniture, fixtures, telecommunications, and internet connectivity.

Protech will build out adequate facilities and provide adequate workspace for the project team. Each project team member will be provided a workspace that includes a desk, a chair, and storage or filing space. We will be working with space planners to ensure the efficient and comfortable allocation of space and the placement of workspace partitions.

The office will be equipped with communications equipment and services such as telephone, network telecommunications, voicemail, and internet connectivity. Specific consideration will be given to technology and electrical requirements including air conditioning and heating specifications. We will ensure easy

access restrooms, a kitchen or break area, adequate parking for project team members, and accessibility for people with mobility issues. All facility build-out implementation activities within our plan will be in logical sequence with a clear definition of tasks and firm timeframes for on-time task completion.

E. Provide Conference Rooms, Private Meeting Spaces, and Collaboration Areas

REQUIREMENT:

11.2.2.6/4.4.2.2 – E. Provide conference rooms, private meeting spaces, and collaboration areas.

We recognize the need for a facility that will provide an adequate workspace for project team members as well as conference and meeting room facilities that will not only promote a team environment and effective communications but also promote decision-making and a strong work environment. The facility infrastructure will include management offices, two offices designated for visiting management staff, one larger conference room and two private meeting rooms, plus collaboration areas. The conference and the private meeting rooms will be considered dual purpose rooms. We are planning on conference tables, and comfortable chairs, plus the dual-purpose rooms will have an internal network and telephone connections. The room configuration and location will be configured for staff meetings and meetings with other State contractor and State staff.

F. Provide all Required Equipment

REQUIREMENT:

11.2.2.6/4.4.2.2 – F. Supply all required equipment, to include telephones, PCs and software, copiers, and faxes.

Protech will supply all office equipment such as telephones, workstations, fax machines, photocopiers, and software licensing. Upon contract award, Protech will immediately initiate all purchasing efforts for critical equipment such as telephone systems, servers, workstations and software licenses. Other acquired equipment will include printers and fax machine, shelving for the documentation library, and other miscellaneous items and supplies. Thus, having a comprehensive plan and staff dedicated to extensive preparation provides our team with an efficient approach and an edge to succeed. The Protech logistics and facility management team will work closely with State staff throughout this time critical process.

G. Certificates of Occupancy

REQUIREMENT:

11.2.2.6/4.4.2.2 – G. Obtain and maintain necessary certificates of occupancy. The occupancy permit deliverable provides proof that the Implementation Contractor has secured and prepared the facilities for the project site.

Protech's logistics and facility management team will work closely with the State, the Carson City Building Division and the fire marshal's office to expedite the issuance of the certificates of occupancy. This deliverable will serve as proof that the project site has been secured and prepared to begin operations. Protech preemptively initiated contacts with the Carson City Building Division and the Fire Marshal's Office. We understand that to obtain a certificate of occupancy; there are two possibilities that need to be considered when making a site selection. First, if the building chosen was originally an office building, then Protech will need to apply for a Business License Inspection. However, if extensive tenant improvement must be made or remodeling must occur, then, a building permit must be obtained. If the commercial property selected will be different from the previous occupant's usage then a "change of occupancy" will be required. Since our team will be working with a commercial real estate agent, these certificate of occupancy options will be reviewed when considering the various project site options.

A second coordination effort will be to work with the fire marshal's office. Our team understands that appropriate aisle, egress means, door placement spacing allowances, and hallways to meet ADA requirements throughout the facility, plus sprinkler system coverage and signage placement must be in the plan. We understand that the timeframes will be very demanding and our team is prepared to meet this challenge. Our team will be working simultaneously with all the key stakeholders, establishing professional and cooperative relationships to accomplish this delivery.

H. Physical Security Provisions

REQUIREMENT:

11.2.2.6/4.4.2.2 – H. Assure appropriate physical security provisions for the project site.

Protech has an in-depth understanding of the guidelines set forth for physical security and environmental controls established by the State of Nevada Information Security Committee that will ensure compliance with all relevant physical control standards.

I. Professional and Comfortable Work Environment

REQUIREMENT:

11.2.2.6/4.4.2.2 – I. Assure a professional and comfortable work environment within the project site.

Professionalism is the cornerstone of Protech's creed. It is interlaced into all aspects of our projects. Protech expects professionalism to be illustrated in the workplace daily, especially when communicating with team members and other stakeholders. Protech's goal is to develop a positive work environment allowing staff to work in a well-defined, comfortable environment that encourages maximum productivity.

J. Maintain an Appropriate Professional Relationship with Facility Landlord

REQUIREMENT:

11.2.2.6/4.4.2.2 – J. As ***lessee***, maintain an appropriate professional relationship with the facility landlord.

Protech will maintain a professional relationship with the facility landlord as evidenced by our current relationships in all our other sites. Professionalism is the cornerstone of Protech's creed which permeates into all aspects of our projects.

K. Expenses Handled in a Timely and Professional Manner

REQUIREMENT:

11.2.2.6/4.4.2.2 – K. Assure that all expenses associated with the Implementation Contractor's responsibility in fulfilling this section ***are handled*** in a timely and professional manner.

Protech has a proven record of responsibility and timeliness when fulfilling all financial commitments. We understand that first impressions of our work standards make a lasting impression. Thus, Protech will continue to work diligently to establish and maintain not only a professional relationship but also taking a sound fiscal approach to all our vendors. We intend to meet all the responsibilities under the lease agreement of the project site and maintain an appropriate professional relationship with the facility landlord. We will also ensure that all expenses associated with the facility and other project entities will be handled in a timely and professional manner.

4.4.3 Deliverables

4.4.3.1 Project Site Establishment, Maintenance, and Management

Deliverable number 4.4.1, Project Site Establishment Maintenance and Management, will encompass all work products resulting from activities 4.4.2.1 through 4.4.2.2, as described in this section.

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VI-4.5 Project Schedule

4.5.1 Objective

REQUIREMENT:

11.2.2.6/4.5.1 The NCSEAS project will use the project schedule to guide, communicate, and coordinate the project efforts of the State and all project contractors. The project schedule will identify all project components with a description of tasks and subtasks. The project schedule will identify staffing assignments and schedule for all contractors and State staffs' activities.

Protech's schedule management process includes standards that guide, communicate, and coordinate all project efforts for all stakeholders; including the State and all contracted vendors. The project schedule identifies all project components broken down into summary tasks and subtasks including milestones and the interdependencies and constraints among them. These standards also include task naming, effective and informative decomposition of tasks, and proven estimation techniques to accurately reflect timeframes and resource requirements. The project schedule will also identify resource and staffing assignments for every contractor and activities assigned to State resources.

4.5.2 Activities

4.5.2.1 Work Breakdown Structure

REQUIREMENT:

11.2.2.6/4.5.2.1 Per the standards in the project schedule management plan, the Implementation Contractor will work collaboratively with the Program's Project Management Team, PMO contractor, and other contractors to build the schedule using the Work Breakdown Structure.

The schedule management plan will follow the strict guidelines set forth by the NCSEAS project schedule. Protech will work in strict collaboration with the program's project management team, the PMO contractor, and other contracted vendors. This collaboration will ensure mutual consensus as to the program's tasks, activities, timeframes, roles, and responsibilities. As necessary, we revise any elements of the project schedule that State and the Protech Team feel are not represented perfectly in the schedule. Once the project schedule has been finalized during project initiation, a work breakdown structure is identified and documented in the plan, and a baseline is created for project monitoring activities.

4.5.2.2 Decompose Tasks into Subordinate Units Associated with the Activities

REQUIREMENT:

11.2.2.6/4.5.2.2 The Implementation Contractor will decompose tasks into subordinate units associated with the activities of the project, for example:

A. Project initiation;
B. Procurement of hardware, software and related infrastructure;
C. Development and operations hardware and software;
D. System requirements and design;
E. Development, modification, conversion of system software code;
F. Legacy data conversion;
G. Testing and accepting the new system;
H. Training staff on the new system;
I. System implementation;
J. Warranty period (initial maintenance and operation);
K. System certification;
L. Transition maintenance and operation of system to State; and
M. Project closeout.

The NCSEAS project schedule will decompose tasks into subordinate subtasks associated with project activities under Protech's Project Management Methodology, the Project Management Institute's (PMI) five

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process management process groups and the approved Systems Development Life Cycle (SDLC). The list below represents the major tasks that will be incorporated into the project schedule:

NCSEAS project Schedule – Major Tasks	
Description of Deliverable	Project Phase(s)
Project Schedule	Phase 02 - Project Initiation and Planning
Requirements Traceability Matrix	Phase 03 - Requirements Validation
Functional Requirements / Design	Phase 04 - Design
Technical Requirements / Design	Phase 04 - Design
Detailed Design	Phase 04 - Design
Development and Operations Hardware and Software	Phase 05 - Development and Unit Test
Development, Modification and Conversion of System Software	Phase 05 - Development and Unit Test
Development, Testing and Training Environments	Phase 05 - Development and Unit Test
Unit Test Results	Phase 05 - Development and Unit Test
Data Conversion	Phase 06 - Data Conversion
Acceptance Testing	Phase 07 - Integration, System, and Performance Testing
Training Materials (for UAT testers)	Phase 09 - Training
Training Materials (for end users)	Phase 09 - Training
Training Manual	Phase 09 - Training
Training	Phase 09 - Training
Web-Based Training Center	Phase 09 - Training
System Implementation and Support	Phase 10 - Implementation
Fully Implemented System	Phase 10 - Implementation
Maintenance and System Operations (Initial)	Phase 11 - Warranty (Initial Maintenance & Operations)
Federal Certification Support	Phase 12 - Federal Certification
Federal Certification Compliance Narrative	Phase 12 - Federal Certification
PRWORA Test Documentation	Phase 12 - Federal Certification
Federal Certification Compliance Demonstration	Phase 12 - Federal Certification
Federal Certification Compliance	Phase 12 - Federal Certification
Knowledge Transfer Plan and Procedures	Phase 13 - Transition, Maintenance & Operations
Maintenance Training	Phase 13 - Transition, Maintenance & Operations
Technical Support Procedures	Phase 13 - Transition, Maintenance & Operations
Customer Support Procedures	Phase 13 - Transition, Maintenance & Operations

4.5.2.3 Assignment of Tasks

REQUIREMENT:

11.2.2.6/4.5.2.3 The Implementation Contractor will assign tasks or project roles for completion to their team members.

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Protech's project manager will be responsible for assigning work packages and task assignments to individuals or project roles for completion and update the project schedule accordingly.

4.5.2.4 Updating the Project Schedule

REQUIREMENT:

11.2.2.6/4..2.4 The Implementation Contractor will periodically update the project schedule with completed work, new tasks, and subtasks as well as an estimation of remaining effort on tasks in progress.

Protech will meet periodically with State and other contractor counterparts to coordinate resource leveling and assignment updates. The Protech project management office will be responsible for issuing and maintaining the project schedule and project management plans. Protech's PMO will establish and record new tasks, percentages of completion of ongoing tasks, updates to task relationships, recalculations of critical paths, and reasonable estimations of remaining levels of effort.

4.5.2.5 Project Status

REQUIREMENT:

11.2.2.6/4.5.2.5 The Implementation Contractor will coordinate with State staff and staff from other contractors to obtain the status on their activities for the periodic update.

Once all stakeholders from Protech, the State, the contractor PMO, and all other vendors have reached consensus on the work plan and schedule, Protech will baseline the official work plan. This baseline will serve as a starting point to measure all future project progress. Protech will store and maintain the project plans and schedule in a State-approved repository such as SharePoint for easy access to the State, the contractor PMO, and the Protech Team.

From that point forward, Protech will coordinate with the State, the contractor PMO and other contractors to compile the status of all activities including:

- *Percent complete*
- *New or changes in dependencies among tasks and subtasks*
- *Changes in resource assignments.*
- *Changes in duration*
- *New constraints*

Protech will record and publish periodic updates to the project schedule and project plan to reflect all updates. To support the ongoing review of maintenance of the project work plan and schedule, our PMO team will hold weekly status meetings to discuss the project schedule with the State's PMO. Variances to time and schedule will be measured and presented at these meetings and Protech will facilitate the discussion to determine viable alternatives to bring the project back on track, assess risks and present risk mitigation strategies.

The change control management process will govern authorized changes in scope prior to the recording of updates into the plan. Upon change control approval, the schedule, milestones, deliverables, and resources related to that change will be reflected in the work plan and schedule. Updates to the plan will undergo strict versioning control to ensure availability of all previous versions of the plan using use a State-approved portal or SharePoint.

4.5.3 Deliverables

4.5.3.1 Project Schedule

Deliverable number 4.5.3.1, Project Schedule Deliverables will encompass all work products resulting from activities 4.5.2.1 through 4.5.2.5, as described in this section.

VI-4.6 Project Status Reports and Meetings

4.6.1 Objective

REQUIREMENT:

11.2.2.6/4.6.1 Weekly and monthly project status reports for project stakeholders will document project progress; identify staffing, work plan and schedule adjustments; summarize issues resolved; and review the tasks project staff would address in the upcoming month.

The success of the NCSEAS project depends in part upon the lines of communication that are established early in the project and maintained throughout. The Communications Management Plan describes how we manage the communication process for the NCSEAS project and includes the specifications for all regular status reports. This includes formats, contents, distribution frequency, and communication channels.

Status reporting takes place at multiple levels throughout the organization and involves both meetings and written reports. Both the State and Protech Team members have access to the SharePoint repository, where they can access project information and status report details that are the basis for the information the Protech Team's PMO gathers to create status reports. We will collaborate with the State's PMO to finalize the formal status reporting process as well as all report formats and content. If needed, status reports can also be distributed in hard copy or another format as requested.

The organization structure Protech proposes clarifies reporting guidelines and solidifies a framework for communication, issue resolution and status reporting. The table below shows the status reporting mechanisms, content of each report and recipients of these reports.

Reporting Guidelines				
Reporting Method	Content of Report	Frequency	Created/ Attended	Recipients/Hosts
Internal Project Status Reports	• Progress since last report • Deliverables status • Activities planned for next reporting period • Task level issues or risks to schedule or work completion • Team wide issues or risks identified	Weekly	Team Leads	Protech Project Management Team
Project Level Status Report	• Progress of project activity since last report • Schedule status • Status of deliverables and work products • Project wide issues or risks identified • Resource status report for current reporting period • Expected resource levels for next reporting period • Activities, work products, deliverables planned for next reporting period	Weekly	Protech Project Manager	State/Program Project Manager
Project Level Status Reports	• Progress of project activity since last report • Schedule status • Status of deliverables and work products • Project wide issues or risks identified • Resource status report for current reporting period • Expected resource levels for next reporting period • Activities, work products, deliverables planned for next reporting period	Monthly	Protech Project Manager	State Project Control Manager (NCSEAS PMO) Project EOB

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4.6.2 Activities

4.6.2.1 Weekly Meetings

REQUIREMENT:

11.2.2.6/4.6.2.1 – Throughout the project, the Implementation Contractor's project management team and the Program's project management team will meet to discuss project status.

11.2.2.6/4.6.2.1 – Weekly meetings will follow a preset agenda developed by the PMO contractor.

11.2.2.6/4.6.2.1 – The Implementation Contractor shall be responsible for producing minutes of these meetings and distributing them within five (5) business days.

Throughout and during all NCSEAS project phases, Protech's PMO will meet weekly with the project management team (PMT) composed of the State, contractor PMO, and other vendor's key staff to discuss project status. A weekly project status report will be submitted a day before the meeting so that team members can be made aware of the content of the report and can bring any concerns to the meeting. Weekly meetings with the project management team will facilitate communication between all parties while fostering a level of trust within the PMT where each member is confident in presenting concerns or in proposing alternatives to current processes or work in progress.

Protech will send the State an agenda at least 24 hours prior to each meeting. All meetings will follow a preset agenda that consists of risk mitigation strategies and special topics derived from the contents of the weekly status report.

Protech will publish all meeting minutes within five (5) business days. All minutes will include a sign-in sheet that will contain the date and purpose of the meeting and identifying information completed by each participant. The minutes will identify the meeting owner and facilitator, participant's names, materials distributed prior and during the meeting, topics of discussion, action items, and the date and schedule of the next meeting. Each meeting with start with a review and acceptance of previous meeting minutes, including any revisions requested by PMT members.

4.6.2.2 Weekly Reports

REQUIREMENT:

11.2.2.6/4.6.2.2 On each Monday throughout the project, the Implementation Contractor's Project Manager must provide to the Program's Project Manager a weekly report, describing:

A. Project status;
B. The previous week's activities; and
C. Other project updates since the last report.
D. The proposed format and level of detail for the status reports shall be subject to the Program's approval
E. The narrative portion of the report must include, at a minimum, the following:
    1. Activities performed during the period by area (e.g., Design, Development, Testing, etc.);
    2. Overall completion status of the project in terms of the approved project work plan;
    3. Plans for activities for the next period;
    4. Deliverable status, with percentage of completion and time ahead or behind schedule for particular tasks;
    5. Problems encountered and proposed / actual resolutions; and
    6. Proposed changes to the project work plan, if any.

Protech will publish weekly and monthly project status reports to provide the State of Nevada with a comprehensive look at productivity and performance metrics for NCSEAS. The weekly report will consolidate all design, development and operational activities that occurred during the week, planned activities for the following week, and project updates since the last report. Reports will be submitted each Monday, close of business, for the entire duration of the contract. The report will also contain the status of

work performed on approved change orders, plus any change orders pending approval or in need of further analysis.

Protech will submit weekly status reports to the program project manager every Monday in a format previously approved by the State. The weekly status report will describe the overall project status, weekly accomplishments, and updates from the last report.

The details of the weekly report will include at a minimum:

- *Status reporting period*
- *Accomplishments from current reporting period for each area (design, development, testing, etc.)*
- *Overall assessment of performance and status of the program budget and schedule, including tracking the status of percentage completed and in-progress work against the most current approved project schedule*
- *Assessment of program resource levels, including a list of any known or anticipated resource changes in the future*
- *Program issues, including a status of all outstanding issues and a list of issues opened and closed during the previous reporting period*
- *Problems encountered and proposed or details of implemented solution*
- *Known program risks, including status of any outstanding risks and a list of risks whose status was changed during the prior reporting period*
- *Activities planned for the next reporting period*

4.6.2.3 Monthly Reports

REQUIREMENT:

11.2.2.6/4.6.2.3 – A. The Implementation Contractor must also submit a written status report that is due to the Project Control Manager the tenth (10th) working day of each month.

11.2.2.6/4.6.2.3 – B. This document, in a format to be developed by the PMO contractor and approved by the Program, shall be a basic tool for reporting to federal officials and other State officials on funding issues and program matters

11.2.2.6/4.6.2.3 – C. A complete set of updated and current output from the Implementation Contractor's project management software, along with the corresponding electronic project plan files, is to be provided with each monthly status report

11.2.2.6/4.6.2.3 – D. Ad hoc reporting as requested by the Project Director or designee.

Protech will submit a written monthly status report to the project control manager by the 10th working day of each month.

The monthly status report is a compilation of project data that includes project hours and expenditures, and is presented to the State according to an agreed-upon format document developed by the PMO contractor.

These reports include but are limited to the following information:

- *Description of the overall completion status of the project in terms of the approved project schedule*
- *Plans for activities scheduled for the next month*
- *Any proposed changes to the project schedule*
- *Deliverable status and percentages of completion*
- *Quality performance report*

- *Problems encountered, proposed resolutions, and actual resolutions*
- *Analysis of risks anticipated, proposed mitigation strategies, and resolved risks*
- *Updates required in the change management strategy*
- *Testing status and test results*
- *List of change requests*
- *Identification of our employees assigned to specific tasks.*

The monthly status report will include updated and current output from Protech's versioning control and project management software. Electronic copies of all updated project plan files will be provided along with each monthly report.

Protech will work with the State Project Management office to produce adhoc reports as required by the State leadership during the course of design, development and implementation of the NCEAS system.
Deliverables

4.6.2.4 Weekly Meetings and Minutes
4.6.2.5 Weekly Reports
4.6.2.6 Monthly Reports

Deliverables number 4.6.3.1, 4.6.3.2 and 4.6.3.3 Project Status Report and Meetings Deliverables will encompass all work products resulting from activities 4.6.2.1, 4.6.2.2, and 4.6.2.3, as previously described in this section.

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VI-4.7 Technical Approach Plan

4.7.1 Objective

REQUIREMENT:

11.2.2.6/4.7.1 The Implementation Contractor will prepare and update as required a technical approach plan for the project.

The Protech Team will prepare a detailed technical approach plan considering the new software and hardware components proposed for NCSEAS application and planned reuse of current computing environment of CSEP program. Based on our experience from similar large State IT projects and CSE modernization projects, we recommend a thorough due diligence of existing and required software and hardware to arrive at optimum bill of material.

The technical approach plan to build the new environments for the project will have following phases:

- *Plan – Analyze, review assets and dependencies*
- *Design – Operational design, business process mapping, technical architecture*
- *Build – Site readiness, installation and configuration*
- *Test – Connectivity, hardware testing, application testing*
- *Manage – Maintenance*

An overview of above phases is presented below.

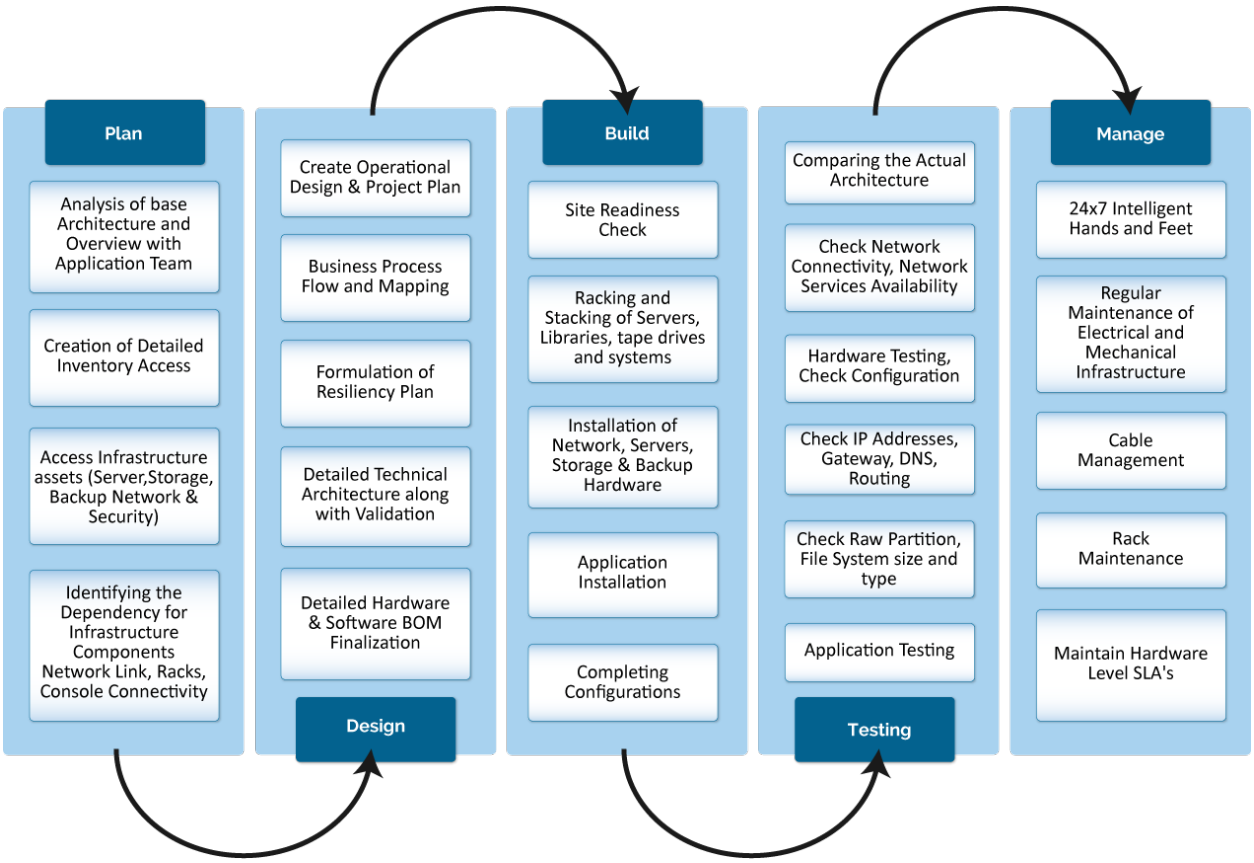

Figure 4.7-1. Technical Approach Overview

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4.7.2 Activities

4.7.2.1 Development of a Technical Approach Plan

REQUIREMENT:

11.2.2.6/4.7.2.1 The technical approach plan will:
5.6.2.1/4.7.2.1- A. Specify hardware and software components for the NCSEAS and their integration.

The following Software components are proposed for the NCSEAS application:

Proposed Software Components		
Description	Name	Description of Intended Use
Business Process Management System	IBM Business Process Manager (Advanced) V8.5	Tooling and run time for process design and execution, also utilize its capabilities for monitoring and optimizing the work flows.
Business Rules Management System	IBM ODM standard V8.x	ODM to manage and automate repeatable business rules, events and operational decisions that impact business performance.
Document Management	IBM FileNet P8 V5.x	Our solution for Content Management.
Scanning/Capture Tool	Data Cap V9.0	Our solution for capture, recognition, and classification of business documents.
Document Generation	Thunderbird	Proposed solution for Document generation.
Application Server	WebSphere Application Server(WAS) on AIX /Windows V9.0	Java/ J2EE applications will be deployed in WebSphere Application Server on AIX.
Message Queue	WebSphere MQ V9.0	Our Solution will reuse WebSphere MQ for messaging across multiple platforms.
Database Management Systems for distributed environment	DB2 FOR AIX V9.1 and UDB V8.2.2	Migrates the database entities to multiple environments. We will use DB2 for AIX as our primary Relation Database Management System.
Languages and Frameworks	Java 7(6 or above), SPRING MVC, JEE, JSON, XML, HTTP	The primary solution that we propose uses JAVA, J2EE and MVC architecture.
Document Management	IBM FileNet P8 V5.x	Our solution for Content Management.
Development Tools	Rational Application Developer (RAD) V9.0	Used as editors for Java EE, Web Service, SOA, XML, J2C, Web Application etc.
	WebSphere Integration Developer	Development tool for assembling complex business solutions, building SOA based application.
	IBM Integration Designer	To design the service components also integrated with WebSphere Business Modeler to import models for rapid implementation.
	WebSphere Business Modeler	To accelerate process development.
	Rational Business Developer	Integration development environment (IDE) to simplify development effort, also simplifies the development of Web 2.0, service-oriented architecture (SOA), and traditional applications using the Enterprise Generation Language (EGL).
	WebSphere Decision Server Rule Designer	For designing the rule, automats the response of highly variable decisions based on the specific context of a process, transaction or interaction.

Proposed Software Components		
Description	Name	Description of Intended Use
	WebSphere Decision Server Event Designer	For designing decision server events.
	Rational DOORS Next Generation	For Requirements management and maintain traceability.
	Bugzilla	For defect tracking.
	Perforce Windows Server 2003 V2007.2	For source code configuration control and build management.
Performance Monitoring	IT CAM	IT CAM for the management of our application environments and safeguard application performance.
Regression Testing	IBM Rational Functional Tester	Automated functional testing.
Performance Testing	Rational Performance Tester	Load testing.
Security Testing	IBM Policy Tester	For automated Online compliance solution to assess quality, privacy, and accessibility compliance issues across web properties.
Reporting	Business Objects/Crystal Reports	The existing reporting tools, SAP BO and Crystal Reports, will be reused for the reporting components.
ETL	SAP Data Services	To reuse the SAP Data Services process of populating the reporting database from the operational system.
Batch Process	CA Workload Automation	Protech proposes CA Workload Automation.as process scheduler.
System Backup and Recovery	IBM Spectrum Protect	IBM Spectrum Protect for the Backup & Recovery Solution.
Server virtualization - Linux and Windows	VM Ware	Utilize the VM Ware virtualization solution for Windows & Linux machines.
Server virtualization - AIX	IBM Power VM	Protech will use the PowerVM virtualization solutions for the AIX system in the new NCSEAS so that it can consolidate large numbers of applications and Servers fully virtualize its system resources, and provide a more flexible, dynamic IT infrastructure.
Network	TCP/IP, WAN, Cisco, Novell	Our Network communication is based on TCP/IP protocol. We recommend using Cisco Networking hardware. Our standard for core switches is the Cisco 6509/6513 platform. The redundant firewalls are deployed in a multi-tier setup to support environment and tier isolation. The data center will be connected to WAN by high speed connection links and to the internet.
Security	Novell Access Manager v4.2	Novell E-Directory will be part of our solution for the credential store.

The following Hardware components are proposed for the NCSEAS application:

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Environment	Server Purpose	Hardware Name
Production	• IBM ODM standard - 8.x • IBM Business Process Manager (Advanced) • IBM FileNet P8 • WebSphere Application Server(WAS) • WebSphere MQ • Thunderhead • DB2 for AIX • IBM Tivoli Continuous Data Protection. • IT CAM	IBM POWER SYSTEM E870(64 Core, 768GB RAM, PowerVM, 300GB SAS HDD, SATA SLIMLINE DVD-RAM, PCIE3 LP 16GB 2PORT FIBRE CH, PCIE3 LP 2PORT10GBE NIC R SR, 7042-CR9 HMC), Storage IBM V7000, SYSTEM STORAGE TS3310 TAPE, SYSTEM STORAGE SAN48B-5)
	IBM Datacap	Wintel (x86) Platform
Development and Data Conversion Environment	• IBM ODM standard - 8.x • IBM Business Process Manager (Advanced) • IBM FileNet P8 • WebSphere Application Server(WAS) • WebSphere MQ • Thunderhead • DB2 FOR AIX	IBM POWER SYSTEM S822(20Core, 256GB RAM, PowerVM, PCIE3 LP 16GB 2PORT FIBRE CHA, 300GB SAS HDD, SATA SLIMLINE DVD-RAM, 2PORT10GBE NIC R SR)
	IBM Datacap	Wintel (x86) Platform
Integration, System Test, and UAT Environment	• IBM ODM standard - 8.x • IBM Business Process Manager (Advanced) • IBM APM • IBM FileNet P8 • IBM Rational Functional Tester • IBM Rational Performance Tester • Bugzilla • WebSphere Application Server(WAS) • WebSphere MQ • Thunderhead • DB2 FOR AIX • IBM Policy Tester	IBM POWER SYSTEM S822(20Core, 256GB RAM, PowerVM, PCIE3 LP 16GB 2PORT FIBRE CHA, 300GB SAS HDD, SATA SLIMLINE DVD-RAM, 2PORT10GBE NIC R SR)
	IBM Datacap	Wintel (x86) Platform
Training Environment	• IBM ODM standard • IBM Business Process Manager (Advanced) • IBM FileNet P8 • WebSphere Application Server(WAS) • WebSphere MQ • Thunderhead • DB2 FOR ZOS 9.1 • IBM Data CAP	IBM POWER SYSTEM S822(20Core, 256GB RAM, PowerVM, PCIE3 LP 16GB 2PORT FIBRE CHA, 300GB SAS HDD, SATA SLIMLINE DVD-RAM, 2PORT10GBE NIC R SR) Wintel (x86) Platform
Disaster Recovery	• IBM ODM standard - 8.x • IBM Business Process Manager(Advanced) • IBM FileNet P8 • WebSphere Application Server(WAS) • WebSphere MQ • Thunderhead • DB2 for AIX • IBM Tivoli Continuous Data Protection. • IT CAM	IBM POWER SYSTEM E870(64 Core, 768GB RAM, PowerVM, 300GB SAS HDD, SATA SLIMLINE DVD-RAM, PCIE3 LP 16GB 2PORT FIBRE CH, PCIE3 LP 2PORT10GBE NIC R SR, 7042-CR9 HMC, Storage IBM V5000, IBM SYSTEM NETWORKING SAN24B-5, TS3200 TAPE LIBRARY)
	IBM Data CAP	Wintel (x86) Platform

After the assessment phase, Protech and the CSEP will mutually validate the above list and finalize the new environment build.

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REQUIREMENT:

11.2.2.6/4.7.2.1-B Identify requirements and constraints on the modernized system hardware and software as needed to integrate with the existing state infrastructure

The following are the pre-requisites for the build phase:

- *Data Center (DC) facility - racks, cabling, power, HVAC is ready*
- *Verify equipment delivery with BoM*
- *VLAN, IP addresses designed and allocated for all devices and environment*
- *Device naming convention agreed and signed off by customer*
- *Hardware test performed by OEM for all equipment*
- *DMZ Security Policies - ports to be opened for tools implementation*
- *OS Standard image specifications ready*
- *All media/software and licenses available*
- *Technology wise design documents signed off by customer*
- *Technology track wise build checklist ready*
- *All environment/equipment acceptance test checklist ready*
- *Temporary internet connectivity at DC for technical reference and downloads*
- *WAN link to DC - to be delivered during build phase*
- *Resources access to DC facility for build cycle*
- *Technology resources are lined up to start build*

The following requirements and constraints for building new environments for NCSEAS project will be covered in the technical approach plan:

- *Information gathering from existing application owners, operations support team for assessment of current environment*
- *Required access to the existing infrastructure for the required integration*
- *Availability of key client members for clarifications, discussions and meetings with the Protech Team*
- *Sufficient documentation on the existing architecture*
- *Availability and access to accurate business – application - infrastructure mapping*
- *Timely delivery/availability of the required hardware and software components*
- *Proper availability of the downtime*

REQUIREMENT:

11.2.2.6/4.7.2.1-C Specify the physical security for the NCSEAS and the requirements for supplying it with electrical power and other infrastructure supports to the system.

The Protech Team, along with CSEP project manager and State' EITS services team, will assess the current data center set up to build the new environments required for NCSEAS application. The details of racks, cabling, power supplies, and physical location within the data center will be finalized in mutual discussion with the CSEP and EITS team during the planning phase of new environment build. Depending upon the finalized location, a determination will be made to whether existing physical security can be covered or additional arrangements are required.

REQUIREMENT:

11.2.2.6/4.7.2.1-D Provide a logical network diagram of all components of the proposed system.

Provided below is a network diagram representing all components of the NCSEAS system.

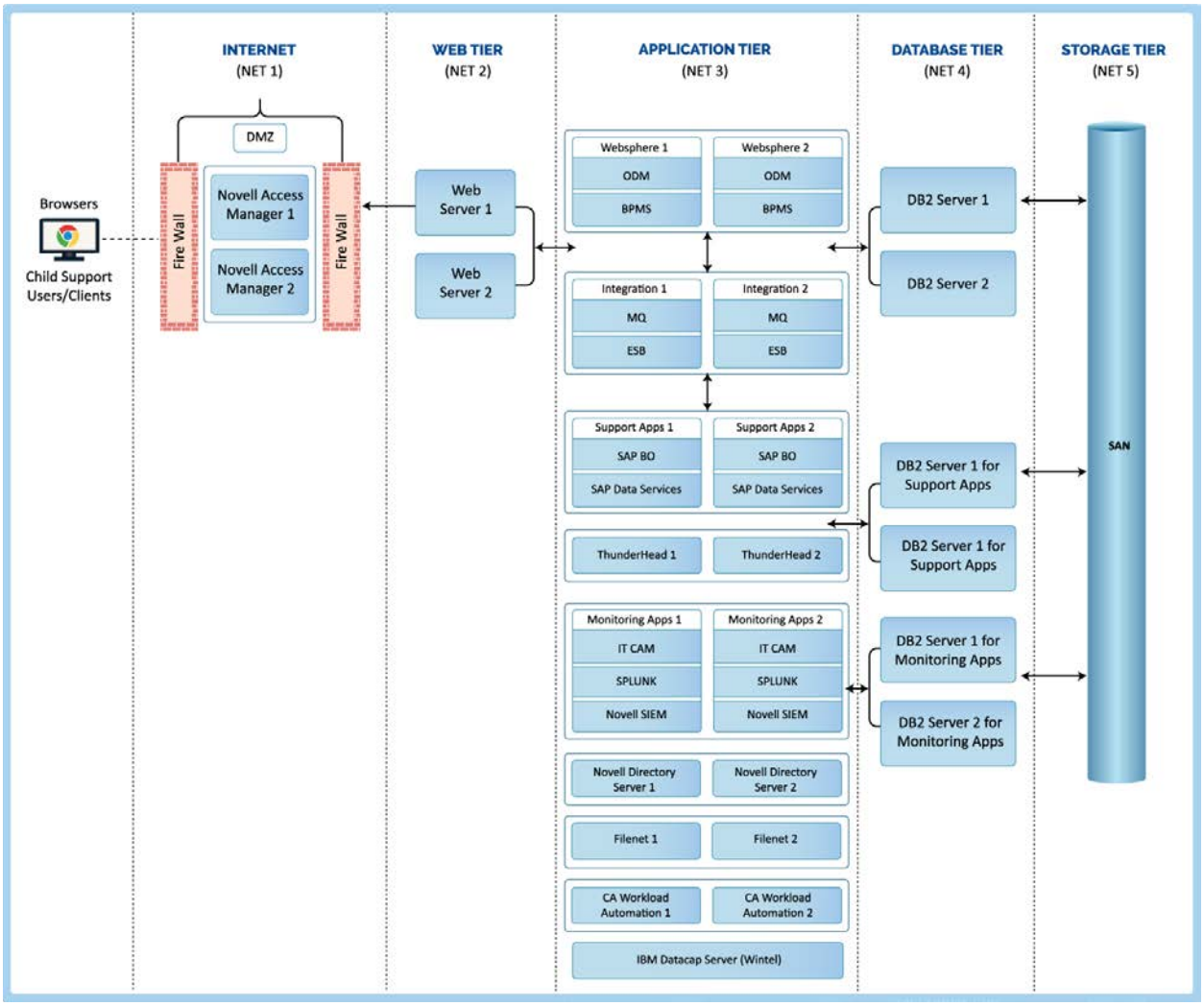

Figure 4.7-2. Logical Network Diagram

4.7.2.2 Execute the approved Technical Approach Plan successfully.

REQUIREMENT:

11.2.2.6/4.7.2.2 Execute the approved Technical Approach Plan successfully.

Protech will execute the approved Technical Approach Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.7.3 4.7.3 Deliverables

4.7.3.1 Technical Approach Plan
4.7.3.2 Successful Execution of the Technical Approach Plan

The detailed activities planned in each phase of building the new environments for hardware and software components will be documented in a technical approach plan. This plan will also have a schedule of phases, with agreed dates to set up environment in State identified data center. Protech will submit this plan to State of Nevada for review and approval. Deliverable number 4.7.3.1 and 4.7.3.2, Technical Approach Plan and Succesful Execution of the Technical Approach Plan will encompass all work products resulting from activities 4.7.2.1 and 4.72.2 as described in this section.

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VI-4.8 Business Continuity and Disaster Recovery Plan

4.8.1 Objective

REQUIREMENT:

11.2.2.6/4.8.1 The Implementation Contractor will prepare and update as required a business continuity and disaster recovery plan for the project.

The Protech Team will build a comprehensive business continuity and Disaster Recovery Plan based on our vast, comprehensive, unique and tested solution that utilizes our years of Business Continuity Plan (BCP) experience.

An overview of our BCP experience is as follows:

- ***10 years of experience in managing complex hosting environments.***
- ***Customized cage and rack models***
- ***Carrier neutral facilities with multiple rings***
- ***Tier based storage with redundant fiber paths***
- ***Customized compliance management***
- ***Multiple local, regional and global carriers***
- ***Segmented utility and production LAN and WAN***
- ***LAN based, LAN free backup with application based backup agents***
- ***Dedicated and shared virtual instances for Windows and UNIX***
- ***Quick facilitate expansion to manage growth***
- ***Highly secure environment and architecture in layered approach***
- ***Total number of devices managed 1500+***

The key to our success is built upon the basis of our years of experience, industry best practices, and strict regulatory requirements. Our methodology emphasizes detailed, critical analysis to gather comprehensive data on which we compose thorough response and recovery strategies.

Our proposed Business Continuity Plan will have following six phases:

Protech Business Continuity Plan	
Phase	Name
I	Strategic Plan: Risk Assessment
II	Strategic Plan: Business Impact Analysis
III	Business Recovery Plan
IV	Crisis Management Plan
V	IT Disaster Recovery Plan
VI	Plan Maintenance, Update, Exercise, Real-Time Use

The objective of establishing a resilient Business Continuity Management System (BCMS) is achieved through a set of staged phases, each with its own entry and exit criteria and deliverables.

Key benefits of our BCP plan are as follows:

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- *Use of mature processes (well defined templates, presentations, tested methodology) for delivery of services ensuring the project is delivered on time and best value to State of Nevada*
- *Provisioning of trained and certified professionals ensuring professionalism and usage of industry best practices in delivery of services.*
- *Early and consistent stakeholder involvement and training ensuring CSEP personnel are ready to support the business*
- *Continuity after Protech hands over operations and maintenance of the NCSEAS system to the State of Nevada*
- *Use of client's existing tools for ensuring ease of maintenance of plans*
- *Change management process that obtains approvals from all stakeholders*

4.8.2 Activities

4.8.2.1 Business Continuity and Disaster Plan

REQUIREMENT:

11.2.2.6/4.8.2.1 Develop a Business Continuity and Disaster Recovery Plan which will:
5.7.2.1/4.8.2.1-A. Set forth the protocols to provide immediate response to and subsequent recovery from any major unplanned business disruption, such as loss of utility service, building evacuation, or a crisis event such as a major fire, flooding, earthquake, etc.

The protocols for major unplanned disruption will be prepared after understanding current CSEP and EITS business continuity and disaster recovery procedures. The specific sequence of actions and responsibilities of BC-DR teams will be documented. The decision points and responsible team to initiate disaster recovery procedures after assessing the situation following a disaster or crisis will be included in this plan

REQUIREMENT:

11.2.2.6/4.8.2.1-B Provide an overview of the requirements, strategies, and proposed actions necessary to recover mission critical business operations rapidly and effectively following such an event.

The objective of our business continuity plan is to prevent and contain potential disruption of CSEP operations. Protech's solution details the communication, escalation, and actions necessary in the event of an incident or disaster. It also provides a well-researched approach and process to resume services with a defined and agreed upon levels set by the State and Protech with a view to minimizing business losses; and providing cost-effective measures while providing alternate services.

The risk assessment to analyze the probability and impact of specific threats that could cause a business interruption will be done. This will be used to deploy necessary controls to minimize those risks. This will be followed by a business impact analysis to determine the financial and operational impact of a disruption in information technology services. The time criticality of business processes, functions, departments and work areas will also be determined. Finally, recovery time objectives and recovery point objectives will be set in consultation with stakeholders.

The business continuity and disaster recovery plan for NCSEAS will document the implementation tasks needed to recover the IT environment in the required timeframe. This also include development of the disaster recovery (hot) site implementation plan and assisting CSEP and State EIS Services personnel in recovery exercise planning and preparation.

A crisis management plan will be developed to ensure immediate response in the event of a disaster. The scope covered will include list of triggers that would enable declaration of crisis and the measures required to handle various kinds of disasters at an organizational level.

DR strategies will be defined to recover from:

- *Failure of critical IT resources at the primary data center location.*
- *Inability to continue the operations in the existing location due to natural and/or man-made disaster events.*

REQUIREMENT:

11.2.2.6/4.8.2.1-C Ensure consistency with Enterprise Information Technology Services (EITS) Division, DHHS, DWSS, and CSEP business continuity and disaster recovery plans.

The Protech Team will work in collaboration with senior management and all necessary stakeholders from the CSEP program and the State's EITS services, DHHS and DWSS during the process of developing the business continuity and disaster recovery plans. These plans will set the protocols to provide immediate response for unplanned major disruptions.

A formal schedule will be maintained for undertaking the BCP documentation maintenance. This is crucial for maintaining and improving the BCP preparedness. Broadly, the following activities shall be undertaken for maintenance of the BCDR documentation:

- *BCP documentation maintenance shall be undertaken based on the results of the BCDR exercise.*
- *After each BCP exercise, we shall take stock of the BCP exercise findings and prepare a comprehensive BCP exercise report*
- *This report shall be reviewed by the BCP committee and approve enhancement/changes to the BCP Plan*
- *If during normal operations there are changes to the critical applications and their corresponding architecture at the alternate site, then prior to the changes, appropriate recommendations shall be made for updating the BCP documentation.*
- *If changes in the storage facilities, implementation of new/discontinuance of an existing business functions, adoption of new technologies solutions and change in critical third-party service providers or vendors, the BCP documentation shall be updated accordingly.*

REQUIREMENT:

11.2.2.6/4.8.2.1-D Identify the hardware, software, data, and communications components needed to provide for alternative site operations for production and development.

During the project execution and production operations, the IT infrastructure at the primary site and disaster recovery site need to be kept updated for all deployments to keep them synchronized. The key components of each environment which require alternative site operations will be discussed with the CSEP project manager during the project planning phase and documented in this plan.

REQUIREMENT:

11.2.2.6/4.8.2.1-E Identify the means for duplicating the system at the alternative site and specify the retention period for all application and operating system components.

Protech will utilize CSEP's primary site and disaster recovery sites for NCSEAS. The CSEP setup will have connectivity to both primary site as well as disaster recovery Site. The disaster recovery procedures will be tested periodically that would be outlined in the DR Plan.

The alternative site and retention period for all applications and operating system components will be discussed with the CSEP project manager and EITS service team during the project planning phase.

REQUIREMENT:

11.2.2.6/4.8.2.1-F Include the components for planning backups as well as core system design requirements.

The Protech Team will discuss the details of components planned for backup with the CSEP during project planning and will document all processes in the business continuity plan.

REQUIREMENT:

11.2.2.6/4.8.2.1-G Outline the steps for troubleshooting and replacing / reconfiguring system hardware and software.

Troubleshooting and replacing/reconfiguring system hardware and software will be taken up through change management process after assessing any possible impact on business continuity and disaster recovery plans.

REQUIREMENT:

11.2.2.6/4.8.2.1-H Outline the steps for restoring the system and verifying the use of system backups.

The steps for restoring the system will be prepared considering the possible impact on Recovery Point Objective (RPO) requirements. The RPO requirements will be discussed with the CSEP project manager during project planning phase and documented in this plan.

REQUIREMENT:

11.2.2.6/4.8.2.1-I Outline the conditions under which the project will use the alternative site.

The typical conditions for using alternative site are:

- *Natural calamities*
- *Utility related*
- *Human related*
- *IT related technical disruptions*

The conditions for using alternative site as part of implementing business continuity plan will be discussed with CSEP team during project planning phase and documented in this plan.

REQUIREMENT:

11.2.2.6/4.8.2.1-J Define the procedures for testing the alternative site

A test plan to audit the business continuity plan for disaster readiness will be developed. The test plan will ensure that critical business processes identified in the business impact analysis are operational at the alternative site.

REQUIREMENT:

11.2.2.6/4.8.2.1-K Define the procedures for reverting to the primary site after failover to the alternative site.

Protech's Business and Continuity Plan delineates the precise procedures that follow a failover to the disaster recovery site in order to successfully revert to the primary site. After a failover operation, the assigned staff will verify the operability of the primary site by executing a set of pre-define tests. These tests will ensure the availability of all major software components, network connectivity through end-to-end testing that will include all partners and stakeholders. Reverting to primary site procedures include

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adequate channels of communications, monitoring of performance and security, and the completion of checklists to ensure the re-initialization of the disaster recovery site.

4.8.2.2 Execute Business Continuity and Disaster Plan

REQUIREMENT:

11.2.2.6/4.8.2.2 Execute the approved Business Continuity and Disaster Recovery Plan Successfully

A. *A Disaster Recovery Manual and a Disaster Recovery Plan will be maintained by the Disaster Recovery Team. Checklists and asset inventory lists will be updated quarterly to reflect any changes. The goal is to identify the exposure to risk, make recommendations for mitigation, create a standard set of procedures to follow during a crisis situation, and define the long term requirements needed for a full and expedient recovery.*

B. *The necessary actions to swiftly recover mission critical business operations begin with a proactive risk assessment plan that analyzes and mitigates the impact of specific threats. The business continuity and disaster plan then delineates the implementation tasks for a successful failover that minimizes the potential impact to operations and IT services.*

C. *The close coordination of responsibilities between the various stakeholders will ensure a smooth transition to recovery mode in the case of a disaster. This coordination will be achieved by a clear understanding of the roles and responsibilities documented in the plans.*

D. *The databases will be configured to transfer archive log files from the production data center to maintain the disaster site synchronized. Should the primary data center become unavailable, the database in the DR data center will be activated after the last archive log file is fully applied.*

E. *Data is expected to change constantly on a day-to-day basis as a result of user interaction and the processing of batch programs. The backup mechanisms take into consideration the use of hot-backups and technical documentation including the identification of regular backup cycles and off-site storage arrangements.*

F. *Preemptive measures include the redundant configuration of routers, switches, servers, and storage area network that guarantee increased availability for troubleshooting, replacing and reconfiguring hardware.*

G. *The frequency and rotation cycle of the production database backups will ensure the use of the most recent data as established by the Recovery Point Objectives (RPO). The archive log files from the current production will be applied to execute a point-in-time restore.*

H. *An event such as significant equipment failure, acts of God, and others that compromise the ability to provide critical functions, processes, or services for an extended period of time will be considered an emergency. The scope and conditions of such events will be agreed-upon with the State and well documented.*

I. *The State-approved test scripts will be executed and screen-shots will document the succesful completion of all testing criteria.*

J. *The established procedures for testing the alternative site include the execution of multiple test scripts that verify that the applications and all of its subsystems are fully operational. After the*

completion of the test, a notification will be published including communications addressed to end user and interfacing agencies.

K. *At completion of failover tasks, the procedures for reverting to the primary site include the transition of operations back to the primary center. Upon completion of the Resuming Operations at Data Center Checklist Protech confirms that services are restored and meets production objectives until the systems restore procedures are completed. The execution of these tasks confirms the return to normal operations.*

Protech will execute the approved Business Continuity and Disaster Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.8.3 Deliverables

4.8.3.1 Business Continuity and Disaster Recovery Plan
4.8.3.2 Successful Execution of the Business Continuity and Disaster Recovery Plan

This business continuity disaster recovery plan covers the operational level responsibilities before, during and after the disaster, and addresses the strategy, procedures for recovering the information assets and underlying IT infrastructure and thereby ensuring the continuity of the business operations

Deliverables from the Protech Team post BCP implementation would include:

- *Business impact analysis report*
- *Risk assessment report*
- *Emergency response procedures*
- *Crisis management plan*
- *Vital records plan*
- *Disaster recovery test plans for printing, connectivity, and hot site data recovery*

Deliverable number 4.8.3.1, Business Continuity and Disaster Recovery Plan, and Deliverable number 4.8.3.2 will encompass all work products resulting from activities 4.8.2.1.7.2.1 and 4.8.2.2 as described in this section.

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VI-4.9 System Capacity Plan

4.9.1 Objective

REQUIREMENT:

11.2.2.6/4.9.1 The Implementation Contractor will prepare and update as required a system capacity plan for the project.

The Protech Team's system capacity plan takes three key areas into consideration:

- *Resource capacity. Measuring and monitoring all servers, network, and storage components usage*
- *Service capacity. Ensuring that IT services meet service level requirement (SLR) targets within service level agreements (SLAs)*
- *Business capacity. Planning and implementing IT services to meet future business requirements*

These three views of capacity management provide a top-to-bottom understanding of IT service consumption. Resource capacity management provides the individual details of capacity usage. Service capacity management delivers the end-to-end view of service performance, i.e. the result of the use of all components. Business capacity management ensures that IT maintains sufficient capacity to meet current and future business demands.

The Protech Team will develop and deliver a system capacity plan that details the hardware, software, storage, and network requirements for the NCSEAS project. This system capacity information is based on metrics obtained from:

- *The California transfer system*
- *Next generation CSE systems already implemented by Protech*
- *Analysis of the NCSEAS project requirements*
- *Benchmark testing/performance monitoring during the design phase*

The results provide the initial sizing for all necessary environments (both system usage and resources), as well as capacity sizing to support five years of post-implementation growth.

We leverage our partnership with IBM and utilize the "Balanced System Guideline" when creating our system capacity plan.

The Balanced System Guideline is an IBM recommended series of systems used to calculate the relative server performance (rPerf) based on the saturation curve and the rules of thumb. rPerf is a computer benchmark that evaluates the relative OLTP performance of servers based on IBM POWER microprocessors. The Balanced System Guideline is derived from a model based on specific workloads plus benchmarks from the Transaction Processing Performance Council and SPEC, and is available only to IBM employees and IBM Business Partners.

4.9.2 Activities

4.9.2.1 System Load and Performance Requirements

REQUIREMENT:

11.2.2.6/4.9.2.1 The system capacity plan will:
5.8.2.1/4.9.2.1-A Provide an estimate of the system load and specify the necessary performance requirements for operational memory, computing power, and data storage, and expansion to sustain planned growth.

Our capacity planning process, illustrated in Figure 4.9-1, includes gathering, analyzing, and documenting key business data and parameters to understand the overall business framework from a capacity planning perspective.

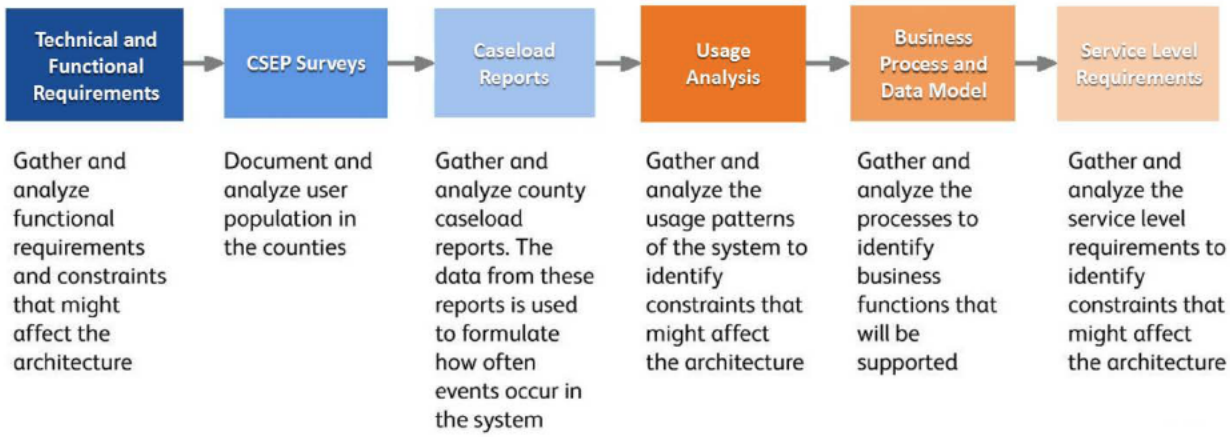

Figure 4.9-1. Detailed Capacity Analysis

We gather a variety of volume and transaction data as well as analyze trends and patterns to proactively predict and meet the State's capacity requirements.

The Protech Team uses the following performance monitoring framework for capacity planning of the NCSEAS program, as shown in the following table:

Framework for Capacity Planning and Management		
Hardware Components	**Business Functions**	**Metrics**
All production servers	The performance of the servers	Metrics monitored: 1. CPU utilization 2. Memory utilization 3. Disk utilization 4. I/O rate 5. Server availability 6. Hits per second Connected users
All production network components	The performance of the network	Metrics monitored: 1. Network utilization 2. Network availability
Production Storage Area Network (SAN)	The performance of the SAN	Metrics monitored: 1. Physical I/O Rate 2. Buffered I/O Rate 3. Disk storage utilization
Web servers	Monitor the system response time of transactions from the Web server perspective	Metrics monitored: 1. Transaction response time 2. Transaction volume 3. User experience monitoring

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Framework for Capacity Planning and Management		
Hardware Components	**Business Functions**	**Metrics**
Database servers	Monitor the system response time of transactions from the database perspective	Metrics monitored: 1. Transaction response time 2. Transaction volume 3. The transactions for both metrics will be broken down into select, insert, update, and delete.
Applications and web services	Servlets, JSP s, EJBs	Diagnose the cause of change-related web application performance issues
Capacity testing	Monitor the system response time	Metrics monitored: 1. Transaction response time 2. Transaction volume 3. Hits per second 4. Connected users 5. Type of transaction

Data Storage

Statistics gathered from the California transfer system will be used to project database sizing for the various environments.

Benchmark Testing Approach

To be successful in performing the tests, Protech plans to follow the steps outlined below:

1. ***Identify the threshold for optimum performance by maximizing load on the web server, application server, database server and gather the following:***
- ***Transaction response time***
- ***Transaction volume***
- ***Hits per second***
- ***Connected users***
- ***Type of transaction***
2. ***Prepare scripts to accommodate all possible combinations and scenarios for better assessment***
3. ***Execute single and multiple scripts that simulate the user action with 2 time blocks (3 hours and 8 hours). Three hours is considered as the peak load. 8 AM to 11 AM is considered peak hours. During this time, we estimate that roughly 90% of the users are actively using the application***
4. ***Use IBM's Rational Load Test software with ramp up to 1000 users***
5. ***Use Jprobe, identify memory leaks, etc. and stabilize software***
6. ***Determine % of transactions that exceed SLA (2 seconds)***
7. ***Monitor the results using various toolsets***
8. ***Evaluate and tune JVM parameters***
9. ***Evaluate performance based on the results.***

The Protech Team uses performance monitoring reports during design and initial production operations to validate the assumptions in the capacity planning analysis. We additionally revise the capacity planning analysis as needed to maintain and utilize the data for projecting system capacity requirements.

REQUIREMENT:

5.8.2.1/4.9.2.1-B Provide methodology used to determine estimates.

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Protech uses function point analysis as the basis for our estimating model. To standardize the estimates across all tasks, Protech's methodology provides a tool to help guide the team(s) performing the estimates. The model provides estimates of hours by skill categories and costs based on general work tasks. Protech's Software Development Life Cycle (SDLC) provides the capability to manage the development work in a predictable manner. In contrast to this "waterfall method", contemporary software engineering focuses on the continuous interplay among the stages of development. Analysts and designers go back and forth to evolve a solid foundation for the programmers. Programmers, in turn, interact with analysts and designers to share their insights, modify designs, and strengthen their code.

Software development has become so complex and so specialized that it takes a team of individuals to understand a problem, design a solution, translate that solution into code, and deploy a new software version. Protech follows a consistent strategy for building cost estimates. Our proven methodology for estimating application development centers on applying past experience to develop an estimating strategy that:

1. *Determines the lowest reasonable level of granularity of the cost estimate.*
2. *The type of function that needs to be constructed (i.e. online inquiry, background update, interface, etc.)*
3. *Quantifies the number of functions that need to be modified or constructed.*
4. *Evaluate the complexity of the functions that need to be modified or constructed.*
5. *Takes into consideration the integration between other software components.*
6. *Factors in the relationship between software development activities (work categories.*
7. *Compare results with tasks of similar size and complexity.*

Based on actual effort figures from past Child Support Enforcement engagements and J2EE specific estimation methodologies, we created a function type and complexity matrix to estimate the coding and testing efforts.

The approach adopted by Protech for software estimation is based on function point analysis because the overall function estimating is derived from functional complexities rather than by module or lines-of-code counts.

The efforts for application development activities that occur before, during and after coding are correlated to the number of functions that will be constructed and/or modified; the complexity and type of functions being coded is also relevant. More complex functions such as payment distribution are going to take longer to design and test in comparison to an HTML page that lists payments made by a non-custodial parent.

The number of function points in a program is based on the number and complexity of each of the following items:

External Inputs: Screes, forms, dialog boxes, or control signals through which an end user (or other program) adds, deletes, or changes programs data. External inputs include any interaction that has a unique format or unique processing logic.

External Outputs: Screens, reports, graphs, or control signals that the program generates for use by an end-user or other programs. External outputs include any output that has a different format or requires a different processing logic than other output types. External outputs also include database queries that process, combine, or summarize complex data that can be highly formatted.

External Queries: Input/output combinations in which an input results in an immediate, simple output.

Internal Logical Files: An internal logical file can consist of flat files or tables in a relational database of end-user data or control information that is completely controlled by programs within NCSEAS.

External Logical Files: Files controlled by programs outside NCSEAS that interact with the software artifacts that are part of a Change Request. This includes all major logical groups of data, or control information, that enters or leaves a program.

Once Protech has analyzed all the Change Request documentation, the next step in the estimating procedures is to count the number of external and internal inputs, outputs, logical files, interface files and external queries. Once that is completed, we calculate the Function Point Count by multiplying the number of external inputs, outputs, queries, ILF and ELF's by a given value based on their complexity. The sum of all the different values by program characteristics will provide us with the Function Point count of the Change Request. This Function Point Count will then used to calculate the level of effort.

4.9.2.2 System Capacity Plan

REQUIREMENT:

11.2.2.6/4.9.2.2-Execute the approved System Capacity Plan successfully to include:
A. Testing the configuration

The System Capacity Plan will be used to finalize server and network configurations. Capacity Planning is a predictive process to determine future computing hardware resources required to support solution requirements and budget constraints. The System Capacity Plan will be used as the basis to build hardware and software equipment purchase orders for production and other environments.

Protech will perform proof-of-concept trials and the result of these exercises will be used to design simulated tests using an application prototype. Tests will be executed and minimum workstation requirements will be determined based on the results obtained from preliminary results.

Using the performance monitoring framework illustrated in Exhibit 5.8.2, the Protech Team constantly monitors the system, database, and infrastructure (e.g., hardware, software) of the NCSEAS system. This information is used daily to maintain services while our capacity management team uses the information captured to analyze and report on future capacity requirements for the system, database, and infrastructure components.

As new or updated capacity information is available, we review the system's capacity forecast with the State to take pre-emptive actions on future capacity demands.
Examples of the processes monitored include:

- *Overall performance*
- *Workload*
- *Application sizing*
- *Resources*
- *Demands (Projected growth over quarters and years)*

Several meetings will be held to discuss the test's outcome and to derive server configurations.

REQUIREMENT:

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11.2.2.6/4.9.2.2-Execute the approved System Capacity Plan successfully to include:
B. Baselining the configuration

Protech will develop a benchmark analysis strategy, will execute a benchmark analysis, will execute test to determine minimum workstation requirements, and will then develop the system capacity plan.

In order to baseline the configuration, benchmark analysis will be accomplished with the use of an application prototype. Protech will gather measurements for the servers' performance by testing the configuration against an application prototype and documenting results in the system capacity plan. Capacity requirements and configurations baselines will include LAN, WAN, core enterprise, and data storage.

4.9.3 Deliverables

4.9.3.1 System Capacity Plan
4.9.3.2 Successful Execution of the System Capacity Plan

The Protech Team recognizes that we will prepare and update a system capacity plan for the project in accordance with the terms of the contract and as reasonably requested by the State. Deliverable numbers 4.9.3.1 and 4.9.3.2, System Capacity plan and Successful Execution of the System Capacity Plan will encompass all work products resulting from activities 4.9.2.1 and 4.9.2.2.

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VI-4.10 Development Hardware and Software Purchase Plan

4.10.1 Objective

REQUIREMENT:

11.2.2.6/4.10.1 The Implementation Contractor will prepare and update as required a development hardware and software purchase plan for the project.

Protech has extensive experience in executing projects involving hardware and software purchasing. Protech understands that the purpose of development hardware and software purchase plan is to outline the processes and procedures that will serve as a guideline to procurement, delivery, installation and continued maintenance of the development hardware and software required for development of the NCSEAS application. It will also outline the warranty procedures that need to be followed for the continued maintenance of the hardware and software purchased for the NCSEAS project.

The processes outlined in this plan will apply to purchase of all hardware and software intended for developing and testing the NCSEAS application.

4.10.2 Activities

REQUIREMENT:

11.2.2.6/4.10.2.1 The development hardware and software purchase plan will:

The development hardware and software selection process will be a collaborative effort involving the Protech Team and the State. The emphasis will be to reuse the existing State hardware and software. Protech will conduct a series of meetings with the State as required to determine the preference and feasibility for the purchase of the hardware and software required for the development effort. These meetings will focus on determining the hardware and software components based on the following requirements.

4.10.2.1 Hardware, Software, and Communications Components Needed

REQUIREMENT:

11.2.2.6/4.10.2.1-A Identify the needed hardware, software, and communications components for the various environments needed for the development phase.

Protech has identified details of hardware, software, and communication components required for the various environments during the development and testing phase as part of technical solution in this proposal. These components will be validated with State during planning phase of the project and finalized.

The list of finalized software, hardware and communication components will be included in this plan.

REQUIREMENT:

11.2.2.6/4.10.2.1-B Describe the procurement steps the CSEP will take to authorize and affect the purchase, delivery, and installation of the hardware and software.

During initial procurement process, Protech will:

- *Facilitate discussions and demonstrations for the State as required on the recommended hardware/software components.*
- *Perform the required research when necessary and provide feedback to the State on the feasibility of use of certain hardware and software.*

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- *Provide the required expertise in recommending the software that will meet the goals and objectives of the Project.*

The procurement steps the CSEP will need to take include:

Selection

The selection process for the hardware and software will be a combined effort between Protech Solutions and the State infrastructure team. The Protech Team and the State infrastructure team will work together to determine the right equipment and the configuration required. Once a final configuration is arrived at, Protech will compile a list of items that are to be procured.

Protech will facilitate the following:

- *Obtain quotation from vendor(s) for the final configuration that is approved by the State.*
- *Place purchase order(s) with the vendor(s) and ensure accurate and prompt delivery of hardware and software.*
- *If the hardware/software is delivered to Protech Solutions, Protech is responsible to verify and validate that the products are received as per the requirements set forth by the State.*
- *Support the State in the installation of hardware/software that is being purchased for NCSEAS project.*

The Protech Team will be working through our partners, in procuring the correct hardware as desired by the State. Protech will also work with other vendors as deemed required to expedite the delivery and installation of the equipment. In all cases, Protech will ensure that the configuration of the hardware ordered is accurately passed on to the vendors. Protech will request the vendors to submit a price quote from the vendor(s) and combine them into an itemized list for the State's approval. Protech will submit a consolidated list from the vendor(s) to the State for approval. Protech will also provide an expected date of delivery as provided by the vendor.

Approval

Protech will seek the State's approval prior to placing the purchase order with the vendor(s). For the State to be able to grant approval, Protech will provide a detailed itemized list of all the software and hardware with the associated cost that the State will be invoiced for when the hardware/software will be delivered.

Ordering

After written approval (which includes email from either the state project manager or the State PMO) is obtained from the State, Protech will execute a purchase order with the vendor(s) to process and deliver the hardware or software as specified in the item list that was approved by the State. Protech will obtain from the State and provide the vendor(s) an address to deliver the hardware when placing the order.

Hardware

Once the order has been placed, Protech will follow-up with the vendor(s) to ensure timely delivery of the hardware/software. Protech will continuously track and monitor progress. If there are unforeseen delays that are reported by the vendor(s), Protech will update the State accordingly. Since several vendor(s) may process a single quotation approved by the State, Protech will keep the status of the quotation open until the last piece or part of the order is delivered to the State and the State has acknowledged the receipt of the equipment.

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Software

Software and software tools that are required for the development of the NCSEAS application will be delivered in one of the two forms listed below.

- *In the form of a magnetic media such as a DVD or CD ROM. These are usually the shrink-wrapped software.*
- *In the form of license keys, where the software is purchased in terms of number of users that will be accessing the software. If the license keys are provided, the software can be downloaded from specific locations provided by the vendor(s) or a media kit can be ordered for an additional cost as an option.*

Installation

Protech will be responsible for coordinating the installation of the hardware and software in cooperation with State personnel. The actual installation of the hardware and software is primarily the responsibility of DHHS's Office of Information Systems. In some cases, external services may be procured by Protech on behalf of the State.

REQUIREMENT:

11.2.2.6/4.10.2.1-C Establish the maintenance arrangements needed to assure continuous operations.

Warranty/Maintenance

The cost for the initial purchase of hardware/software usually includes one-year manufacturer's warranty. In some cases, the warranty could even be for three years. Based on the need any additional duration for maintenance agreements will be discussed with the State and continued warranty/maintenance will be purchased by the State.

REQUIREMENT:

11.2.2.6/4.10.2.1-D Provide cost estimates for A, B, & C

All costs associated to Sections 4.10.2.1-A, 4.10.2.1-B, and 4.10.2.1-C are included in Protech's Cost Proposal in detailed cost schedules.

4.10.2.2 Hardware, Software, and Communications Components Needed

REQUIREMENT:

11.2.2.6/4.10.2.2 Execute the approved Development Hardware and Software Purchase Plan Successfully

Protech will execute the approved Development Hardware and Software Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

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4.10.3 Deliverables

4.10.3.1 Development Hardware and Software Purchase Plan
4.10.3.2 Successful Execution of the Development Hardware and Software Purchase Plan

The details of the procurement steps CSEP need to take to authorize and affect the purchase, delivery, and installation of the hardware and software for development and testing of NCSEAS application and how Protech will facilitate this procurement process will be included in this plan. Protech will submit this plan to State of Nevada for review and approval. Deliverable numbers 4.10.3.1 Development Hardware and Software Purchase Plan and 4.10.3.2 Successful Execution of the Development Hardware and Software Purchase Plan will encompass all work products resulting from activities 4.10.2.1 and 4.10.2.2 as described in this section.

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VI-4.11 Production Hardware and Software Configuration Plan

4.11.1 Objective

REQUIREMENT:

11.2.2.6/4.11.1 The Implementation Contractor will prepare and update as required a production hardware and software configuration plan for the project.

Protech Solutions has extensive experience in implementing systems of this scope and scale, having accomplished this activity in the states of Michigan, Massachusetts, Arkansas, New Jersey, Maine, New Hampshire, and Delaware, In addition to our currently ongoing collaboration with the state of South Carolina). The Protech Team understands the criticality of this objective extremely well.

4.11.2 Activities

REQUIREMENT:

11.2.2.6/4.11.2.1 Develop a Production Hardware and Software Configuration Plan detailing the specific protocols that will operate the NCSEAS most efficiently in the production environment. The CSEP technology team in coordination with EITS will provide the infrastructure services (e.g., server, storage, and network).

A tiered architecture design will provide the NCSEAS environment the flexibility & reliability in terms of performance. The approach used for configuration of hardware and associated components with the application design and workflow defines the basis of the environment. The respective framework for software ensures deliverables and required operating procedures to be met as per needs and expectation of State. An overview of activities for hardware configuration for production is presented below.

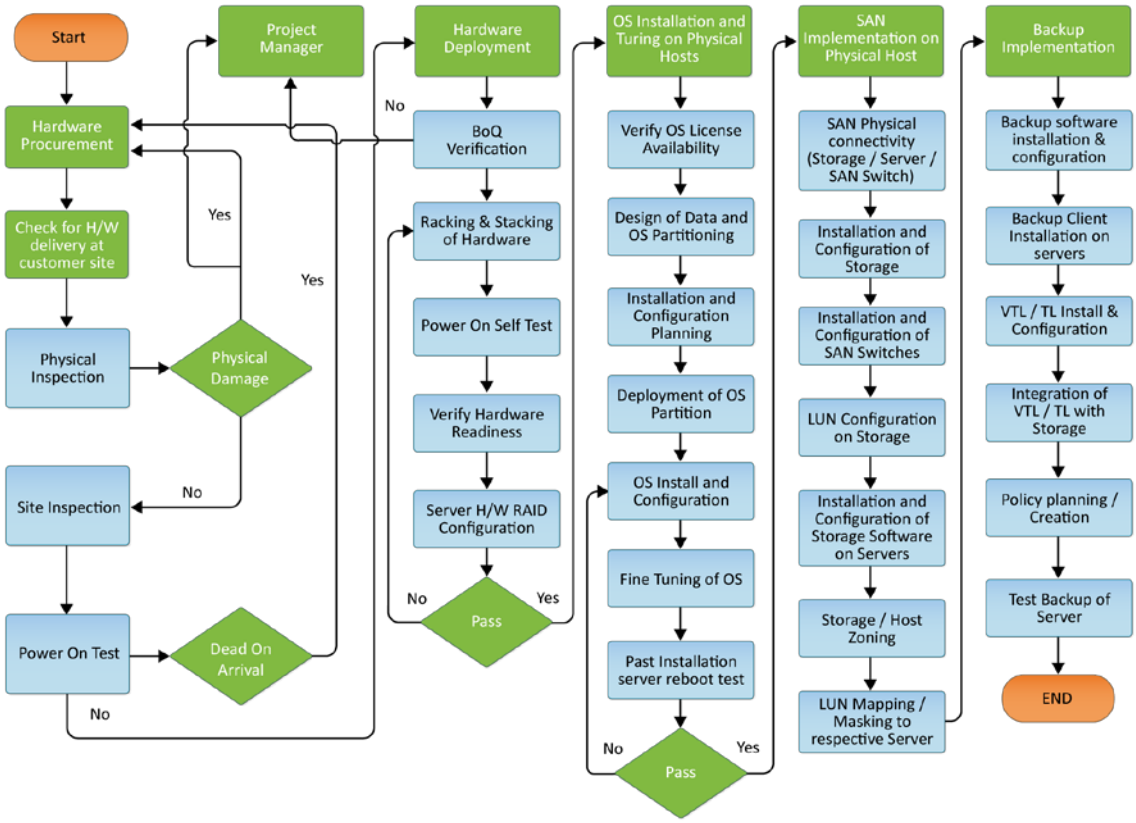

Figure 4.11-1. Hardware Configuration Overview

An overview of activities for hardware configuration for production

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The Protech Team will work with the CSEP project manager who will coordinate with the State's EITS services team for the installation and configuration of hardware and software to run the NCSEAS application production environment.

As mentioned in the RFP, the Protech Team understands that only initial operations support is in the scope of the implementation contractor and it will need to transition the responsibility for maintaining and operating NCSEAS to the CSEP program team. The details of the software that will be installed and configured in the production environment, including respective vendor contacts, will be included in this plan. Also, the EITS services team contacts that will be responsible for the data center where the production environment is planned will be listed in this plan. The communication between the Protech Team and the EITS services team will be facilitated by CSEP project manager.

Before the NCSEAS application is moved into production, the Protech Team will work with respective hardware and software vendors and establish a communication protocol between the CSEP program team, the EITS services team, and the software vendors.

REQUIREMENT:

11.2.2.6/4.11.2.2 Execute the approved Production Hardware and Software Configuration Plan successfully.

Protech will execute the approved Production Hardware and Software Configuration Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.11.3 Deliverables

4.11.3.1 Production Hardware and Software Configuration Plan
4.11.3.2 Successful Execution of the Production Hardware and Software Configuration Plan

The details of hardware and software components that are required for production environment will be documented in the production hardware and software configuration plan. This plan will have a schedule of activities with agreed dates to set up the production environment. Protech will submit this plan to the State of Nevada for review and approval. Deliverable number 4.11.3.1 Production Hardware and Software Configuration Plan, and 4.11.3.2 Successful Execution of the Production Hardware and Software Configuration Plan encompasses all work products resulting from activities 4.11.2.1 and 4.11.2.2 as described in this section.

VI-4.12 Database Development Plan

4.12.1 Objective

REQUIREMENT:

11.2.2.6/4.12.1.1 The Implementation Contractor will prepare and update as required a database development plan for the project.

As part of the database implementation, a database development plan will be created that addresses all database implementation requirements and the necessary data model requirements. Existing standards will be used in the development of these models and any specific enhancements to the standards will be made with the approval of the NCSEAS.

REQUIREMENT:

11.2.2.6/4.12.1.2 The database development plan shall be compliant with DWSS processes and procedures.

Protech has ensured that the database development plan is in full compliance with DWSS process and procedures. In addition, industry standards are met and exceeded.

REQUIREMENT:

11.2.2.6/4.12.1.3 The Implementation Contractor shall use all existing processes, standards, policies and procedures as a starting point to ensure compliance.

Protech will utilize existing standards, policies and procedures as a starting point to ensure compliance. Protech understands that database administration is a highly critical activity for the proper functioning of NCSEAS and the lessons learned contained in existing documentation plays an important role in our understanding of sound database administration and management activities.

REQUIREMENT:

11.2.2.6/4.12.1.4 The Implementation Contractor shall apply the guidance stated in 4.12.1.2 and 4.12.1.3 for each and every activity listed in section 4.12.2

Existing processes, procedures guidelines and overall standards provides the foundation for all future database work to be accomplished. Our responses to Section 4.12.2 reflect our deep understanding and deference to DWSS processes and procedures.

REQUIREMENT:

11.2.2.6/4.12.1.5 If existing processes, policies, standards or procedures do not sufficiently cover the scope of an activity listed in 4.11.2, the implementation vendor shall ensure that any additions and/or changes to process, policy, standard or procedure can seamlessly integrate with existing processes, policy standards and procedures.

Any gap identified within existing policies and procedures, processes, or standards will be integrated seamlessly into existing documented efforts. Additional requirements identified during the design phases will be addressed using industry standards and best practices adopted by DWSS.

REQUIREMENT:

11.2.2.6/4.12.1.6 The Implementation Contractor shall not create processes or procedures that duplicate existing processes and procedures.

Under no circumstances will Protech create unnecessary or duplicate processes. Protech's methodology adheres to strict guidelines that provide streamlined business process results.

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REQUIREMENT:

11.2.2.6/4.12.1.7 The Implementation Contractor shall follow the established change control process defined in the change control and issue management plan prior to publishing changes to process, policy, standards or procedures.

Protech will adhere to established change control and issue management process or to the implementation of any new process approved by the State prior to publishing any changes to established standards and procedures.

4.12.2 Activities

4.12.2.1 Database Development Plan

REQUIREMENT:

11.2.2.6/4.12.2.1 Develop a Database Development Plan which will:

A-Establish the standards and methodology for database development, deployment, operations, and maintenance.

A key factor contributing to Protech's history of successful Child Support Enforcement (CSE) system implementations is our ability to apply a consistent and repeatable Systems Development Life Cycle (SDLC) methodology to each project. This methodology addresses each project phase and provides a structure for management of system implementation projects, including transition points to confirm the agreed upon quality criteria of project deliverables. The database implementation is an extremely critical component of the application. The Protech Team brings a standards-based approach to modeling and design of the database. Proven principles are used in the design and implementation of the database. The Protech Team's extensive experience in implementing similar databases, especially in the child support systems domain, will be a tremendous asset during the database design process.

Because the NCSEAS application is based on the transfer system from California, Protech will baseline the database in accordance with the data model from California's child support system. The transfer system has a well-established data model that includes over 600+ tables to support the requirements set forth for the NCSEAS data store. Any additional requirements found necessary during the application design phase and during ongoing development effort will be addressed using the industry standard methodology for data modeling with tools such as ERWin modeler, TOAD and Visio.

Standards

Before a newly installed database can be used effectively, standards and procedures must be developed for database usage. Standards are common practices that ensure the consistency and effectiveness of the database environment, such as database naming conventions. Procedures will be defined with step-by-step instructions that direct the processes required for handling specific events, such as a disaster recovery plan. Failure to implement database standards and procedures will result in a database environment that is confusing and difficult to manage.

The following standards will be followed during the database development phase:

Database Naming Conventions

One of the first standards to be implemented will be a set of guidelines for the naming of database objects. This naming convention will assure that database objects can be easily identified and that proper administration tasks can be performed.

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Standard Abbreviations

Protech will create a list of standard abbreviations to be used when the full name of the database objects is unwieldy or difficult to remember.

Roles and Responsibilities

The successful operation of a DBMS requires the coordinated management efforts of many skilled technicians and business experts. A matrix of database management and administration functions will be developed that documents each support task and who within the organization provides the support. The matrix will be created at a departmental level, a job description level, and-by individual name. In the sample matrix below, an X in the matrix indicates involvement in the process, whereas a P indicates primary responsibility.

Database Support Roles and Responsibilities			
Task	DBAs	Developers	End Users
Data modeling and analysis	X		X
Database design	P	X	
Database creation	P		
Database performance	P	X	
Backup and recovery	P	X	
Stored Program Units	X	P	

Database Administration Standards

A basic set of database administration standards will be established to ensure the ongoing success of the Database Administration (DBA) function. The standards serve as a guide to the DBA services offered and to specific approaches to supporting the database environment. For example, standards can be developed that outline how requests are made to create or modify a database which types of database objects and DBMS features are preferred, and under which circumstances they are to be avoided. Standards can establish backup and recovery procedures (including disaster recovery plans) and communicate the methods used to transform a logical data model into a physical database implementation. An additional set of DBA standards that cover database performance monitoring and tuning may be useful to document procedures for overcoming performance problems.

Database Security Standards

The DBA group applies and administers DBMS security. A resource outlining the necessary standards and procedures for administering database security will contain the following information:

- *Details on what authority to grant for specific types of situations; for example, if a program is being migrated to production status, what DBMS authorization must be granted before the program will operate successfully in production*
- *Specific documentation of any special procedures or documentation required for governance- and compliance-related requests*
- *A definitive list of who can approve what types of database authorization requests*
- *Information on any interfaces being used to connect DBMS security with operating system security products*
- *Policies on the use of the WITH GRANT OPTION clause of the SQL GRANT statement and how cascading REVOKEs are to be handled*
- *Procedures for notifying the requester that database security has been granted*

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Application Migration and Turnover Procedures

The NCSEAS system is comprised of multiple environments for different phases of the development life cycle, including:

- *Unit testing—for developing and testing individual programs*
- *Integration testing—for testing how individual programs interoperate*
- *User acceptance testing—for end user testing prior to production status*
- *Education—for training end users how to work the application system*

Procedures are required for migrating database objects and programs from environment to environment. The data migrations guidelines and standards are outlined in the CM process plan.

Operational Support Standards

Operational support oversees the database environment and assures that applications are run according to schedule. Sufficient operational support will be made available to administer a database environment effectively. Standards are developed to ensure that the operational support staff understands the special requirements of database applications. The operational support personnel are trained to resolve simple database-related problems without involving the DBA because the DBA is a more expensive resource.

Methodology:

The data store components will be built using the latest DB2 RDBMS products wherever possible. Potential data stores in the new system include the following:

- *Application Data: All case and participant information (excluding data addressed in the Master Data approach) will be stored in the Application Data store;*
- *Master Data: This data store will work with the Master Data approach and component. The approach will address participant data including demographic information, address, employment, insurance, and more;*
- *Business Intelligence (BI) Data: The BI data store and metadata will support the enterprise reporting solution based on both tools provided by the chosen solution; and*
- *Document Management System Data: This data store is for the use of the document management system. Images are included in the categorization of documents in NCSEAS.*

The implementation of the database begins shortly before or early in the coding phase of system development. These tasks are continued throughout the development, system implementation, maintenance, and operations. The various components of the system are developed and tested against the database. The database implementation lifecycle includes the following activities:

- *Design data model*
- *Develop the physical database*
- *Deploy the database*
- *Database operations*
- *Maintain the database*

Designing Data Model

We use three types of data models in defining the standards-based business data requirements which we have outlined in the requirements phase:

- *Core Business Entities (CBE). Models provide standard data definitions that are used in logical data models.*

- *Logical Data Models (LDM). Describes the business in terms of the information of interest to the enterprise expressed through entities, attributes, and relationships. They are independent of any application, technical platform, or specific database management system.*

- *Physical Data Model (PDM). Derives from the LDM and is a physical and technical realization of the abstract business data model. It is a design for an actual database using a specific database tool set, in our case, DB2.*

Their relationship is illustrated in Figure 4.12-1:

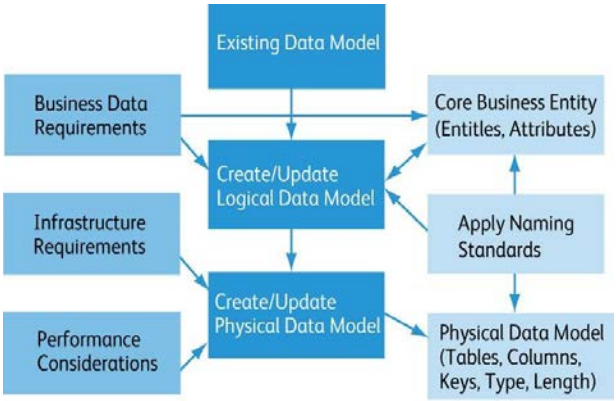

Figure 4.12.1. Data Models for Data Stores

Well-structured relational data model that meets database performance expectations.

Our top down approach coupled with child support enforcement system experience creates a well-structured relational data model that meets database performance expectations.

Develop Physical Database

The system complies with generally accepted practices for efficient database usage. The Protech Team brings its experience defining database standards from similar projects to the NCSEAS project:

- *All tables must be normalized to third normal form. De-normalization may be considered in special circumstances to aid performance.*
- *If tables are joined for most of accesses, de-normalizing is considered. Most of the tables are normalized to 3NF. Not all tables are completely normalized to 3NF. Redundancy of data may be necessary to avoid unnecessary joins and improve maintainability.*

The system maps physical data model to a fully normalized logical model. When implementation constraints are taken into consideration, the PDM may be modified to satisfy performance requirements and database software constraints. This process involves a judicious use of de-normalization. For instance, our systems have used de-normalization where frequent joins are required between large tables, which would have caused severe performance degradation if the tables were normalized. Similarly, other party tables store foreign keys for many master tables depending on the party type.

Deploy Physical Database

The physical database implementation is achieved by data definition language scripts.

Protech will follow the below strategy for an effective fail-proof database deployment.

Source Controlled: The database is source controlled, as outlined in the 5.14 Database CM plan

Testability: An integration test will be written to take a backup of the old state, perform upgrade to the current state, and verifies the data is not corrupted.

Continuous Integration: We will run the tests by the build server, every time the changes are checked in. The CI build will take a database backup, restore it, and run and test any upgrades nightly.

No Shared Databases: Every developer will be provided with an independent user account in the development environment

Dogfooding Changes: Any change to the database done by one developer is deployed to the other developer's user accounts to validate the changes. This technique allows us to ensure the changes initiated by one resource do not impact the software component being developed by other resources. Since the test conditions used by every developer's software component are different, we will be confident that the changes will work in all the deployed environments.

Refer the software migration process as outlined in Activity 4.15.2-I, and Tools utilized as outlined in Activity 4.15.2-J.

Database Operations

Database operations include tuning and monitoring the database activities. Tuning the database and monitoring the database activity are ongoing processes. The database administrator will monitor the database and performs the necessary tuning activities using an appropriate tool like DB2 Performance Expert.

Techniques for Optimizing Databases: The DBA is cognizant of the features of the DBMS to apply the proper techniques for optimizing the performance of database structures. The following techniques are used to tune database performance.

- *Partitioning - breaking a single database table into sections stored in multiple files.*
- *Raw partitions versus file systems - choosing whether to store database data in an OS-controlled file or not.*
- *Indexing - choosing the proper indexes and options to enable efficient queries.*
- *De-normalization - varying from the logical design to achieve better query performance.*
- *Clustering - enforcing the physical sequence of data on disk.*
- *Interleaving data - combining data from multiple tables into a single, sequenced file.*
- *Free space - leaving room for data growth.*
- *Compression - algorithmically reducing storage requirements.*
- *File placement and allocation - putting the right files in the right place.*
- *Page size - using the proper page size for efficient data storage and I/O.*
- *Reorganization - removing inefficiencies from the database by realigning and restructuring database objects.*

Database Maintenance

We will conduct regular system and data backups and recovery procedures (e.g., the ability to backup and restore interdependent databases and datasets) in a manner that would not impact scheduled operations. Because we take regular, scheduled precautions, our system is capable of restart and recovery after system failure with no loss of data or software components. Avoiding system failures can be categorized into preventative measures and recovery processes. Each of these is detailed in the discussion that follows.

Preventative Measures: Measuring and enhancing system reliability relies on tools and procedures for collecting metrics such as:

- *Rational tools*
- *Stress/load testing*
- *Modifying processes for better tolerance*
- *Finding and reducing data contention*

Furthermore, employing technologies such as RAID Driver and monitoring for system overloads can ensure system reliability.

Recovery Processes: Equally important to the integrity of a system and recovery are processes such as:

- *Transaction logging for databases*
- *Scheduled full system backups*
- *Incremental backups*
- *Messaging queues for broken communications*

Recovery Management: As much as we would all like to believe "it will never happen to us", the truth is that it makes good business sense to prepare for disasters and to reasonably expend the resources that are required to protect IT business investments. Disaster recovery pertains to the execution of pre-defined and pre-tested plans and procedures that provide for off-site restoration of critical systems, applications, and IT business functions during the immediate post-disaster period. Disaster recovery is implemented when the loss or delay, for an extended period, would result in:

- *Significant disruption of child support enforcement services including the inability to collect and distribute child support payments, creating an enormous burden and financial loss to Nevada families*
-
- *Failure to keep important performance commitments to federal OCSE that could result in the imposition of financial penalties for the State*

REQUIREMENT:

11.2.2.6/4.12.2.1-B Specify the methodology and rules for determining and documenting entity relationships.

The Protech Team has experience in creating well-structured data models that align well with the business processes while also capitalizing the efficiencies that DB2 provides for database management. Our data model defines both primary and foreign keys and adheres to well defined naming standards mutually agreed upon with the State.

As already mentioned in Activity 5.11.2.1, Protech will baseline the database in accordance to the data model from the California's child support system. The transfer system is well-established including the entity

relationships required for the system. Any additional data objects added to the NCSEAS database that warrants new entity relationship will be carefully analyzed and determined using data design sessions. This will be implemented using the industry standard methodology for data modeling using tools such as ERWin modeler, TOAD and, Visio.

Define Entity Relationships

We will use database-enforced referential integrity where primary keys are immutable and meaningless to the extent possible across the system, considering the requirements and specifications of the design and using the fundamental database design precept.

Referential integrity and constraints are the application of 'rules' to entities, attributes, and relationships from a data perspective. Referential integrity applies business rules to the relationships of entities through their attributes. To design an efficient table complete with its entity, domain, and referential integrity, knowledge about constraints is necessary. Constraints are programming elements used to enforce such integrity.

An application can also enforce data integrity to prevent data errors at the source of entry. The referential integrity approach used by the NCSEAS project is a design decision and is determined during the detail design phase of the project.

For information access read-only tables, referential integrity must be enforced using DB2's referential constraints or in the extract program. If referential integrity constraints cannot be implemented at the table level they will be implemented through code.

Our solutions make extensive use of RI-constrained modifications by implementing data integrity and referential integrity rules, which include Restrict, Set to Default, Cascade, and No Actions. Making extensive use of data triggers along with all these features of DB2, we facilitate controlled modifications of records while maintaining referential integrity.

Document Entity Relationships

Information regarding referential integrity and constraints is captured in the LDM model as metadata. The automation process that generates the appropriate Data Definition Language (DDL) to create the database structure uses this information. The Protech Team creates, delivers, and maintains all required technical and user documentation deliverables including the data dictionary, logical data model, physical data model, transfer system documentation, and source code.

REQUIREMENT:

11.2.2.6/4.12.2.1-C Describe the procedures for developers to use to identify new database tables and new or revised columns on existing database tables.

Whenever the developers have a need to introduce new table or new columns to a table that already exists in the data model, they will use the Data Base Change Request (DBCR) process

The DBCR Process supports the iterative nature of development and supports defect fixes to the implementations of these models. Changes made to data models or other data related work products after the initial baseline are subject to the change control process. For a database development activity, the DBCR process described in this document is used for any activities requiring a change to a data model. This can be accomplished in the activity tracking tool by linking a DBCR with a defect record.

The DBCR process (as displayed in Figure 5.11- 2) consists of the following activities:

- *Identify changes*
- *Complete the DBCR form*
- *Obtain review and approval for the DBCR*
- *Migrate authorized changes*
- *Verify the migration of changes*

Identify Changes to the Database

A DBCR must be submitted whenever a request is made to change any of the baselined data models. In the NCSEAS project, the first baseline for data models will be established just before the first round of system and integration testing after the donor systems is merged. If the resolution to the activity requires a database change, the application developer will initiate a DBCR.

Complete the Database Change Request Form

All DBCRs must be entered in the standard change request form. The information should include the name of the object, technical entities impacted, business objects impacted, and the reason for the change.

Obtain Approval for the Database Change Request

Team leads or supervisors can initially approve the requests for their team members by updating the status of the DBCR form. The final approval is given in the data request approval meeting. Requests that have been initially approved are discussed to determine the impacts on the data models, as well as any impact on project deployment.

Migrate Authorized Change Request

Database designers review the approved change request(s) for any deficiencies. Questions or suggestions are directed to the person requesting the change. The finalized request(s) are migrated into the appropriate data model.

Verify the Migration of Changes

The original requester verifies the changes were migrated correctly by viewing the appropriate data models. The requester will also verify the change by querying the database once the change has been applied. Any discrepancy in the changes requested is reported to the Data team for review.

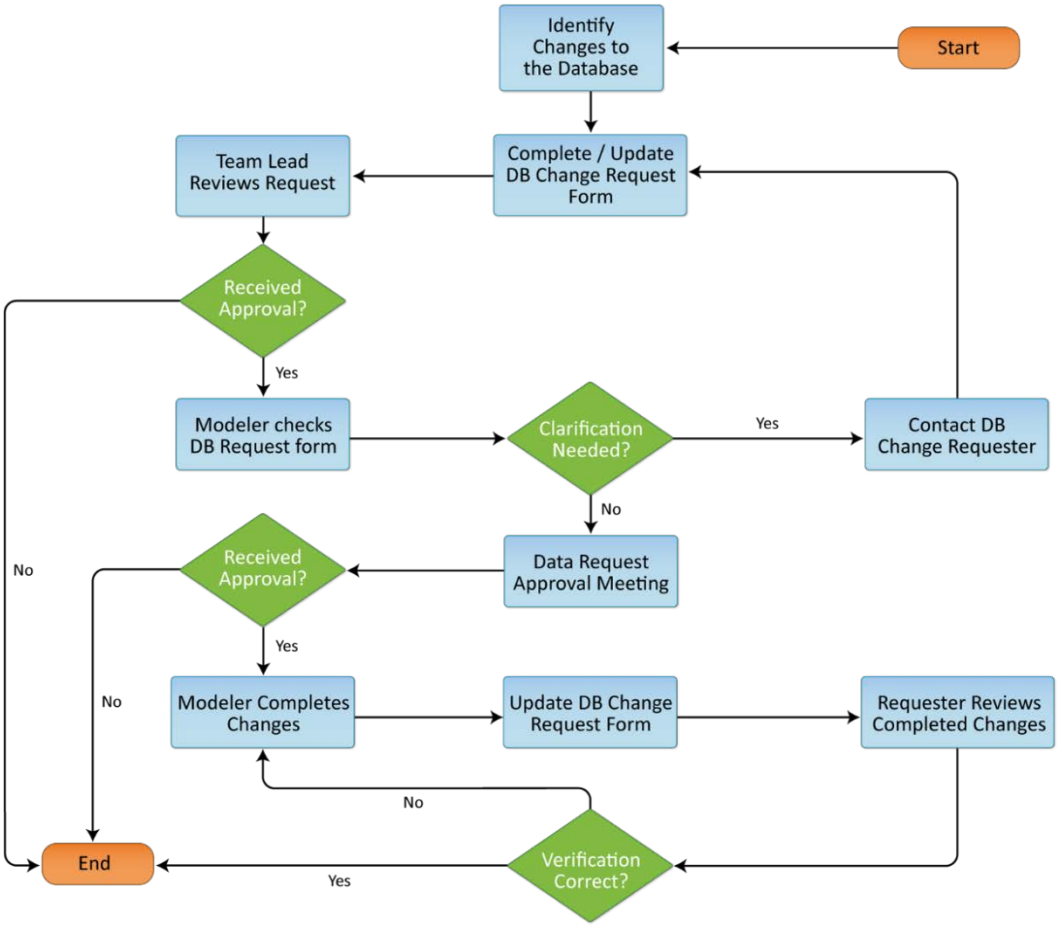

Figure 4.12-2. Database Change Request Process

Flow diagram that represents the Database Change Request process

REQUIREMENT:

11.2.2.6/4.12.2.2 Execute the approved Database Development Plan successfully.

Protech will execute the approved Database Development Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.12.3 Deliverables

4.12.3.1 Database Development Plan
4.12.3.2 Successful Execution of the Database Development Plan

The Protech Team will prepare and update a database development plan for the project in accordance with the terms of the contract and as reasonably requested by the State. Deliverable number 4.12.3.1, Database Development Plan and 4.12.3.2 Successful Execution of the Database Development Plan will encompass all work products resulting from activity 4.12.2.1 and 4.12.2.2 as described in this section.

VI-4.13 Application Development Plan

4.13.1 Objective

REQUIREMENT:

11.2.2.6/4.13.1 The Implementation Contractor will prepare and update as required an application development plan for the project.

The Protech Team will prepare and update as required an application development plan for the project.

4.13.2 Activities

4.13.2.1 Application Development Plan

REQUIREMENT:

11.2.2.6/4.13.2.1-A Establish the protocols for designing, developing software, testing software, developing training materials, and preparing for implementation.

Protocol for Application Life Cycle

The RFP requires the implementation of a waterfall methodology for the delivery of the NCSEAS system. We propose a waterfall-based development methodology that is consistent with the State standards. In addition, as a unique Protech differentiator, we augment the waterfall process with a series of risk-reducing Proof-Of-Concept (POC) deliverables. These prototypes serve the twin purposes of re-aligning Protech's delivery to match Nevada's requirements and to provide the State with quick-wins to demonstrate credible progress with the project.

In our implementations in New Jersey and Delaware, we followed the standard SDLC waterfall approach, augmented by carefully implemented proof-of-concept deliverables that can be reviewed and tested throughout the life of the project. This process allowed the State considerable insight into the quality of our delivery processes and highlighted potential risks early in the project, so that corrective action could be taken in a timely manner. We will work with the State of Nevada to determine appropriate proofs-of-concept to be implemented in parallel with the waterfall schedule.

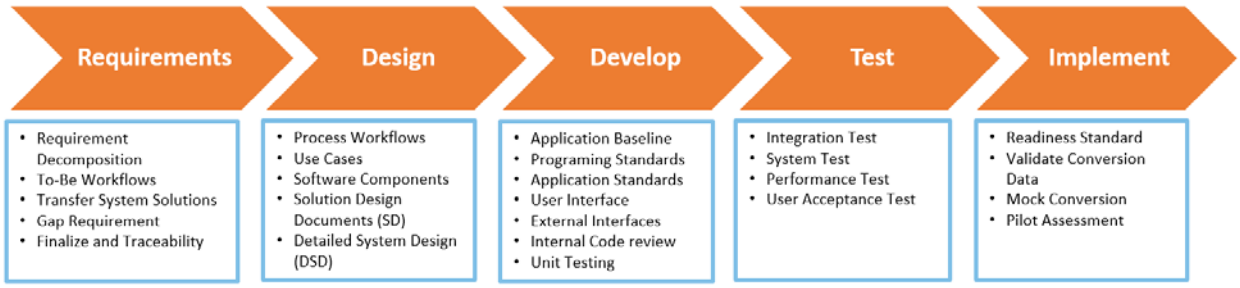

Figure 4.13-1. Augmented Waterfall Methodology

Graphical overview of the methodology that will be used to validate requirements, develop the new business processes, and establish the requirements traceability for the project

Through our augmented waterfall methodology we can enhance the accuracy and acceptability of each deployment. To this end, we continue to leverage the structured and managed cycles of build-test-perform-review-change-rebuild processes based on this framework. These steps are detailed below:

Validate Requirements

Protech considers the following as inputs for requirements validation which is the launching pad for the application design:

- *The requirements set forth in the proposal*
- *The to-be workflows*
- *The solutions that are adopted from the transfer system*

These inputs are considered for requirement decompositions. A series of validation sessions are conducted with the project stake-holders where the requirements are compared against the to-be workflows and the transfer system solutions. This will assist in refining the requirements further in addition to completing a traceability matrix using the industry standard tool IBM Rational DOORS. These refinements are documented and finalized with the project team.

Design

Based on the output of the requirement validation sessions, use-cases are prepared for each major functional area of NCSEAS which will detail the relevant process flow including the user inputs and system responses. Prototypes are created which include screen mockups, HTML wireframes, and transfer system solutions. Protech conducts detailed design sessions for Joint Application Design (JAD) using these use-cases and prototypes. The outcomes of the JAD sessions result in solution design documents.

The solution design document (SD) includes the following:

- *Process workflows*
- *System responses for each use case*
- *Software components impacted*

We create Design Specification Document (DSD) documents for each software component, to validate and finalize the design and validations prior to application development.

Develop

Protech's development team use the SD, DSD, and prototypes as the basis for building and customizing the baseline components from the transfer system to meet the requirements as specified.

Working in a development environment, the developers follow the below mentioned process:

- *Use Rational Application Developer (RAD), an IDE tool for application development*
- *Use transfer system programming standards as a baseline and improve as required using best practices*
- *Adhere to programing standards*
- *Adhere to application architecture standards*
- *Perform code review through a peer review process*
- *Unit test the code to ensure it meets the requirement for that component*

Aside from developing software components to satisfy the user interfaces, several batch programs are required to send and receive data from various agencies interfacing currently with the Nevada Child Support System. The batch interface will use the existing file interface, or we will design a new file interface or a data interface different from a file interface such as a web-service based on the interfacing agency. Technical details of these interfaces, which may vary, will be available in the software components section of the corresponding solution design documents.

Upon satisfying unit test criteria, the software will be migrated for integration, system and user acceptance testing.

Test

The Protech Team proposes a comprehensive, results-driven testing methodology and plan for the State of Nevada. Our testing methodology focuses on verifying the system conforms to user requirements and functions in a consistent, acceptable, and correct manner. Our philosophy is to test early and often through the life cycle to ensure a high-quality application and to reduce risk.

Integration Test: Code migrated to the integration test environment is tested by technical staff familiar with all software components. Integration testing confirms the collection of components delivered in each build work as a single group before promoting to system test. Upon satisfying the test criteria, the code is migrated to the system environment

System Test: Code migrated to the system test environment is tested by senior business staff (Protech and State) familiar with the application, and is based on system test scripts for each of the subsystems. Such end-to-end testing validates that the software code modules adhere to the expected results. This testing is detailed and documented for review by State personnel, to be used as baselines for user acceptance testing.

Performance Test: Extensive performance and load testing is conducted to ensure acceptable performance levels.

User Acceptance Test: State subject matter experts (SMEs) are called in to perform rigorous testing on code modules migrated to the UAT environment to ensure that the modules and interfaces perform as required. Like system testing, any deviations from the requirements are prioritized and documented as bugs or issues for efficient resolution. Upon resolution, the module is returned to UAT through unit, integration, and system testing processes.

Training Materials

Training materials are generated throughout the development cycle and edited as changes are made and testing is completed. Materials are reviewed by the implementation team and then submitted to the State for approval to ensure that materials are sufficient for training needs. These materials are prepared by establishing a separate training environment, training database, and developing training scenarios. The training materials will be made available online as user manuals.

Training materials include:

- *Online help*
- *Training manual (student and instructor versions)*
- *User quick reference guides*
- *Web-based training content*

Prior to implementation, select users are trained to ensure that they are knowledgeable with the processes of the new system and can thus perform effective training.

Implementation

Upon successful UAT, the software components are prepared for implementation. System implementation will be done in a phased approach. The Protech team has a standard of readiness that ensures that the

NCSEAS conversion team converts county data correctly to the system. During the go-live process, the NCSEAS implementation team will assist conversion by validating that the data is converted correctly to NCSEAS. To verify the success of the data conversion, the NCSEAS conversion team will execute mock conversions, or practice conversions, in advance to preview the data that converts during a practice conversion process.

System deficiencies identified in the pilot steps will undergo an assessment and decision-making process by the program and will either be parked for future development or corrected as required. Each implementation will address user training, data conversion, and other site readiness issues. As each site is implemented, specific issues relevant to moving from the current NOMADS to the NCSEAS will be addressed.

REQUIREMENT:

11.2.2.6/4.13.2.1-B Create specific tasks to establish unique responsibility for each unit of work.

Protech compartmentalizes the application development tasks based on subsystem and further categories based on the software components. The technical skills required are specific to each category of software components. We identify development resources that best fit the software components based on their technical skill.

The subsystems are:

- *Case initiation*
- *Case management*
- *Locate*
- *Establishment*
- *Enforcement*
- *Financial management*
- *Reporting*
- *Document generation and management*
- *Security*

The software components are:

- *Web/UI design*
- *Java scripts*
- *HTML*
- *Web service*
- *Database*
- *Business rules component*
- *Business process modeler/design*

In addition, the application development performs the following activities:

- *Application design*
- *Application/system architecture*
- *Development*
- *Unit test*
- *Code review*

We use a comprehensive task management tool to manage task assignment and tracking. Every unit of work is identified by the activity (design, development, unit testing, and review) and is created as a master task. Every individual unit of work is associated to a sub-task which is assigned to the appropriate resource. A unique ID is assigned to the tasks and sub-tasks for tracking the progress of the unit of work. Every unit of work also includes the estimated completion date and allocated hours. The resources that are assigned to these sub-tasks track the work done against the hours. This process is efficient in work assignment as well as managing the task at the individual resource level and includes monitoring time spent.

REQUIREMENT:

11.2.2.6/4.13.2.1-C Describe the methodology to ensure the functional and technical design standards described in the plan align with DWSS.

The Protech Team's design standards and assignments solution is based upon the availability of documentation in a repository that provides easy access to all documentation for each functional and technical component of the system. This approach ensures that all functional and technical design standards align with DWSS' expectations. The documentation is cross-referenced by requirements, use cases, test cases, and software objects. The repository is available to the State upon project completion and provides a ready source of information in support of ongoing system maintenance. All documentation is easily updatable through controlled and audited access by authorized users.

Functional documents are:

- *Solution designs*
- *Use case models*
- *Business process flow diagrams*
- *Design Specification Document (DSD) for each software component*

Technical Documents are:

- *Technical design documentation*
- *Interface design documentation*
- *Batch process documentation*
- *User interface documentation*

Microsoft Visio visual models, flow-of-control graphics, and other design artifacts enable users to clearly document and communicate detailed system views of the software objects in the system. Documentation is updated based on input from all stages of the project from requirements to testing.

Business and system case specifications are developed for each business function. Activity diagrams illustrate the sequence and flow of events. Roles, actors, and processes are clearly defined in this design methodology. Inter-relationships are identified by extended and included indicators. This approach precisely documents the business and system requirements and promotes rapid application development utilizing object-oriented technology.

Roles and Responsibilities	
Role	Responsibility
Protech Business Analyst	Review the design document specific to the assigned functional area against the functional and technical requirements

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Roles and Responsibilities	
Role	Responsibility
Protech Developer	Review and comment on the design documents validating against functional requirements for completeness
Protech Functional Lead	Review and comment on the design documents validating against technical requirements for completeness
State SME	Review and comment on the design documents for Consistency and completeness

REQUIREMENT:

11.2.2.6/4.13.2.1-D Describe the methodology to ensure the development and unit testing of system objects and the assignment of staff responsibilities to comment on unit testing output for consistency with requirements and for successful completion.

Protech's development team use the solution design (SD), detailed solution design (DSD) and prototypes as the basis for building and customizing the baseline components from the transfer system to meet the requirements as specified.

The developers make use of Rational Application Developer (RAD) tool to perform their development tasks. They adhere to high level of standards while developing system objects such as:

- ***Refer transfer system programming standards as a baseline***
- ***Programing standards***
- ***Application architecture standards***

Once development of a code module is complete, it is reviewed for code consistency and completeness by the peer reviewer. Peer review is a process where designated members of the development team review the code to ensure that the code is aligned towards the objective and it adheres to the standards set forth for the application development. This includes naming conventions, proper usage of system and user variables, proper usage of indices and other aspects of the database for optimum performance. Any shortfalls are reported back to the respective developers for corrective action.

These peer reviews serve the purpose of allowing objective reviewers to examine the code and suggest possible improvements. During these sessions, formal peer review checklists are run through to ensure that no omissions in the code occur. There are four separate checklists which are used depending on the nature of the code under review. They are:

- ***HTML_DHTML_XML_JSP Code Review Checklist – for reviewing Web code***
- ***Java Code Review Checklist - for reviewing Java code***
- ***JavaScript Code Review Checklist - for reviewing JavaScript code***

The system code once developed and peer reviewed, is unit tested to ensure it works per the design and produces expected results. Unit test is primarily an internal test of low-level components of the application by the developer. Unit tests are executed against the agreed-to interface design descriptions documented in the solution design documents and the interface documents which are stored in the version repository.

Unit testing is the first opportunity to perform business scenario-based testing on the new system. External interface testing is typically performed using simulated interface data unless opportunities are identified for early exchange of data between the NCSEAS system and the external entity. We conduct unit tests as highly localized tests for the operation of one software component in isolation from other components. These tests provide validation that each component of the application is operating as expected.

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Unit test scripts are prepared and executed by each individual developer for the components they are responsible for coding. Unit test code scripts are created which outline the test conditions for every tested method. In preparation for unit testing, all external dependencies of the tested component are "stubbed" out to allow the component to be tested in isolation. Stubs are simplistic imitations of the interfacing components that return an expected value to the tested component without performing any true logic to produce the returned value.

We use a separate tool, JCoverage, to evaluate and report the percentage of application code tested by the executed Unit Test scripts. To ensure untested code is not overlooked, developers provide written justification if JCoverage reports show less than 100% coverage during the scheduled code reviews. For all levels of code, developers, together with their development team leads, review unit test scripts and JCoverage reports to ensure that application components are thoroughly tested.

Entry Criteria:

- *Detailed design specifications are complete*
- *Code shells and JavaDocs are complete*
- *Unit test scripts are complete*

Exit Criteria:

- *Code is complete*
- *Peer review checklists are complete*
- *Unit test scripts are executed and results produced*
- *JCoverage reports indicate the necessary application code has been tested. Appropriate justification is provided for incomplete or failed JCoverage tests*
- *Code and successful unit test results and JCoverage reports are reviewed during the peer review process*

Roles and Responsibilities	
Role	Responsibility
Developer	Create the test script and complete the checklist specific to the assigned software component against the requirements
Development Peer Reviewer	Review and comment on the test scripts and checklist specific to the assigned software component against the expected results
Protech Development Lead ***Protech Functional Lead***	Review and comment the completed test scripts, outputs, and checklist and verify against the expected results
Protech QA	Internal review and comment on the unit test scripts and checklist for Consistency and Completeness
State QA	Formal review and comment on the unit test scripts and checklist for Consistency and Completeness

In order to further ensure consistency of unit testing output with technical and functional requirements, Protech's quality control processes includes an important step known as joint review teams (JRT) meetings where developers present the scope of their unit tests and results obtained. This meeting serves as a hand-off to system testers. Technical and functional resources review test and these meetings provide a forum for resources to share testing constraints and limitations, validate scenarios and define regression testing scope.

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REQUIREMENT:

11.2.2.6/4.13.2.1-E Provide the process used to create user documentation, training materials and standards.

User Documentation

Protech's document control procedures outline the protocols for the creation and controlling of all user documentation, training materials and the standards to follow for all published artifacts. The document describes the process for document creation and where documents will be stored and archived along with a brief descriptive title and date/time stamp. Each document will detail the document source and the project management office will keep a log of the latest version number, revision history plus details of any quality management review.

Documentation that is uniformly done well is generally indicative of the quality of the software developed. Detailed, integrated, and communicative documentation that starts at the system requirements analysis phase and traces all the way to software coding is a critical requirement of a large, fundamentally complex endeavor such as the NCSEAS program. The Protech Team believes the only way to build an effective and consistent system is to develop and deliver properly updated and notated documentation covering all aspects of the Software Development Life Cycle (SDLC).

During the project planning phase, the Protech Team collaborates with the State to establish the documentation standards and guidelines that are used in the creation of all deliverables and other project communications. Documentation standards contain information on the use of templates and styles as well as procedures for storing, accessing, and revising project deliverables and work products. As a part of this planning phase, we produce the system documentation plan, which serves as the roadmap for completing all required documentation throughout the course of the NCSEAS project.

The Protech Team uses an integrated approach to produce all necessary documentation materials and manuals. Each group (developers, business analysts, and trainers) collaborates to ensure the consistency and accuracy of all information presented. Various elements or components of the documentation are generated by each group and subsequently compiled for the consistent documentation of all procedures.

The table below describes examples of typical system documentation.

Typical System Documentation		
Document	Prepared by	Description
Online Help	Design and Development Groups	Used for workflow
Quick Reference Guide	Design Groups	Used for workflow
Standard Operating Procedures	Developers	Outlines how to complete input
User Manuals	Functional Leads	Used to support workflow and case

For each sub-system listed below, we create, maintain, and archive procedural documentation:

- ***Case initiation procedures***
- ***Case management procedures***
- ***Locate procedures***
- ***Establishment procedures***
- ***Enforcement procedures***
- ***Financial management procedures***

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- *Reporting procedures*
- *Security procedures*
- *Customer service procedures*

Training Materials

Training materials are the backbone of the learning process and, as such, need to be clear, error free, and reflect performance tasks according to the approved training plans. Each instructor-led training program includes:

- ***An instructor manual with instructor notes, activity instructions, timing, learning objectives, and assessments***
- ***Student manuals with exercises and case studies***
- ***A presentation file that provides graphics and information to aid the visual learner***
- ***Job aids***

Training materials are generated throughout the development cycle and edited as changes are made and testing completed. Materials are reviewed by the implementation team and then submitted to the State for approval to ensure that materials are sufficient for training needs.

Practice exercises comprise a portion of the content to reinforce the knowledge obtained during training. Some exercises are application-based, while others take the form of scenarios and case studies that incorporate the new work processes and use of NCSEAS. The instructor-led courses are very interactive, promoting an active-learning environment.

Roles and Responsibilities	
Role	Responsibility
Developer	Assist by providing input to the documentation team for user documentation and training materials
Protech Documentation Team	Create user documentation and training materials
Protech Business Analyst	Review and comment on the user documentation and training materials of the assigned functional area for accuracy
Protech Functional Lead ***Protech Training Lead***	Internal review and comment on the user documentation and training materials and verify accuracy
State SME	Formal review and comment on the user documentation and training materials and verify accuracy
Protech QA	Internal review and comment on the user documentation and training materials for consistency and completeness
State QA	Formal review and comment on the user documentation and training materials for consistency and completeness

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REQUIREMENT:

11.2.2.6/4.13.2.1-F Provide details of operational procedures and system development standards for consistency and compliance with DWSS' methodology.

The Protech development team follows the best practices for application development that includes:

- *Programming language*
- *Naming conventions*
- *System documentation*
- *Date/time handling*
- *Source and documentation control*
- *Source audit capability*
- *Development utilities*
- *Development task management*
- *Release planning*
- *Integration, regression, performance testing*

1. Programming Language

The NCSEAS program will be designed and developed as a layered architecture using J2EE technologies. The J2EE technologies provide robust services for application development and operational infrastructure for deploying large scale, secure and flexible enterprise class applications.

We implement the core business components as reusable business service components with the following toolsets:

- *Rational Application Developer (RAD)*
- *ILOG JRules*
- *SAP Objects*

2. Naming Conventions

It is important to follow naming conventions for a systems development project across all components. We have several checkpoints and mechanisms in place to ensure that consistent naming conventions and code commenting rules are being followed throughout the entire project development lifecycle, including the requirement to establish and identify the module type and system component to which the module belongs. Naming conventions have been defined for all aspects of the project life cycle, including:

- *Database naming standards*
- *Class and method names*
- *Variable names*
- *Input and output interface files names*
- *Report naming conventions*
- *Test case naming standards*
- *Document naming standards*

3. System Documentation

The system documentation is available in a repository that provides easy access to project documentation for each functional and technical component of the system. The documentation is cross-referenced by

requirements, use cases, test cases, and software objects. This documentation is easily updatable through controlled and audited access by authorized users.

Functional documents include solution designs, use case models, business process flow diagrams, and Design Specification Document (DSD) for each software component.

Technical documents are technical design documentation, interface design documentation, batch process documentation, and user interface documentation

The development of user documentation is described in detail within section 4.13.2.1-E.

4. Date / Time Handling

The NCSEAS project will feature the use of a century-compliant, custom date object that provides methods for calculations of differences between dates in terms of the number of calendar or business days. This allows for sequencing of operations and the display of sequences of events that occurred in batch even though the batch potentially spills over into the next business day.

5. Source and Documentation Control

The source and documentation control is a part of the overall configuration management process for the project. The Protech Team proposes the use of Perforce Version Control Tool for providing life cycle management and control of software development assets. With integrated version control, automated workspace management, parallel development support, baseline management, and build and release management, Perforce Version Control Tool provides the capabilities needed to create, update, reuse, and maintain critical development assets.

6. Source Audit Capability

The Protech Team performs periodic internal and external configuration audits to validate the completeness of the configuration items and dependencies in the various environments where the software objects reside. These audits are required to validate whether the baseline accurately reflects the physical implementation of the working software. Additionally, these audits verify that the project's configuration control procedures are followed. Configuration status accounting information is also verified during these audits, which reduces the likelihood that unapproved changes are inserted into the baseline version of the system.

7. Development Utilities

The Protech Team uses premier toolsets to facilitate productive team development. The toolsets help development team and management focus on development tasks rather than the toolsets. With this objective, we recommend the use of the Rational toolsets for the SDLC.

8. Development Task Management

The Protech Team's Waterfall SDLC methodology is based on:

- *Experience in building and certifying large child support systems across the nation; and*
- *Experience in building large systems in other areas of human services and justice systems.*

Protech categorizes the application development tasks based on the subsystem, software components and the activities associated to each task. The developer that fits the task based on the required skill to perform that task gets assigned that unit of work. A comprehensive task management tool is used to manage task assignment and tracking. A unique ID is assigned to the tasks and sub-tasks for tracking the progress of the

unit of work. This process is efficient in work assignment as well as the management of tasks, including developers work load balance.

9. Release Planning

The Protech Team has successfully developed and maintained child support systems in multiple states of varying size, complexity, and operational models. We have learned that each state is different and requires a customized project management approach and Software Development Life Cycle (SDLC) to adapt to the varying cultures and work environments.

Not only have we been successful in helping each of our customers achieve federal certification, but we have also implemented solutions that meet the needs of all stakeholders, including workers, supervisors, managers, and most importantly, the child support enforcement clients – children, custodial, and non-custodial parents. We are confident that we can exceed the State of Nevada's expectations, as well.

10. Integration, Regression, Performance, and User Testing

The Protech Team brings end-to-end quality assurance, software testing tools, and methodologies to the NCSEAS project, allowing the application of rigorous quality controls focused on upfront prevention, early identification, and ongoing visibility. Our quality assurance program is structured to achieve three main objectives: up-front prevention, early identification, and ongoing visibility. Our testing methodology focuses on verifying the system conforms to user requirements and functions in a consistent, acceptable, and correct manner.

Our philosophy is to test early and often throughout the life cycle to ensure high quality and reduce overall development time and costs. We begin with upfront test planning to define and agree upon the testing objectives, methodology, responsibilities, and procedures. This is followed by the definition of acceptance test criteria and the development of a test environment that permits frequent testing throughout the development lifecycle. We follow a structured approach that involves designing test scenarios that mirror real world scenarios and executing those tests repeatedly throughout the development life cycle.

Roles and Responsibilities	
Role	Responsibility
Protech Technical Team	Create operational procedures
Protech Development Lead	Internal review and comment the operational procedures for accuracy
State Technical Team	Formal review and comment the operational procedures for accuracy
Protech QA	Internal review and comment the operational procedures for consistency and completeness
State QA	Formal review and comment the operational procedures for consistency and completeness

[redacted]

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4.13.2.2 Functional and Technical Design Standards and Assignment

REQUIREMENT:

11.2.2.6/4.13.2.2 Execute the approved Application Development Plan successfully.

Protech will execute the approved Application Development Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.13.3 Deliverables

4.13.3.1 Application Development Plan
4.13.3.2 Successful Execution of the Application Development Plan

Protech acknowledges this requirement and will draft and maintain an application development plan for the project in accordance with the terms of the contract and as reasonably requested by the State. Deliverable number 4.13.3.1, Application Development Plan and 4.13.3.2 Successful Execution of the Applications Development Plan will encompass all work products resulting from activities 4.13.2.1 and 4.13.2.2, as described in this section.

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VI-4.14 Ease of Use Management Plan

4.14.1 Objective

REQUIREMENT:

11.2.2.6/4.14.1 The Implementation Contractor will prepare and update as required an ease of use management plan for the project.

As part of design phase, our process will include the delivery and maintenance of the NCSEAS Ease of Use Management Plan. The plan identifies the prescribed approach, guiding processes, and technology used to effectively manage ease of use.

4.14.2 Activities

REQUIREMENT:

11.2.2.6/4.14.2.1 The Ease of Use management plan will specify the ease of use principles the Implementation Contractor will use in the application and the protocols to ensure functional design staff apply these principles consistently through the application.

Quality of service is greatly impacted by the solution's ease of use. Our process includes a mode of user interface that provides ultimate usability as it organizes data and functionality in an interactive presentation. Ease of Use Management is a systematic approach to organizing, documenting and managing the solution for the requirements of a software application. Ease of Use addresses requirements pertaining to the following topic areas:

Look and Feel

- *Screen and Navigation Standards*
- *List of Values for Data Type Designations*
- *Filter and Sort*
- *Calendar Support for Date Entry*
- *Online Help*

Data Integrity

- *Data Validation*
- *Data Exceptions*
- *Case Data Review*

Workflow

- *Recall Cases*
- *Case and Participant Special Attention Alerts*
- *Appointment Scheduling*
- *Contact Documentation*

System Parameters

- *Specialization Management*
- *Caseload Assignment*
- *Parameter File Management*

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Approach

The NCSEAS Ease of Use Management Plan identifies the processes used to ensure the ease of use functional and technical design is used as a set of usability and user interface standards for all applicable system modules. It also details how the Protech Team will assure all design and code adheres to these standards. The management plan defines a process for testing the system's adherence to ease of use requirements.

Design Phase

Ease of use solution design phase includes all activities and work products necessary to create functional and technical design specifications for NCSEAS using the transfer system as the baseline. The Protech Team uses an innovative method to accelerate the design of NCSEAS. Accelerated design is based on the rapid identification and design of changes to a functional module from an existing system.

During JAD sessions, participants review the solution design for related technical standards and user interfaces.

Development Phase

Using the ease of use solution design validated by the State, The Protech development team follows standards such as look and feel, appearance, navigation, and detailed error and information messages to track user activity. Workflows are developed to assist users in determining the next action to follow during the life of a case. This flow must adhere to federal and state guidelines for the processing of a case, be consistent, and be tailored to the "To Be" business processes of DWSS CSEP.

Testing Phase

During the testing phase, the Protech testing team will use the ease of use solution design to create system test scripts for verifying the usability and user interface standards are satisfied through the system. The solution design document includes use cases and the components define the ease of use standards.

Process

Use of Iterative Prototyping to Validate NCSEAS Needs

To support ease of use requirements validation and design activities, the baseline California system will be migrated to the project's technical environment as a working version of the system. During JAD sessions, the functional design team works collaboratively with NCSEAS's users and subject matter experts to modify and further develop the system designs, using both the validated ease of use requirements and the current version of the prototype. This facilitates accelerate design and allows users to see how changes look and act when incorporated into the system.

Review and Approval of Design Documentation

To finalize design and documentation deliverables, our process starts by achieving consensus on the criteria and contents of the design documentation. Next, we use all available assets to produce quality content, such as transfer system documentation, policy documents, JAD session materials, and all reference materials supplied by the State. Appropriate managers supervise deliverable development and ensure sufficient SMEs are staffed to complete each work product. We write each document in a manner that is understandable by relevant State SMEs and meet all applicable business and technical requirements.

Prior to submitting a deliverable to the State, Protech's PMO conducts peer reviews to assess the content, accuracy, and completeness of the deliverable and validate that each deliverable is compliant with the State

requirements. SMEs review documentation to ensure cross-functional consistency, adherence to requirements, and business validity of all artifacts.

After all internal reviews are complete, design documents are published for State review. Our design deliverables are maintained in a repository with controlled access and version control for making and authorizing updates. As deficiencies are discovered during the review, we will rectify problems, track all changes, and call for follow-up meetings or interviews with State staff to ensure complete closure of open issues. After deliverable feedback is provided by the State, the Protech Team members abide by documented and contractual review periods to address all the State-provided deficits and issues.

Technology

The California system is accessible through a standard web browser platform using Internet Explorer. The web features used for the user interface / experience in the transfer system is antiquated which diminishes the ease of use for an enterprise system. The User Interface (UI) / User Experience (UX) is one of the most important areas for an enterprise system to be successful. We fully understand the importance and recognize the fact that a fresh look and feel using modern web features is necessary for a successful NCSEAS system. To this end, Protech brings a wealth of experience implementing multiple second generation certified child support systems using the latest web technologies.

NCSEAS will be accessible through multiple standard web browsers from desktop or laptop computers. The user interface will be delivered as HTML using the latest HTML5 features that will be rendered in the users' web browser. The use of open standards for the user interface implementation will allow NCSEAS to take full advantage of the features available in modern browser-based systems, to build an intuitive, easy-to-use application that supports the end-user in fulfilling their business tasks.

The Protech Team brings a wealth of experience in designing and implementing large-scale, secure web-based applications. We use Java, AJAX, JSP, JavaScript, HTML, DOM, and CSS (Cascading style sheets) code to generate the presentation layer. We will also plan to introduce Angular JS framework in combination with JQuery/JSON in the NCSEAS system thus complementing an overall rich user experience. The introduction of the leading-edge web frameworks will be carefully analyzed during the architecture refinement process, review / validate with the State of Nevada and implement based on state's technology roadmap.

To ensure NCSEAS is compliant and consistent with industry standards, we propose the use of SOA/SDLC as provided in the table below:

SOA/SDLC		
Industry Standards	Domain/Technology Area	Supported by Protech's Recommended Solution
Hypertext Markup Language (HTML 5)	Access/User Tools	Our proposed architecture uses HTML for the presentation layer layout across commonly use web browsers
Cascading Style Sheets (CSS), level 3	Access/User Tools	Presentation styles will be implemented in our solution using CSS, complying with the presentation standards and branding of the State.
Document Object Model (DOM), level 3	Access/User Tools	For interacting with presentation layer elements including XML and XHTML, our solution will use DOM level 3 conventions wherever practicable.

SOA/SDLC		
Industry Standards	Domain/Technology Area	Supported by Protech's Recommended Solution
ECMAScript	Access/User Tools	Our browser presentation layer will use ECMAScript components of JavaScript for AJAX and other interactions with the server-side layers. Our solutions feature the extensive use of object-oriented JavaScript implementations.
Web Accessibility Standards, Enterprise IT Accessibility Standards	Access/Enterprise Portal	Our web solutions will be built and fully tested for compliance to the accessibility standards and verified using automated testing products (such as IBM's Policy Tester and Appscan, or other tools as preferred by Nevada).

To augment California's transfer system, we will use a strong, open, tested JavaScript framework combined with extensive use of optimized style sheets (CSS) and Protech's proprietary library of application components customized for child support applications, facilitating the rapid development of high-quality presentation layer code.

REQUIREMENT:

11.2.2.6/4.14.2.2 Execute the approved Ease of Use Management Plan successfully

Protech will execute the approved Ease of Use Management Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.14.3 Deliverables

4.14.3.1 Ease of Use Management Plan
4.14.3.2 Successful Execution of the Ease of Use Plan

Protech recognizes that we will prepare and update as required an ease of use management plan for the project in accordance with the terms of the contract and as reasonably requested by the State. Deliverable number 4.14.3.1, Ease of Use Management Plan and 4.14.3.2 Successful Execution of the Ease of Use Plan will encompass all work products resulting from activities 4.14.12.1 and 4.14.2.2 as described in this section.

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VI-4.15 Database Configuration Management Plan

4.15.1 Objective

REQUIREMENT:

11.2.2.6/4.15.1.1 The Implementation Contractor will prepare and update as required a database configuration management plan for the project.

To avoid common configuration problems and maximize team productivity when implementing the database configuration management plan, Protech will use a robust configuration management model that spans the development lifecycle, managing changes in requirements and software artifacts. This model employs best practices and polices based on Protech's many years of successful implementations.

Best practices and policies include:

- *Identifying and storing artifacts in a secure repository using the recommended project toolset, Perforce.*
- *Creating baselines of all artifacts at each major project milestone to maximize reproducibility, traceability, and reporting.*
- *Tracking and monitoring application management lifecycles using Bugzilla.*
- *Integrating toolsets and automating software builds to maximize implementation efficiency.*

REQUIREMENT:

11.2.2.6/4.15.1.2 The database development plan shall be compliant with DWSS processes and procedures.

Protech will prepare and maintain a database development plan fully compliant with DWSS processes and procedures.

REQUIREMENT:

11.2.2.6/4.15.1.3 The Implementation Contractor shall use all existing processes, standards, policies and procedures as a starting point to ensure compliance.

All existing processes, standards, and policies will be used as starting points and further elaborated to account for new improvements.

REQUIREMENT:

11.2.2.6/4.15.1.4 The Implementation Contractor shall apply the guidance stated in 4.12.1.2 and 4.12.1.3 for each and every activity listed in section 4.12.2

For each and every activity listed in section 4.12.2, Protech will ensure full compliance to existing policies and procedures.

REQUIREMENT:

11.2.2.6/4.15.1.5 If existing processes, policies, standards or procedures do not sufficiently cover the scope of an activity listed in 4.15.2, the implementation vendor shall ensure that any additions and/or changes to process, policy, standard or procedure can seamlessly integrate with existing processes, policy standards and procedures.

As part of Protech's quality assurance processes, we will ensure to incorporate any gaps identified in the activities pertaining to the Database Configuration Management Plan and seamlessly integrate such activities with prevailing processes and procedures.

REQUIREMENT:

11.2.2.6/4.15.1.6 The Implementation Contractor shall not create processes or procedures that duplicate existing processes and procedures.

Under no circumstances will Protech create unnecessary or duplicate processes. Protech's methodology adheres to strict guidelines that provide streamlined business process results.

REQUIREMENT:

11.2.2.6/4.15.1.7 The Implementation Contractor shall follow the established change control process defined in the change control and issue management plan prior to publishing changes to process, policy, standards or procedures.

Protech will adhere to established change control and issue management process or to the implementation of any new process approved by the State prior to publishing any changes to established standards and procedures.

4.15.2 Activities

REQUIREMENT:

11.2.26/4.15.2.1- Develop a Configuration Management Plan which will:

11.2.2.6/4.15.2.1-A Address the update of database tables, parameter tables, and software objects across the multiple development, training, testing, and production environments.

Source code control and configuration management are interdependent processes. Effective configuration management ensures builds and packages are delivered from development into other phases such as system test, user acceptance testing, and production. Source codes are categorized and stored in folders for easier management including:

- *Database application tables*
- *Parameter tables*
- *Database script*
- *Java scripts*
- *Metadata*
- *HTML*
- *Java code*
- *Web service registry code*
- *Business modeler registry code*
- *Rule frames*

The below figure represents the high-level configuration process and procedure Protech follows for the build and deployment of the Configuration Items (CI). The configuration management of the NCSEAS project will encompass three types of Configuration Items (CIs):

- *Software artifacts*
- *Design artifacts*
- *Work products*

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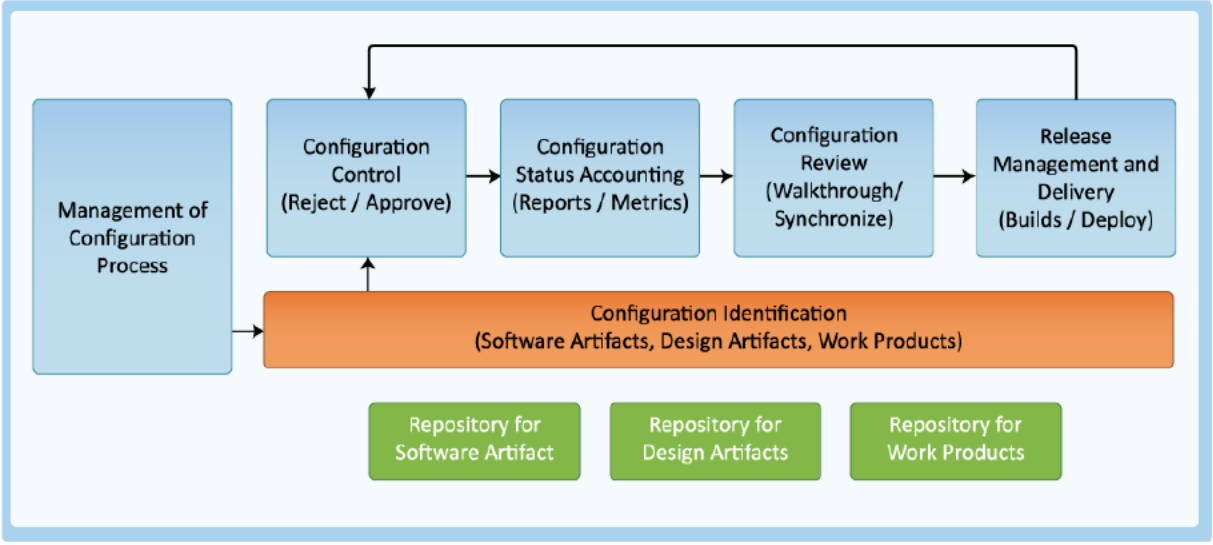

Figure 4.15-1. Configuration Management Process

The flow of Configuration Management process and procedures

A baseline is a set of configurable items (CI) formally designated and fixed at a specific time during the software life cycle. All CI's will be associated to a baseline. This term also refers to a version of an agreed or authorized software item. The CMT creates the baseline process that involves identifying the versions of CIs comprising each baseline, associating them through a labeling process, and releasing the items for use by those who require them. The Perforce version control tool will be used to do the labeling process. Repeat this process throughout the project lifecycle.

Multiple Baselines are built into the system for creating an efficient promotion model:

- ***Development***
- ***System***
- ***UAT***
- ***Production***

The table below depicts how the baselines are mapped to the environments.

Baseline Mapping	
Baseline	Environment
Development	Development, Unit Test, Integration Test, Conversion-Dev
System	System
UAT	UAT, Training, Performance
Production	Sandbox, Federal Certification, Mock-Conversion, Production

These baselines utilize the source codes stored in the version control repository. Any updates to the software objects are associated to a task with a unique ID using the defect management tool, Bugzilla. This tool can map the software components the developer needs via a check-out/check-in model. The build process promotes the completed development software components to the different environments.

The lifecycle of a work item is tracked via Bugzilla status as mentioned below:

Work Item Lifecycle	
Status	Description
New	New work item that requires changes to software components
Open	The work item is reviewed by the development lead before assignment
Assigned	The work item is assigned to a developer
Dev-Progress	Changes in progress including unit testing
Dev-Complete	Unit testing completed and ready for build to integration environment
UIT-Progress	Integration testing in progress
UIT-Complete	Integration testing completed
Ready-For-SYT	Ready for build to system environment
SYT-Progress	System testing in progress
SYT-Complete	System testing completed
Ready-For-UAT	Ready for build to UAT environment
UAT-Progress	User acceptance testing in progress
UAT-Complete	User acceptance testing completed
Ready-For-Prod	Ready for build to production environment
Resolved	The software components have been deployed to production
New	New work item that requires changes to software components

CM processes support the controlled system changes through a build process in each of the environments and helps ensure the integrity of each environment. The defect request is the driver or the carrier to promote changes to the various project environments.

REQUIREMENT:

11.2.2.6/4.15.2.1-B Establish control processes project staff will use in order to migrate the database entities to multiple environments.

The Data Base Change Request (DBCR) process is used whenever the development team must migrate the database entities to multiple environments

The DBCR process supports the iterative nature of development and supports defect fixes to the implementations of these models. Changes made to data models or other data related work products after the initial baseline are subject to the change control process. The DBCR process is used for any database development activities requiring a change to a data model. This is accomplished in the activity tracking tool by linking a DBCR with a defect record. Refer to the DBCR process as outlined in Activity 5.11.2.3.

The database entities in the DBCR process include:

- ***Tables***
- ***View***
- ***Triggers***
- ***Constraints***
- ***Index***
- ***Sequences***
- ***Columns***
- ***User defined datatypes***

Once the DBCR is created and associated to an activity, this data will follow the CM migration process as outlined in Activity 5.14.2.1 for migrating to multiple environments.

REQUIREMENT:

11.2.2.6/4.15.2.1-C Describe the procedures for developers to use to establish parameter tables.

Parameter tables, commonly referred to as 'seed data', are an important aspect of an effective data model. They assist in minimizing the code dependency in instances where the parameter data is utilized to define the application rules.

Developers establish parameter tables based upon the following guidelines:

Codes and Description

The NCSEAS system uses codes throughout the application in instances where a specific field is controlled by a finite set of rules. These rules are stored in the database in parameter tables as codes and their description. This approach minimizes the need for changes to the application source code whenever new rule needs to be added to the finite list of values associated with the application field.

Event Driven Rules

The system will be built with specific business requirements and workflow related processes in mind. These requirements increase the complexity and necessary maintenance of the database/application code layer. Whenever possible a table-driven approach will be taken, wherein business rules will be translated into parameter tables and stored in the database.

User Messages

NCSEAS will display error/warning messages whenever the user violates certain data conditions and/or business rules, as defined in the design sessions. In addition, the application also needs feedback messages whenever an action is successful such as Save Success, Update Success. Each message required for the application is given a unique identifier, type classified as a warning, error, or informational message, and stored in the database in parameter tables.

Once the attributes are defined for a parameter table by the developer, the table is created by a script, and results in a DBCR. This follows the CM migration process as outlined in Activity 5.14.2.1 for migrating to multiple environments.

REQUIREMENT:

11.2.2.6/4.15.2.1-D Register any scripts used as software objects and establish them to be under system configuration control.

Protech understands that a system of large scale implementation like NCSEAS will have several software objects that need to be tracked using the CM process. This is very essential in a configuration management since we understand the importance of the software objects and tracing them back to requirements. This traceability is an essential part of SDLC to successfully migrate and implement the changes across different environments.

Aside from independent code modules including java scripts and HTML there are many scripts that need to be tracked as software objects. The following table outlines these scripts:

Types of Scripts	
Script Type	Description
Parameter table scripts	These are the scripts that have the static seed data to be used in the parameter tables as defined in the design documents.
Load scripts	The application could get data from flat files. Scripts that are created to read these external flat files and load data into the application are referred as load scripts.
Cleanup scripts	Database scripts that are created to perform data cleansing operation are called as cleanup scripts. These are created anytime during the entire lifecycle of the system development whenever data anomalies are identified. Such data would cause application integrity issues and business validation impact.
DDL Scripts	These consist of commands that define the data model also called as data definition language (DDL) Scripts. This will include creation or modification of database objects including but not limited to constraints, indexes, tables, views.
DML Scripts	Any database script that changes the application data (Insert, Update or Delete) are registered as data manipulation language (DML) scripts.
Shell Scripts	These scripts perform operation from the command prompt and include file manipulation, program execution, set up the environment, run the program, and do any necessary cleanup and logging. A shell script can provide a convenient variation of a system command where special environment settings, command options, or post-processing apply automatically.
Autosys Scripts	AutoSys is an automated job control system for scheduling, monitoring, and reporting. Scripts are created to define job control using Autosys. Each AutoSys job definition contains a variety of qualifying attributes, including the conditions specifying when and where a job should be run.
Build Scripts	These scripts are created as part of the CM process for application builds across different environments. The application build/scripts stored in the configuration management server will be used to create several system environments.

A folder will be established in the source code repository classified by script type. This will be included as part of the source code control and will follow the CM process. Refer to the software migration process as outlined in Activity 5.14.2.1.

REQUIREMENT:

11.2.2.6/4.15.2.1-E Establish the control process the project staff will use to migrate parameter data to multiple environments.

The parameter data is stored as a database script after initial baseline and any changes or additions to this data will follow the CM migration process.

The parameter data needing migration is analyzed and reviewed, and undergoes a series of verification and testing procedures before it is approved for deployment to multiple regions. Parameter data, as explained in Activity 5.14.2.3, is critical to the application's implementation.

Parameter data is defined early in the design process based on the careful analysis of system requirements. The governance of the parameter data is the responsibility of the designated data steward who acts as a gatekeeper for the data. The details of the parameter data are maintained in a document, which is stored in the Perforce repository along with any associated database scripts.

Requirements

The to-be workflows, transfer system solutions, and requirement for NCSEAS system are reviewed in validation sessions. The objective of these sessions is to determine if the parameter data effectively satisfies the system requirements.

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Design

The use-cases and solution design documents include a detailed process flow for each functional area. The JAD sessions during the design phase define the parameter data required to implement the solution efficiently. The parameter data definitions are housed in a single document which is maintained by the designated data steward.

Development

The Solution Design (SD) and Design Specification Document (DSD) documents serve as a starting point for the technical team in developing the software components. Any parameter data defined during the design sessions, or in the DSD, is created as database scripts. Any modifications or additions to the parameter data is sent to the data steward.

Implementation

Parameter data that is present as database script in the repository is packaged and executed in the appropriate environment during the baseline operation of the various environments (Refer to Activity 5.14.2.1). Any new additions or changes to the existing parameter data requires the modification of the parameter data scripts before being executed in other environments. The data steward coordinates with the CM team during this process.

REQUIREMENT:

11.2.2.6/4.15.2.1-F Describe the procedures developers will use to identify new objects to the system, document the object's purpose, and support object-naming conventions.

Software components will be developed based on input from the JAD, and the solution design documents approved by the State. Special emphasis on providing easy-to-use, integrated user interfaces will be reflected throughout the UI and component designs. Comprehensive use of coding, naming and interface standards will be enforced through automated testing of the code, verifying compliance to the predetermined standards.

The below guidelines are followed to determine the need to for new objects:

- *Analysis of the existing transfer system components*
- *Analysis of the existing codes or objects already developed to satisfy the current solution*
- *Review of the design documents for development of new user interfaces, functionality, or new web pages*
- *Review of design document and requirements for new interface to external agencies*
- *Creation of common code or objects for modularity*

The review of the solution designs and requirements by the developers could result in a need for new system objects. These may include:

- *Database tables*
- *New columns in an existing table*
- *Database script*
- *Batch process*
- *Interface process*
- *Java script and code*
- *HTML*
- *Web service registry code*

- *Business modeler registry code*
- *Rule frames*

Any objects identified by the developer are analyzed and reviewed before approval for introduction to the system.

- *A new object request originates from the work item tracked in Bugzilla for the solution design being implemented.*
- *The work item contains details of the new object including the purpose, name, and a brief description of the object's function in the system.*
- *Object-naming conventions will be followed, as provided in the project programing standards documentation.*
- *Development leads review requests from their team members by tracking it from within Bugzilla.*

REQUIREMENT:

11.2.2.6/4.15.2.1-G Establish the control process the project staff will use to migrate software to multiple environments.

The Configuration Management Team (CMT) coordinates and confirms all CM activities and project compliance. The CMT is comprised of members from multiple functional teams (technical design, application development, functional design, testing, training, and implementation). The technical design team oversees the administration of CM tools and processes. The CMT controls access to CM repositories to avoid conflicting actions that may jeopardize the integrity of system releases. Because successful implementation requires participation from the entire project organization, the CMT coordinates closely with all project teams to support CM processes and monitor compliance with CM policies and procedures.

Functional Teams follow the CM processes established by the CMT to identify and manage Configuration Items (CIs).

Change Control Review Board (CCRB) evaluates, approves, or rejects changes that affect the project schedule, cost, or scope. The CCRB approves or rejects change orders, which are then assigned to functional teams as Critical Qualification Design Reviews (CQDR) if they result in CM activity.

Technical Board (TB) reviews, evaluates, and recommends configuration changes and helps the release Manager to plan and schedule system releases.

Project Management Office (PMO) reports on status and metrics gathered from the CM processes and tools.

Quality Assurance Team reviews the work of all project teams associated with the CM process. The quality assurance team reports on issues both identified and resolved based on formal review. CM reviews occur throughout the project lifecycle to:

- *Validate that artifacts are under configuration control*
- *Ensure teams follow the configuration management processes and standards, and complete related tasks according to the CMP*

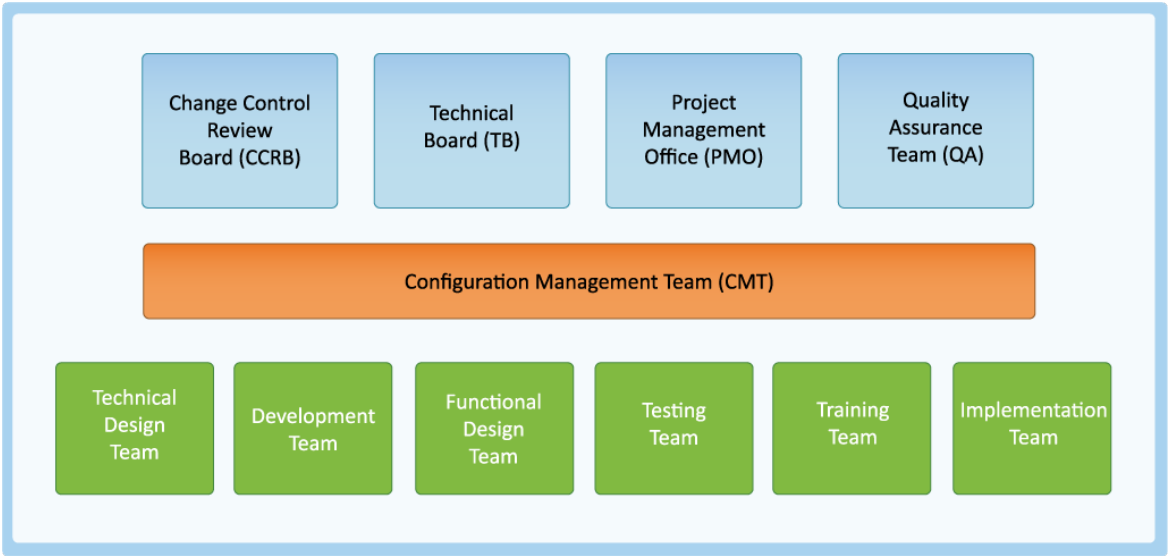

Figure 4.15-2. Configuration Control

Configuration control is the systematic proposal, justification, evaluation, coordination, approval, or disapproval of proposed changes. Configuration control also includes the implementation of all approved changes to the baseline. Furthermore, the configuration control process includes identification, documentation, evaluation, disposition, and integration of approved changes

Request Changes

Work plan activity: Functional and/or development teams originate the promotion of a CQDR and assign it to the CMT. This event may be the initial identification of a CI, or may be a subsequent promotion based on later work plan activities to an existing CI. This process is how teams initially promote software artifacts out of development.

The CMT will regularly review all assigned DR's to determine the promotion activity required, resolve dependencies and conflicts among requests, and schedule releases. These reviews will occur on at least a weekly basis. The information recorded in these CQDR's will include, but is not limited to:

- *Unique identifier for the request*
- *Originator's name and team*
- *Request date*
- *Type of request: promotion, defect, or change*
- *The reason for the change*
- *The name(s) and versions(s) of the CIs affected*
- *Description of the change*
- *Dependencies to other requests*
- *Indication of urgency*
- *Current status of the requests*

Evaluate Changes

The appropriate functional teams evaluate requests that originated because of work plan activity and defects. Requests that originate because of a change order should go through the formal evaluation process

The CMT does a technical evaluation of change requests to:

- *Ensure compliance with CM procedures*
- *Resolve dependencies and conflicts among requests*
- *Effectively schedule releases*

The release manager drives the composition and scheduling of releases, with assistance from the CMT and functional team leads.

Approve Changes

The functional team leads are responsible for changes resulting from work plan activity and defects and the change request management process fully defines the formal approval/disapproval process for project-level changes.

The code promotion model defines who has the authority to approve the deployment of a baseline to test through production environments. The CMT approves deployments based on the instructions of the release manager and enforces configuration control for authorized deployments.

Implement Changes

The following scenarios, which are applicable to software artifact, deliverable, and work product CIs, will require changes:

- *Working with the normal results of work plan activities*
- *Addressing defects*
- *Fulfilling change orders*

REQUIREMENT:

11.2.2.6/4.15.2.1-H Establish an audit trail to maintain a full history of software objects for each environment.

The source and documentation control is a part of the overall configuration management process for the project. The size and complexity of the project makes the configuration management process critical to for a successful implementation. Perforce will be used to store all project artifacts for application life cycle management and control of the software development assets.

The use of Perforce allows for the tracking of changes to every file and directory, and includes complete, annotated version histories for all assets, including source code, binaries, executables, documentation, test scripts, and libraries. It provides support for the check-out/check-in development model and enables parallel development by providing support for unlimited branching. The Protech Team will use these capabilities in Perforce to establish build management and auditing trails.

Periodic internal and external configuration audits are performed to validate the completeness of the configuration items and dependencies in the various environments where the software objects reside. These audits alongside the checklist document are required to validate whether the baseline accurately reflects the physical implementation of the working software. Additionally, these audits verify that the project's configuration control procedures are followed. Configuration status accounting information is also verified during these audits, which eliminates unapproved changes inserted into the baseline version of the system.

Audits are done throughout the Software Development Life Cycle (SDLC). The frequency of configuration audits and type of audits vary according to the stage of the SDLC. Configuration management audit reports are stored centrally, and are accessible by authorized project users.

REQUIREMENT:

11.2.2.6/4.15.2.1-I Provide for daily and on-demand software migration. The plan will provide for linking software objects to testing results.

The most important requirement taken into consideration while doing daily or on-demand migration is the branching and merging of software artifact versions. The capabilities of the check-out/check-in model focus on the following:

- *Maintaining a version history of files*
- *Controlling the concurrent modification of files*

The check-out/check-in model utilizes the following concepts for file versioning:

Revisions: The evolution of a sequential version history

Branches: Creation of version branches including version sequences that have as their starting point a version in an existing branch, but that evolve independently

Merges: Merging of two versions from different branches into a new version in one of the branches

This results in a version history for files that typically have a graph structure.

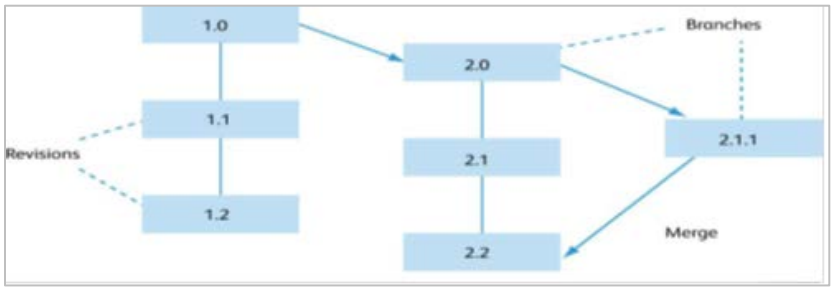

Figure 4.15-3. File Version History

A version branch serves several purposes:

- *To represent an independent path of development, i.e., the maintenance of a component as part of a field release versus its further development*
- *To represent experimental development that may be folded into the primary development at a later stage*
- *To allow two developers to make changes to a component concurrently; i.e., the branch exists only temporarily and is merged as soon as both modifications are completed*
- *To be used in situations requiring emergency code modification/fixes*

A merge combines the file modifications that occur independently in two version branches into a new version in one of the branches. A merge has two stages: first, the actual merging of the content of the two file versions, and second, the reflection of the merge in the version graph as part of the version history.

The configuration management of the NCSEAS project will manage three types of CIs (Configuration Items) associated to all work activities:

- *Software artifacts*

- *Design artifacts*
- *Work products*

We use Rational Functional Tester for test automation. Testers create scripts by using a test recorder which captures a user's actions against their application under testing. The test script is produced as a Java script and represented as series of screen shots. Typically, test scripts are run in a batch mode where several scripts are grouped together and can be run unattended, using Perforce as the repository of all the software components, test scripts, and results.

Bugzilla is used for work item management and can connect the test results from the Rational Tester against the associated software components from the Perforce version control software. A work item is created to track the work activity involving the software components being developed and tested, and includes documentation of the test case scenarios. The artifacts associated with the test results are linked to the work item for traceability and audit purposes.

REQUIREMENT:

11.2.2.6/4.15.2.1-J The Implementation Contractor will identify any software the NCSEAS project needs to develop or applications the NCSEAS project needs to acquire to automate the configuration management process.

Protech uses a robust continuous integration process which requires developers to integrate code into a shared repository at frequent intervals. Each check-in is then verified by an automated build, allowing teams to detect problems early. By integrating regularly, errors are detected quickly, and located more easily.

Continuous integration brings with it multiple benefits to the project:

- *Increased visibility*
- *Issues are caught at an early stage*
- *Less time is spent debugging*
- *Allows for building on a solid foundation*
- *Reduces integration problems allowing for more rapid software delivery*

Continuous integration is backed by several important principles and practices:

- *The maintenance of a single source repository*
- *The automation of the build*
- *The creation of a faster build that is self-testing*
- *Increased testability in mock environments*
- *Heightened visibility*
- *Automatic deployment*

Protech implements the continuous integration process using the Jenkins tool which automates and accelerates build and release processes to enable iterative development, high-performance builds, and streamlined software delivery.

The Jenkins tool uses an adaptive framework to:

- *Help development teams standardize and automate repetitive tasks*
- *Optimize hardware resources*
- *Connect disparate development tools to increase staff productivity*
- *Compress development cycles*
- *Deliver high quality software, quickly*

- *Support the parallel execution of tasks, scheduling, and efficient use of hardware*
- *Enable fast build and release cycles*

The version control tool (Perforce) used by the configuration management team connects to the build utility. Perforce Helix Defect Tracking Gateway (P4DTG) provides full integration between Perforce and the defect management tool, Bugzilla, P4Maven, the Perforce Helix Maven SCM Plugin Provider, implements Maven's generic SCM API for the build process.

Protech uses the Maven tool for developing the build program. Maven uses a build file that contains the dependencies of the Java source code files to specify the build order and source code directories and further connect the databases to compile the database scripts in the appropriate environments

Protech proposes the use of the below software for configuration management.

Configuration Management Software	
Description	Name
Test Automation	Rational Functional Tester
Database Management	Toad
Source Code Management	Perforce
Configuration Management	Jenkins
Defect Management	Bugzilla
Build Management	Maven

REQUIREMENT:

11.2.2.6/4.15.2.2 Execute the approved Database Development Plan successfully.

Protech will execute the approved Database Development Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.15.3 Deliverables

4.15.3.1 Database Configuration Management Plan
4.15.3.2 Successful Execution of the Database Configuration Management Plan

Protech recognizes that we will prepare and update as required a database configuration management plan for the project in accordance with the terms of the contract and as reasonably requested by the State. Deliverable number 4.15.3.1 Database Configuration Management Plan and 4.15.3.2 Successful Execution of the Database Configuration Management Plan will encompass all work products resulting from activities 4.15.3.1 and 4.15.3.2, as described in this section.

VI-4.16 Data Governance Plan

4.16.1 Objective

REQUIREMENT:

11.2.2.6/4.16.1 The Implementation Contractor will prepare and update as required a data governance plan for the project.

The Protech Team will follow a structured data classification process and understand existing Program control matrix for preparing data governance plan for the project.

During this process, the Protech Team will:

- *Ascertain if information handling requirements are commensurate with the classification scheme.*
- *Understand the State's IT governance model*
- *Identify gaps and define additional controls as applicable.*
- *Discuss with respective stakeholders/owners and obtain approvals*

4.16.2 Activities

REQUIREMENT:

11.2.2.6/4.16.2.1-A The data governance plan will:
5.15.2.1 Establish a system of decision rights and accountabilities for information-related processes.

The Protech Team will work with the hierarchies of the State's IT Governance function and identify stakeholders of CSEP who will be responsible for making decisions related to NCSEAS project. Based on the details of program governance model, Protech will discuss with CSEP team and propose a system of decision rights accountabilities for the execution of this project

REQUIREMENT:

11.2.2.6/4.16.2.-B Document, according to agreed-upon models, who can take what actions with what information and when they can take those actions, under what circumstances, and using what methods.

Protech proposes a standard model for the data governance team that takes a three-tiered approach which includes a group of senior-level executives - steering committee, making high-level decisions; a middle management group, the data governance office, that offers guidance; and another group called the data governance working group that carries out much of the administrative work.

Protech team in consultation with CSEP will identify data governance support team who will provide required information to stake holders of NCSEAS project for taking decisions.

REQUIREMENT:

11.2.2.6/4.16.2.2 Execute the approved Application Development Plan successfully.

Protech will execute the approved Application Development Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.16.3 Deliverables

4.16.3.1 Data Governance Plan
4.16.3.2 Successful Execution of the Data Governance Plan

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The details of data governance team along with the model for smooth flow of information among stake holders of NCSEAS project will be documented in this plan. Protech will submit this plan to State of Nevada for review and approval. Deliverable number 4.16.3.1, Data Governance Plan and 4.16.3.2 Successful Execution of the Data Governance Plan will encompass all work products resulting from activity 4.16.2.1 and 4.16.2.2 as described in this section.

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VI-4.17 Release Management Plan

4.17.1 Objective

REQUIREMENT:

11.2.2.6/4.17.1 The Implementation Contractor will prepare and update as required a release management plan for the project.

Purpose

The release management plan will manage, control and plan for each new NCSEAS release throughout the life of the application. The assignment of modifications and corrections to releases will be made by State and Protech management with final approval by state via the release management group (RMG).

Scope

The scope of this release management plan is all changes to the NCSEAS production application and environment. This includes all configurable components such as application software, system software, network and hardware components. Change includes any modification to this application or environment or documentation. The methods, procedures and processes used throughout the project to govern the SDLC process will be used during the Maintenance and Operations (M&O) phase of the project for release management.

4.17.1 Activities

4.17.1.1 Release Management Process

REQUIREMENT:

11.2.2.6/4.17.1.1 The release management plan will:
11.2.2.6/4.17.1.1-A Describe the procedures for ascertaining that the NCSEAS has met all requirements before its release into the production environment.

Release Management Process

The release management process includes the steps necessary to identify the contents of a planned (future) release, schedule the release, approve Protech statements of work that define the work to be done, approach, schedule and estimate of cost (if applicable). Once defined, the named Release is managed to successful completion by the M&O team. In most cases, this means migration of fully tested software components into the production environment. The Protech configuration management team moves the configurable elements to the production, training, and Disaster Recovery (DR) environments in accordance with the approved configuration management plan (Reference RFP 1.2).

Release Management Group

The Release Management Group (RMG) is established to fulfill the responsibilities of the release management plan. Membership of the group will be State and Protech project leadership members who are authorized to set project priorities, approve work and authorize updates to the production environment.

RMG Group members represent the following areas at Protech and the State:

- *Project management*
- *Functional management*
- *Development management*
- *Technical management*
- *Training and implementation*
- *Quality assurance*

- *PMO*
- *Other State representatives as defined by the State PMO and stakeholders*

Initial Release Management Group Meeting

The first step in the release process is the creation of a plan identifying the activities and the resources required to successfully deploy a release into the production environment:

- *Plan and schedule activities*
- *Determine release management team composition, roles and responsibilities*
- *Determine logistics and communication requirements*
- *Determine and document release management*
- *Define and document process*

This release management plan is intended to be the document that establishes the standards and processes. It is our recommendation that the first process agenda item at the first release management group meeting is to review the release management template using the planning list above and this document's contents.

Release Management Group Meetings

The release management group meets on a scheduled basis which will be published in the project's formal meeting schedule. Emergency meetings may be scheduled to deal with urgent production issues.

Protech will facilitate the meetings and present reports indicating which items from each of the applicable areas are ready for release. The table below indicates which report is expected for each source of release:

RMG Meeting Input	
Report Data	Source
Change Requests	Rational DOORS active CR report showing open change requests that have not been already identified for a future release
Defects Recorded in Bugzilla	Bugzilla reports showing open defects (including Alloy ticket numbers if appropriate) that have not been already identified for a future release

These reports will contain configurable items ready for consideration for a planned release. Decisions related to the configuration of releases will be made primarily from the above-mentioned reports.

Documented Inputs to Release Management Process

The process of building a release depends on input from two sources:

- *Approved change requests are stored in the project repository with an indication as to whether they have been successfully validated and are ready for release to production. Each change request will have been assigned a priority during the change request process, which applies to the implementation sequence.*
- *Defects in Bugzilla with a state of resolved. This defect status implies that the defect has been corrected, successfully validated through all required levels of testing, including UAT, and is ready for release into production. Each defect will have been assigned a priority by the Operations Support Group (OSG) which applies to the implementation sequence.*

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Building Documentation for Change Requests

Creating the documentation of a change request/enhancement will follow the process in the project management plan and change request management plan. Change requests/enhancements for the NCSEAS production application and or production environment are part of this documentation.

Building Defect Documentation for Online and Batch Defects

For any application error that occurs during online processing, the help desk logs an entry into the help desk tool, which then emails notification to the assignee group and assignee individual - Operations Support Group (OSG). The assignee individual will be the OSG First Response Team (FRT) or on-call individual.

Documentation for problems that occur during batch processing is initiated by the OSG FRT (on-call). The batch operator notifies the OSG (FRT) of a problem by phone immediately (phone messages are insufficient). The OSG FRT assigns a severity code. If the severity is 1 or 2 the FRT attempts to determine a solution with the support of Protech senior staff as needed. The FRT contacts the NCSEAS project manager or designee with a problem analysis and recommended solution. If authorization to proceed is given, immediate resolution is started, including entry of a help desk ticket and Bugzilla defect. Follow-up activities are completed during normal business hours. Severity 3 or 4s will be addressed by the OSG FRT during normal business hours.

A defect, occurring during online processing and assigned a severity 1 code by the OSG FRT will be corrected immediately after approval by the NCSEAS project manager or designee. A severity 2 code may also be authorized by the NCSEAS PM for immediate resolution.

All application related production defects are documented in the help desk tool and assigned to the OSG for resolution. As appropriate, the Protech functional group produces Problem Action Reports (PARS), and defects are entered Bugzilla.

The operations support group reviews help desk tickets during its regular meeting (e.g., daily initially during pilot operations), reviews severity, and authorizes work to proceed on defects. The OSG FRT then assigns defect responsibility to the appropriate M&O team (e.g., applications support group manager). From this point forward the defect is processed in Bugzilla through resolution as is any other defect.

Once the defects are resolved, tested, and approved by the State, planned production releases are prepared by the configuration management team and implemented into production according to the implementation and release management plan.

REQUIREMENT:

11.2.2.6/4.17.1.1-B Sequence and schedule the release of the various components of the NCSEAS. The release schedule must align with established DWSS monthly release schedule. Releases may occur less frequently than monthly

Building the Release Schedule

The RMG reviews the RMG working document(s) by Severity from 1 to 4, 1 being the highest.

Within priority on the RMG working document (combined list of the 2 input reports), change requests and defects are considered by their impact using the CR process impact analysis and the OSG impact analysis respectively. These impact analyses are available in Rational DOORS and Bugzilla for the change requests and defects respectively.

- *Each code module is cross checked against the module inventory (Ref 5.27.2.4) and the solution design update matrix to ensure that the corresponding documentation updates will be maintained with the release.*

- *The RMG may also consider the possibility of adding additional modules to a given release based on their testing status (e.g., modules that have been recently approved through UAT). The impacts of adding a new configurable item to an existing release will be discussed.*

The fully assembled release will be packaged into a Release Statement of Work (R-SOW). The R-SOW will be estimated, planned and scheduled. Both State and Protech project managers or designees will sign the R-SOW to indicate approval.

The log will be maintained in Perforce by the Protech maintenance and operations team and distributed to the release management distribution list, including State and Protech management, configuration management group (CMG), Protech PMO, State PMO, and OSG.

Each of the two input reports is updated to indicate modules not selected. The updated reports are stored in the RMG folder by Protech along with the RMG working document, the R-SOW release components and the individual impact analyses used in the meeting.

Changes to R-SOW

As priorities change, an approved release may change. Changes will be reviewed during an RMG meeting and impacts of adding or removing code module(s) in an already planned release will be considered. However, any time a module in a planned release is changed, the module must be reconsidered by the RMG for movement to another planned release. Changes will be documented in the R-SOW and reviewed and approved by the State and Protech.

Release Implementation

Once a release is approved, the maintenance and operations (M&O) team will follow the defined NCSEAS development life cycle methodology to complete the work. Management of the release and status reporting will follow the approved project management plan and processes. Once the work is completed and successfully tested in UAT, the configuration management team will initiate the appropriate actions to build a release and submit a release package for implementation.

The Protech M&O team will provide operational support for the newly implementation software and address any production defects.

Release Implementation Record

A detailed record of each production release will be maintained to record the following:

- *Release number*
- *Release type (e.g., Emergency, Planned)*
- *Bugzilla ticket number*
- *Bugzilla description*
- *Environment*
- *Subsystem*
- *Help desk ticket number (if applicable)*
- *Component Id: (e.g., Module ID) - for future use*
- *Component description (e.g., Module Name) – for future use*
- *Installation date*
- *Approved by date*

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The release implementation record will be maintained by the PMO as a project artifact and stored in Perforce.

REQUIREMENT:

11.2.2.6/4.17.1.1-C Describe the procedures for controlling the release of the NCSEAS into the production environment. Procedures shall comply with established DWSS release practices

Defining a Production Release (PR)

Once configurable items are logically grouped into releases, RMG either assigns them to an existing planned release on the project schedule or creates a new planned release. Following is a discussion of release types and release numbering conventions that RMG will use in finalizing production releases.

Release Types

There are two types of NCSEAS Releases

- ***Emergency (on-demand) Release – production defects (technical or application) requiring an immediate fix to the production application/environment. These emergency items may involve as few as a single module to correct a severity 1 error in production. During the first several months following pilot implementation, emergency releases may occur frequently. Emergency releases will be numbered using version numbers (e.g., PR1.001).***

- ***Planned Production Release – planned and scheduled promotions that may include change requests (including enhancements) and/or a collection of corrected defects. During pilot operations, planned releases may occur as frequently as weekly. As the application matures, planned releases may evolve from semi-monthly to monthly, to quarterly. Planned releases can be a major or minor release depending on the size and composition. Major releases will be assigned a whole number (e.g., PR 5.0). Minor releases will be numbered using version numbers (e.g., PR 5.01.00). Technical (environment) enhancements (e.g., upgrades to system software, data base) are planned releases and will most likely be part of a unique release to manage the impacts and risks associated with that category of releases.***

Release Naming Convention			
Planned Major	Decimal	Planned Minor	Unplanned (Emergency)
1	.	00	00

Example of Release Naming Convention		
Date	Type	Number
March 2021 (Pilot)	Planned Major	1.00.00
	Unplanned (Emergency)	1.01.00
	Planned Minor	1.01.00
	Planned Minor	1.02.00
	Unplanned	1.02.01
	Unplanned	1.02.02
July 2021 (Regional)	Planned Major	2.00.00
	Planned Major	2.01.00
	Unplanned	2.01.01
October 2021 (Statewide)	Planned Major	3.00.00

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Work Estimating and Authorization

An important role of the RMG is to prioritize all maintenance and operation work to be performed and create Release Statements of Work (R-SOW) that can be planned, managed, and implemented. The Release Statements of Work (R-SOWs) may consist of a combination of change requests (including enhancements), defects, and operations/maintenance activities. The R-SOW will also include an estimate of hours, cost (if applicable) and a general schedule to complete the work. The R-SOW will be signed by the State and Protech once consensus is reached. Signature pages will be maintained by the Project Management Office (PMO).

Once approved, the production release will be assigned a release number and added to the project schedule by the PMO. Schedule templates will be prepared by the State and Protech PMO for guidance in the planning and preparation of the releases.

Composition of a Release SOW

An R-SOW can be comprised of any number of the following configurable items. The RMG will consider the impact on the end user and other risk factors in assembling the work to be performed. Although not listed separately, any or all the following items could have impacts on training and implementation that will be considered in the impact assessments.

Production Defects (Help Desk Tickets)

Production defects will require an impact analysis: proposed severity, estimated hours to complete all related work and scheduling considerations. The RMG will use the information in the impact analysis to help assign it to a scheduled release. In turn, each defect will be managed as part of the release work package to successful implementation.

Change Requests and Enhancements

Change requests require an impact analysis that is approved by the Change Request Review Board (CCRB). In addition, to change requests, enhancements will be a new category of Change Control that must be managed as part of the M&O project. Enhancements must also include a recommended priority and capture scheduling considerations. The change request must account for the entire documented NCSEAS SDLC methodology (e.g., analysis, design, development, testing, documentation, training and implementation). M&O service request forms will be used to document service requests (e.g., enhancements), impact assessments, and approvals. The NCSEAS project manager will assume responsibility for approving enhancements.

Technical Infrastructure Configurable Items

The RMG will also participate in planning and prioritizing upgrades to the technical infrastructure such as system software, data base software, network and production hardware upgrades. There will be no other application software components in a Technical release. Releases must be carefully planned so not to adversely impact production operations. Work required by Protech to implement these upgrades must be estimated and authorized by the RMG.

Protech will work with DWSS providing them with information they require for the update process and work with the team to minimize impacts to the DWSS schedule.

The R-SOW and Related Documentation

Documentation related to any change made to NCSEAS is updated simultaneously to keep it current. This effort is planned and tracked using release management tracking documents.

Applying DCS Content to DSDs SDs

Consistent with that effort and as part of it, is another M&O task that must be planned and managed. The review and update of Detailed System Design (DSD) and Solution Design (SD) documents will enable Protech to apply the changes to those documents that resulted from Design Clarification Statements (DCS).

NOTE: When a document or program is opened to address a defect or change request, all open State code comments and open documentation updates will be made at that time.

A DSD tracking matrix and solution design tracking matrix will be stored in Perforce. These matrices will assist in planning, resource assignment, and status tracking. Design Clarification Specification (DCS) tasks will continue to be tracked in RPM.

R-SOW Document

The R-SOW will be brief document that includes:

- *Release number*
- *Scheduled implementation date*
- *Assumptions and constraints*
- *Schedule release (listing each component of the release – configurable and non-configurable items with a brief description of each)*
- *Signature page*

Estimating the Work to Be Performed

An impact analysis will be performed on the major M&O tasks to assist the State and Protech to assign priorities to the tasks and create Release SOWs that can be planned and tracked. The impact analysis for some tasks occurring during M&O will only have hours assigned while others will have hours and costs.

Production defects and routine maintenance and operations impact analysis will include:

- *Task name and description*
- *Hours by skill category*
- *Estimated duration to complete*
- *NO costs will be associated with M&O tasks that are included in the contract.*
- *Change requests including enhancements*

The change request management plan provides a detailed description of the process, documentation and approval process. Change requests and enhancements will have costs associated with them because they represent new work.

To standardize the estimates across all tasks, a model will be used as a tool to help guide the team(s) performing the estimates. The model provides estimates of hours by skill categories and costs based on general work tasks. The model will be mutually agreed upon by the State and Protech and will be refined as required. Both parties must approve all changes. Some M&O and new tasks will fall outside of the scope of the estimating model; therefore, a customized impact analysis will be used to document an understanding of the work to be performed, estimated hours by approved skill category and estimated duration.

Scheduling of R-SOWs

The PMO will help maintain the schedule for approved M&O work. The M&O tasks will be managed using a schedule(s) that will be different and distinct from the main NCSEAS project schedule which will continue to address the remaining functionally and 3 regions roll out until statewide is achieved. A template will be designed, approved and published for the R-SOWs or releases and another M&O work to be performed. Other ongoing maintenance tasks will be related to technical infrastructure. The M&O tasks will be packaged and managed as part of individual Microsoft Project Plan (MSP) sub-projects.

As with the current practice, detailed work plans are the responsibility of area team leads to help them manage the work and MSP will be used to track agreed upon tasks to represent the work for monitoring and reporting purposes. For example, defects may only have a few line items in the schedule whereas change requests may need to depict the entire system development life cycle. All applicable NCSEAS methods, processes and procedures will be applicable during the M&O phase of the project and documented in the project schedule (e.g., project management, SDLC, training and implementation).

There will be state approval and sign-off tasks added to the schedule to capture official closure of the R-SOW.

The release implementation record will be updated for each release implementation. There will be one R-Sow for each release.

Communication Protocol

One of the most critical aspects of release management is effective communication with primary stakeholders of NCSEAS. Planning for each release requires identification of a distribution list containing those who should be advised of the promotion of new or revised software. Elements of the communications protocol for release management include:

- *Advance communication of planned production releases and pre-defined planned releases*
- *Preparing information for each production release communiqué*
- *Distributing the production release communiqué*

In each instance, the NCSEAS help desk maintains various distribution lists and is the primary point of disseminating release communiqués. Although the primary distribution of advanced communications is via NCSEAS information transmittals, State management may want to also employ other communications vehicles (e.g., executive briefings, management meetings, staff meetings, and the annual child support conferences).

Advance Communication of Releases – Planned Production and Pre-Defined Planned

The NCSEAS project will issue communiqués on all planned production and pre-defined planned releases to the appropriate distribution lists well in advance of promoting the configuration elements (e.g., application software, system hardware/software, and network) into production. The responsibilities for these communiqués are as follows:

- *Project Schedule: planned production and pre-defined planned releases*
- *Prepare SDLC tasks – Protech*

- *Preparation of release notes:*
- *NCSEAS application software – Protech communication lead, State support*

- *Production hardware/software – State communication lead, Protech support*
- *Production network – State communication lead, Protech support*

- *Final Packaging of NCSEAS information transmittal:*
- *All configuration elements – Protech prepares the release notes and the State approves the release notes for publication*

- *Distribution of NCSEAS information transmittal*
- *NCSEAS help desk via e-mail and customer service portal (CSEP Website) – Protech lead, State support*
- *Other communication channels as determined by the State*

Preparing Information for Each Production Release Communiqué

Each production release will be comprised of various configuration elements as discussed in Section 3. The make-up of the production release will determine the type of release notes, responsibility, review/approval and method for distribution. This would include both functionality for pre-scheduled releases and planned production releases for enhancements resulting from change requests.

- *NCSEAS application new or enhanced functionality – includes new minor or major enhancements to the application, including new features and functions.*
- *Protech will prepare a user oriented description of the enhancement including new and/or updated screens, reports, functional logic. This is part of the release notes.*
- *State will review and finalize the NCSEAS information transmittal package for dissemination.*

- *Correction of defects to NCSEAS functionality – includes all defects identified in the production environment and/or during testing.*
- *Protech will prepare a user oriented description of the changes including new and/or updated screens, reports, functional logic.*
- *The State will review and finalize the NCSEAS information transmittal package for dissemination.*

Distribution of Production Release Communications

Although various distribution methods can be employed, the two primary vehicles for distributing NCSEAS production release information are as follows:

- *NCSEAS help desk will disseminate the NCSEAS information transmittal using the appropriate distribution lists.*

The Nevada child support website may be used as a communication medium for informing users and stakeholders of the distribution of releases, both pre-release and post-release.

REQUIREMENT:

11.2.2.6/4.17.1.2 Execute the approved Release Management Plan successfully.

Protech will execute the approved Release Management Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team.

Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.17.2 Deliverables

4.17.2.1 Release Management Plan
4.17.2.2 Successful Execution of the Release Management Plan

Protech recognizes the importance of preparing and maintaining the release management plan for the project in accordance with the terms of the contract and as reasonably requested by the State. Deliverable number 4.17.3.1, Release Management Plan and 4.17.3.2 Successful Execution of the Release Management Plan will encompass all work products resulting from activities 4.17.2.1 and 4.17.2.2 as described in this section.

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VI-4.18 Data Conversion Management Plan

4.18.1 Objective

REQUIREMENT:

11.2.2.6/4.18.1 The Implementation Contractor will prepare and update as required a data conversion management plan for the project.

The purpose of the data conversion plan is to detail the strategy for extraction, analysis, cleansing, transformation and loading of persistent data from NOMADS into NCSEAS. The data conversion Plan will identify the data sources required for the conversion efforts including the approximately 245 tables/data sources from the legacy system (and ancillary systems) to the new system. It will specify the standards and the methodology for:

- *Extracting NOMADS data*
- *Analyzing the extracted data*
- *Data cleansing activities resulting from the analysis*
- *Creation of data maps*
- *Develop data conversion algorithms*
- *Deriving or otherwise obtaining missing or incomplete data*
- *Conduct conversion testing and validation*
- *Perform mock conversions*
- *Performing region specific conversion*

4.18.2 Activities

4.18.2.1 Identification of Data Sources for Conversion

REQUIREMENT:

11.2.2.6/4.17.2.1-A Identify the data sources for conversion efforts, including but not limited to the IV-A, IV-E, and Title XIX systems.

Protech's understanding is the NOMADS DB2 database is the primary data source. During the initial planning meeting, at the State's request, we will work with the DBA's to identify the ancillary sources and data from all sub-systems.

REQUIREMENT:

11.2.2.6/4.17.2.1-B Specify the standards and the methodology for extracting data and deriving or otherwise obtaining missing or incomplete data.

The Protech Team's data conversion steps can be broadly divided into four categories:

- *Conversion planning*
- *Design, data mapping, and development*
- *Data cleansing and validation*
- *Implementation and support*

The four conversion categories are further split into nine steps as follows:

I. Conversion Planning

1. *Define conversion requirements: Conversion requirements are defined and maintained by the Protech Team in the form of a data dictionary.*

II. Design, Data Mapping, and Development

2. *Develop and maintain conversion software: The Protech Team develops target-specific conversion software to edit and validate transformed source data during iterative data cleansing activities and to produce edited data files that are eventually used to populate the NCSEAS database at the point of cutover. The iterative data cleansing activities take place in a staging region or conversion work area.*

3. *Prepare and maintain data maps: Once requirements have been defined, data mapping can occur. This step involves mapping the legacy source data to the target data dictionary using the data mapping functionality include in the data cleansing tool.*

4. *Conduct data gap analysis: One data is mapped; a data gap analysis is conducted to determine the extent to which required target data cannot be converted from automated sources.*

5. *Develop and maintain derivation programs: Using the data maps as design specifications, data derivation programs are developed and tested for use in transforming legacy system data extract files into a format that can be processed by the conversion software. Like the conversion software, derivation programs are developed on a framework that has been refined and improved over the years. Developers use the derivation rules provided in the data conversion tool to write the necessary transformation code within this framework.*

III. Data Cleansing and Validation

6. *Perform iterative data cleansing and validations: The successful conversion of NOMADS data is largely dependent upon the quality of the data being converted to NCSEAS. By using an iterative data cleansing process, Nevada staff and the Protech Team can determine the quality of data early in the conversion process. The goal of this step is to increase the percentage of data that can be converted using automated tools, thereby reducing the number of records that must be converted manually during each phased cutover to NCSEAS.*

IV. Implementation and Support

7. *Complete pre-cutover verification activities: To confirm the data conversion and implementation in its entirety, the Protech Team will conduct a mock conversion for each phase. The mock conversion provides a readiness test that occurs in a conversion environment as part of the pre-cutover verification activities. This mock conversion process, also referred to as the Dry Run Test (DRT), provides an opportunity for Nevada and the Protech Team to simulate cutover from NOMADS to NCSEAS in a no-risk environment.*

8. *Cutover data to target system: The actual cutover to NCSEAS occurs after the State of Nevada makes the decision to move forward with the production cutover for each phase. In most cases, when data is loaded system downtime must be imposed until the process is completed and the results are confirmed. If possible, the cutover process is completed within the window of a weekend or some other non-peak time. The Protech Team will explore ways with the State to mitigate the impact of downtime during each phased cutover to NCSEAS and determine the optimal approach.*

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9. *Support post-cutover data clean-up and reconciliation:* ***The focus after cutover is to identify and resolve data conversion issues and errors. To facilitate this process, conversion error reports are generated from the data conversion tool, which identify the records that were not converted.***

The figure below illustrates the Protech Team's nine-step data conversion methodology.

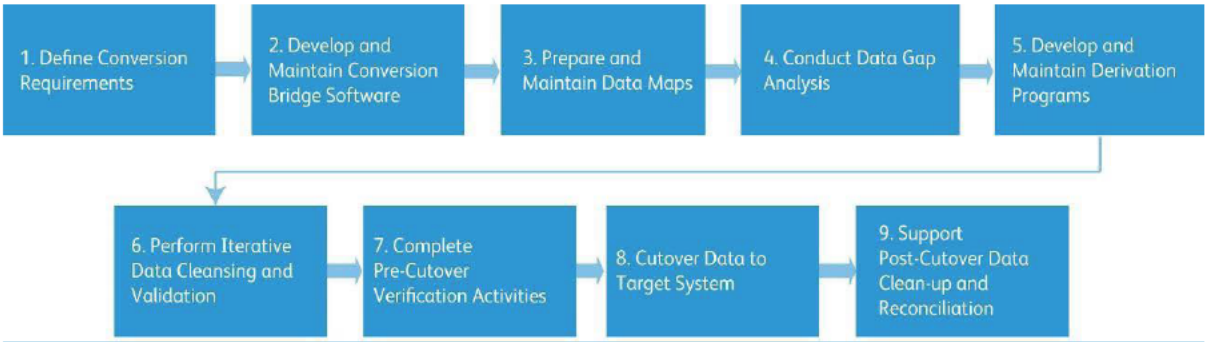

Figure 5.17-1. Data Conversion Methodology

The Protech Team's data conversion methodology involves a nine-step process to complete the full conversion life cycle from planning to post-cutover support activities.

REQUIREMENT:

11.2.2.6/4.18.2.1-C Define the tolerance level for nonconvertible cases and the plan to manage to that conversion rate.

Once data is mapped, a data gap analysis is conducted to determine the extent to which required target data cannot be converted from automated sources. In those cases' where a significant gap exists, the Protech Team takes the following steps to confirm the gaps and define remediation actions:

- ***Data gaps are first confirmed with State system owners. Missing data is reviewed to confirm that the data mapping is correct and consistent with the data available in the source application.***
- ***If a data gap is confirmed, the State team identifies the criticality of the missing information. The criticality is determined by the impact the missing information will have within NCSEAS as defined by the edits within the conversion data dictionary.***
- ***If the missing elements are required or have a functional impact within the target, meaning they are necessary for NCSEAS to function correctly, a remediation technique is defined through discussions with the State and the Protech Team.***
- ***If the missing elements are purely informational within the target, meaning NCSEAS can function correctly without the information, no remediation may be required. However, the State staff may choose to take remedial action if resources are available to identify and supply the missing information.***

REQUIREMENT:

11.2.2.6/4.18.2.2 **Execute the approved data Conversion Management Plan successfully.**

Protech will execute the approved Data Conversion Management Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.18.3 Deliverables

4.18.3.1 Data Conversion Management Plan
4.18.3.2 Successful Execution of the Data Conversion Management Plan

The large scope and scale of the NCSEAS project requires a well-planned conversion approach and effort. The data conversion plan specifies the standards and the methodology for extracting data, deriving or otherwise obtaining missing or incomplete data. The conversion process encompasses data analysis, mapping, and data cleansing and loading into the target database, commonly referred as ETL (Extraction, Transformation and Loading). The processes outlined in the plan will be used to perform analysis of NOMADS data, provide exception reports for automated and manual cleansing, mapping source data elements to target data elements during the mock conversions and regional conversions. Deliverable number 4.18.3.1, Data Conversion Management Plan and 4.18.3.2, Successful Execution of the Data Conversion Management Plan will encompass all work products resulting from activity 4.18.2 as described in this section.

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VI-4.19 Testing Management Plan

The Testing Management Plan (TMP) describes management activities for testing the NCSEAS application. These include the overall objectives, test environments, tests to be performed, requirements traceability, test tools, and overall test approach for each test phase.

The TMP provides a management overview of the test efforts and processes as they pertain to NCSEAS.

4.19.1 Objective

REQUIREMENT:

11.2.2.6/4.19.1 The Implementation Contractor will prepare and update as required a testing management plan for the project.

The initial task for the testing component of the project is to complete the Test Management Plan (TMP). This plan, created during the initial phases of project initiation and planning is developed in collaboration with State staff assigned to the NCSEAS system project. The TMP will define the scope of the testing activities including the goals and objectives for each phase of testing. The approved plan then serves as our guide for the total testing effort.

4.19.2 Activities

REQUIREMENT:

11.2.2.6/4.19.2.1 The testing management plan will:

Protech employs an incremental approach to testing, whereby testing occurs throughout the development lifecycle. Our test plan methodology is based on the IEEE-829 test plan structure and is customized to meet the requirements of integrated child support systems across multiple platforms. For each stage of testing, the Protech Team uses a clear, comprehensive strategy to ensure that State objectives and industry standards are met in the process of building a reliable and effective enterprise system. When preparing our test documents, we consider the three major activity areas of each test phase: 1) Preparation; 2) Execution; 3) Evaluation.

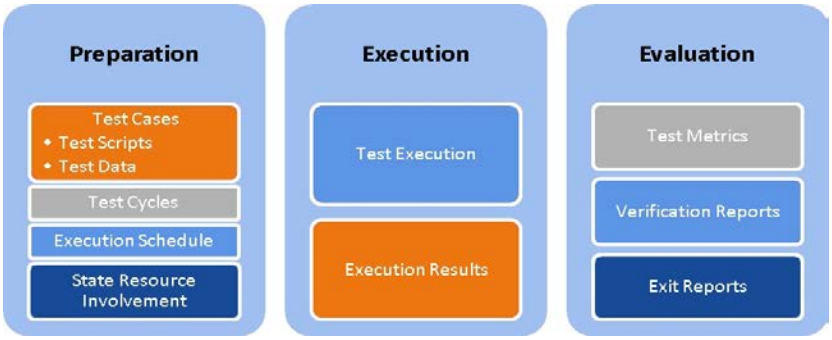

Figure 4.19-1. Major Activity Areas for Each Testing Phase

Each phase of testing consists of three major activity areas: preparation, execution, and evaluation

There will be multiple stages of testing to establish that Protech has adequately scrutinized components for deficiencies and inconsistences. System application processing is best verified and validated with requirement-based test case scenarios. Each stage of testing (e.g., integration, system, regression, performance (load), application security, and user acceptance testing) will require test plans which will address all requirements, including performance testing and confirmation of software functionality.

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REQUIREMENT:

11.2.2.6/4.19.2.1-A Identify the protocols to perform integration, performance, regression, and acceptance testing.

Protech's testing protocols, as pertaining to the NCSEAS application, have been developed through extensive experience. Our approach not only includes the required integration, performance, regression, and acceptance testing, but also integrates application security testing.

Protech uses a V-Model approach to testing, emphasizing the need for testing focus throughout the development of NCSEAS. Due to the extensiveness of this process, we have compiled our methodology into Appendix A. Please refer to section 1.1 of Appendix A.

Our protocols include:

- *The production of documentation for all testing phases*
- *The four quality dimensions of our testing methodology*
- *The use of Bugzilla as a defect management tool*
- *The establishment of five testing environments*
- *The roles and responsibilities within the testing teams*
- *The use of peer review*
- *The use of a joint review team*
- *Communication guidelines*
- *The use of a work breakdown structure*

4.19.2.1 Test Case Standards

REQUIREMENT:

11.2.2.6/4.19.2.1-B Establish the standards for test case preparation, for performing and documenting testing activities, for identifying and tracking application defects, for prioritizing defects as critical, major, or minor, and for reporting on the number and types of defects and their correction.

Protech's testing management plan will include the following five (5) major areas to ensure that the overall testing process achieves the desired results:

- *Test case preparation*
- *The performance and documentation of testing activities*
- *The identification and tracking of application defects*
- *The prioritization of defects*
- *The reporting of defect volume, type, and correction*

A more in-depth description of these areas can be found in Appendix A, Section 1.3.

REQUIREMENT:

11.2.2.6/4.19.2.1-C Identify tasks to establish a test environment and scripts for the distribution test deck cases and provide for regression testing against the distribution test deck cases.

The Protech Team will complete the following tasks in establishing the required test environments:

- *Setup test database including all tables and database objects*
- *Compile all source code components in the environment with no errors*
- *Load the NCSEAS converted data to the testing environment*
- *Provide appropriate data access to testers in the test environment*

- *Prepare test scripts*

Protech will establish a development/unit test environment that is separate from other test environments and is configured to support verification of all required distribution test deck functionality. We plan to work closely with the State during system test planning and execution to develop applicable test scripts as well as the required federal certification distribution test cases – an approach that paves the way for UAT and distribution testing. In addition, we will prepare the requirement traceability matrix for the distribution rules.

Distribution testing is performed as a distinct step within the UAT cycle, with the emphasis placed on verifying federal compliance using the federal certification distribution test cases and documentation. The Protech Team performs the tasks for the PRWORA distribution test as outlined in the project management plan and regression testing against the PRWORA distribution test deck cases. Automated scripts are created to execute the testing set-up to facilitate subsequent retesting and/or regression testing that may be required. Upon completion, comprehensive distribution test deck documentation is provided for State and federal review.

As part of the testing process, PRWORA test deck documentation is created which includes the test results verifying the system's compliance with the PRWORA test deck expected results. This documentation is provided to the Federal Certification Team to demonstrate that the system meets the federal test deck requirements.

REQUIREMENT:

11.2.2.6/4.19.2.1-D Identify software to assist in the testing and test result tracking process.

The Protech Team proposes the following software to assist in the testing and test result tracking process:

- *JUnits and JCoverage – for development testing*
- *Rational Functional Tester – for functional testing*
- *Bugzilla – for defect management*
- *IBM Rational Performance Tester – for load and performance testing*
- *IBM Rational Policy Tester – for section 508 compliance testing*
- *IBM Rational Appscan - for security vulnerability threats*

Effective software testing requires a high level of coordination, communication, and cooperation among all key stakeholders. This is particularly true when we begin system test activities. Our approach will be to have Protech's testing team work closely with the State's project team to plan testing activities, establish test environments, create test data, develop test cases, execute tests, and resolve discrepancies.

During the system testing phase, Protech will utilize IBM Rational Policy Tester to ensure that the application is section 508 compliant. We will also mitigate security threats and application vulnerability to external threats with IBM Rational Appscan evaluations on an ongoing basis.

REQUIREMENT:

11.2.2.6/4.19.2.1-E Identify the protocols to test the hardware and infrastructure configuration.

The Protech Team brings its experience of implementing large, distributed, heterogeneous child support systems in multiple states to the NCSEAS project. We have detailed implementation and installation checklist repositories for system installation, functional and technical prerequisites, staged installation testing, and related processes.

Prior to deployment in any environment, Protech establishes thorough entry and exit criteria for the installation, configuration, and verification of any hardware components. This encompasses the physical environments, hardware and software version and product numbers, CPU, memory, licenses, and application build deployments.

We also leverage our extensive and detailed knowledge of large scale child support systems when designing our technical architecture. Our solution proposes an architecture that reduces online and batch processes into smaller, more agile, and self-learning units of code that can report on the reliability of the processes in an automated manner.

This approach focuses our entire team on configuration issues and helps us confirm that certain technical components meet their portion of the performance requirements. Moreover, when testing shows that the limit for a requirement has been exceeded, we can quickly focus in on the "offending" software modules or hardware that has exceeded their limits. It is in those areas that we believe we have scope to improve the overall performance of the transaction.

For a detailed description of the protocols we employ to test the hardware and infrastructure configuration, please see Appendix A, Section 1.5.

REQUIREMENT:

11.2.2.6/4.19.2.2 Execute the approved Test Management Plan successfully.

Protech will execute the approved Test Management Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.19.3 Deliverables

4.19.3.1 Testing Management Plan
4.19.3.2 Successful Execution of the Test Management Plan

The details of the testing management plan will include specific objectives, test approach for each test phase, test environments, tests to be performed, requirements traceability, and test tools. Protech will submit this plan to State of Nevada for review and acceptance. Deliverable number 4.19.3.1, Testing Management Plan and 4.19.3.2, Successful Execution of the Test Management Plan will encompass all work products resulting from activity 4.19.2 as described in this section.

VI-4.20 Training Management Plan

4.20.1 Objective

REQUIREMENT:

11.2.2.6/4.20.1 The Implementation Contractor will prepare and update as required a training management plan for the project.

End user training and support is key to the success of any system implementation project. A comprehensive training management plan is critical to creating a successful training endeavor. The Protech Training Team has extensive experience implementing child support systems and delivering training that ensures end users are proficient in its use. We recognize that in addition to providing a successful training program during the implementation phase of NCSEAS, it is also important to build an education program that provide effective, ongoing training into the future.

The training management plan is a key deliverable and will be based on proven instructional design principles. The plan will include the following elements:

- *A list of training assumptions and risks*
- *An overview of the training methodology*
- *An overview of the training analysis, design, and development processes*
- *A matrix of training and support personnel for development and implementation*
- *The proposed training curriculum*
- *The proposed training materials and products*
- *Training registration and schedules*
- *Training facilities identification, requirements, and preparation*
- *The preparation of instructors and project support staff*
- *Quality assurance processes*
- *Training plan maintenance and knowledge transfer*
- *Training evaluation metrics, analysis and reporting*

The training plan that Protech will develop for the NCSEAS project will include the design methodology, the tools, a delivery strategy and a comprehensive training plan that will ensure a solid knowledge based transfer to support the ongoing success of the NCSEAS project. Training is targeted to NCSEAS end users, customer service support staff, training staff, technical and other project support staff. In addition, staff in IV-A and other interfaced system and court offices may be included in training as identified as part of the initial training needs analysis. The Protech training team will prepare and update the plan as necessary.

4.20.2 Activities

4.20.2.1 Training Objectives and Requisite Training Activities

REQUIREMENT:

11.2.2.6/4.20.2 The training management plan will:
4.20.2.1-A Set the training objectives and describe the requisite training activities, schedule for the activities, and resources assigned to the activities.

To meet the primary training objective of preparing State and County staff for the implementation of NCSEAS, Protech's training plan includes all aspects of the NCSEAS system. NCSEAS provides consistent

statewide child support enforcement processes and access to most identified customer service inquiries. Based on our extensive experience, the end user curriculum will be modular in design and include a presentation of system batch processes, appropriate screens, reports, workflows and worker actions necessary to perform their day to day activities in each of the following functional areas:

- *Case initiation*
- *Locate*
- *Establishment*
- *Case management*
- *Enforcement*
- *Financial management*
- *Intergovernmental*
- *Reporting*
- *Customer service*
- *Ease of use*

The proposed training program is designed to measure learning results rather than merely track attendance. Our team will develop outcome-based training and implement evaluation methods to provide validation that users benefited from the training experience. The Protech training team has designed an approach to training development and classroom delivery that will build on best practices and lessons learned from previous implementation projects. The plan will follow the Analyze, Design Develop, Implement, and Evaluate (ADDIE) model as the instructional design framework. The Training will be developed and delivered in four phases:

Phase 1: Training Strategy - First ten months of project

The training strategy phase encompasses the analysis and design instructional design processes and serves as the cornerstone of the Protech Team's approach to training. The training team will incorporate tasks and actions identified during this phase into the master project schedule. This phase will include the following:

- *Analyze the learner's existing knowledge and skills, needs, and clarifying training objectives*
- *Finalize the training methodology (the instructional design process, the training needs unique to adult learners, selection of appropriate instructional tools and methods)*
- *Present a systematic approach to designing learning objectives, assessment instruments, exercises/activities, content templates, content reviews, learning pathways, and media selection*
- *Take part in subject matter research and outreach, such as participation in the Joint Application Development (JAD) Sessions*
- *Perform training site assessments to determine appropriate training classrooms, perform site visits, and procure appropriate sites*
- *Develop the training schedule**

**Protech will work with the State of Nevada to develop a detailed training schedule once the number of users per session, sites to be used, amount of content to be trained and trainer availability is known.*

Phase 2: Training Development - twenty months prior to first office training

In the training development phase, instructional designers and developers create and assemble training elements integrated in the training strategy phase. For web-based training, designers create storyboards and

graphics while programmers develop or integrate existing technology tools. Content is revised according to feedback obtained from a series of subject matter, peer and quality assurance reviews.

During this phase, the Protech training team will develop a training "toolbox" that will continually build on the end users understanding of NCSEAS. The tools will complement each other providing comprehensive on-demand access to support materials, including training manuals, job aids and user manuals. This phase will include the following:

- *Outcome based learning objectives*
- *Hands-on training activities*
- *Content for classroom-based training sessions and web-based training modules*
- *Quick reference guides*
- *Student training manuals*
- *Instructor training manuals*
- *An online registration tool*
- *Online help*
- *Training sandbox*

Phase 3: Trainer and Site Preparation - eight months prior to first office training

Once the initial planning and development phases are completed, the training team will begin the task of preparing the trainers and preparation of the identified training sites. This phase will include the following:

- *Train the Trainers (TTT)*
- *Validate the training material*
- *Schedule*
- *Logistics*
- *Preparing the classrooms*
- *Finalize training materials based on the final feedback from the established approval process*

Phase 4: Training Delivery – six weeks prior to rollout

Classroom-based training will be delivered to the end users approximately six weeks prior to their scheduled regional Go-Live. This phase will include the following:

- *End users complete WBT overviews and any classroom preparatory modules*
- *Deliver general and specialized functional classroom-based training to end users and related office staff*
- *Deliver technical training to systems staff*
- *Present the Protech training team toolbox to the project team and all aspects will be available to the end users*

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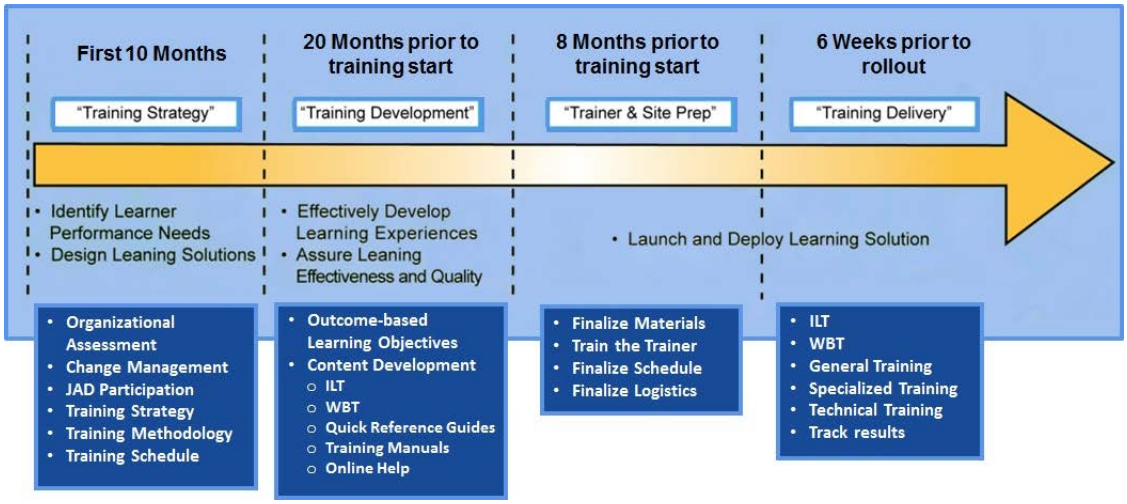

Figure 4.20-1. Training Phases

REQUIREMENT:

11.2.2.6/4.20.2.1-B Indicate who the Implementation Contractor will train in various system components, what the training scripts will contain, and what format the Implementation Contractor will use.

Protech's training team will deliver training to approximately 1000 users throughout the State of Nevada. This number may be adjusted based on the training needs analysis. Approximately fifty percent of the targeted users are CSE workers. These workers will require training on the NCSEAS system interface and the functional areas listed in section 5.19.2.1. The other fifty percent of users (such as IV-A staff, managers/supervisors) will be provided training on the NCSEAS system interface and specialized training targeted to their specific operational needs in accessing the NCSEAS application. Identified users include:

- *State of Nevada CSE staff*
- *County CSE staff*
- *Managers*
- *Court staff*
- *Technical staff*
- *Customer service staff*
- *District attorney staff*
- *SCaDU (State Collections and Disbursement Unit)*
- *State training specialists (via a Train the Trainer approach)*
- *On-site support team*
- *Help desk staff*
- *Other staff as required by the State of Nevada*

Examples of the content to be covered in the training include steps for entering a new case in NCSEAS, how to change an address, add comments, input an order, and how to schedule a court hearing.
Content may be presented via WBT modules, via classroom hands-on sessions, or a combination of the two in a blended learning approach based on the results of the training needs analysis performed in the Training Strategy Phase of Section 15.19.2.1.

Both during training implementation and for ongoing educational goals, users will have access to the Protech training toolbox outlined in the Training Development Phase of Section 15.19.2.1.

REQUIREMENT:

11.2.2.6/4.20.2.1-C Describe how the Implementation Contractor will use computer-based training, what the Implementation Contractor will cover, and how the Implementation Contractor will use classroom training in combination with computer-based training.

Content may be presented via WBT modules, in classroom hands-on training sessions, or a combination of the two in a blended learning approach based on the results of the training needs analysis performed in the Training Strategy Phase of Section 15.19.2.1.

An example is provided below on how the web-based and classroom-based delivery methods can work together to provide a learner-based approach to training.

End users access a learning management system (LMS) to access their individual learning path. This learning path is based on their functional role in NCSEAS and will indicate which online modules and which classroom training the end users will need to complete to be prepared to perform their daily jobs via NCSEAS. All users will be required to complete a web-based NCSEAS overview. This WBT allows users to experience the look and feel of NCSEAS via a guided tutorial. Users may complete the training at their desk based on their own work schedule. Once the overview is completed, users may be asked to complete a skills assessment and then register for classroom training on the functional area identified in their learning path. The instructor can review the results of the skills assessment and determine if the user requires additional systems training or is ready to proceed with functional area training. The classroom training builds on the information and knowledge gained by the user in the web-based training. The instructor may also use the assessment results to gage the skill level of the incoming class and can adjust the pace of the course as well as classroom activities. After training, users complete an online evaluation through the LMS. The instructor will use the formative evaluation results to check the success of the training and to evaluate areas potentially needing revisions in training techniques. Once the instructor marks attendance of the student in the LMS and all required activities for the course are completed, the student may access their certificate of completion.

REQUIREMENT:

11.2.2.6/4.20.2.1-D Address the logistics of where and when the training sessions will take place, include a section relating to ongoing training as well as training for new staff, and document the information needed for user staff to attain full use of system functionality.

As part of the Training Strategy Phase outlined in Section 5.19.1, the Protech training team will work with the State to identify the optimal training sites to minimize travel costs and staff time out of the office. Using a regional population division, these sites may be in Clark County, Churchill County, Elko County and Washoe County.

Protech will work with the State of Nevada to develop a detailed training schedule once the number of users per session, sites to be used, amount of content to be trained and trainer availability is known. The schedule will be placed in the master project schedule as required.

For ongoing and new staff training offerings, the Protech training team will work with the State of Nevada Training team to identify the optimal training locations and training schedule based on the number of users and functional areas.

To be prepared for the NCSEAS implementation, users will need to complete a tailored training learning path. They will have access to the resources in our training toolbox to reinforce the completed training. For example, by completing exercises in the training sandbox, end users can extend hands-on practice on the

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system between training and the cutover date. By interacting with on-site support staff, users will get individualized assistance with actual case questions.

Between the WBT, classroom training, quick reference guides, user manuals, the sand box and on-line help, the user will be provided with sufficient information needed to understand fully the use of NCSEAS functionality.

REQUIREMENT:

11.2.2.6/4.20.2.2 Execute the approved Training Management Plan successfully.

Protech will execute the approved Training Management Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.20.3 Deliverables

4.20.3.1 Training Management Plan
4.20.3.2 Successful Execution of the Training Management Plan

The Protech training management plan is a required deliverable as described in Section 4.20 of this proposal. Upon receipt, the State will review the document within 10 working days and return to the training team with any comments. This review and revision process is required for quality assurance and acceptance. Deliverable number 4.20.2.1, Training Management Plan and 4.20.3.2, Successful Execution of the Training Management Plan will encompass all work products resulting from activity 4.20.2 as described in this section.

VI-4.21 Web-Based Training Development Plan

4.21.1 Objective

REQUIREMENT:

11.2.2.6/4.21.1 The Implementation Contractor will prepare and update as required a web-based training development plan for the project.

Prepare and Update as Required

While web-based training is addressed as a component of the overall training plan, there are additional considerations for web-based materials production that are unique and best presented in a separate development plan?

Throughout this RFP, the Protech training team has presented a need for both modular web-based training and classroom-based training offerings and has also made recommendations for a blended approach of using the two delivery methods collaboratively to further the primary training goal.

Web-based training delivery offers unique advantages such as:

- *Training is consistent across a large statewide audience*
- *Users can train at their own desk on their own schedule*
- *Users can train at their own pace, repeating modules as necessary, for additional reinforcement*
- *Users can gain enhanced system knowledge and experience, since users are required to perform tasks that are validated*

The web-based training development plan will include:

- *A list of training assumptions and risks for eLearning*
- *An overview of the training methodology used for eLearning*
- *An overview of the training analysis, design, and development processes unique to eLearning*
- *Proposed WBTs for the training curriculum*
- *Learning management system selection, or integration (for content hosting, registration, user assessments and evaluations)*
- *Network load assessments and/or recommendations*
- *End user equipment assessments and/or recommendations*
- *Development tool needs, selection, or integration*
- *Ongoing evaluation and continuous improvement*
- *A matrix of training and support personnel for WBT development and implementation*
- *Training plan maintenance and knowledge transfer*
- *Training evaluation metrics, analysis and reporting*

4.21.2 Activities

REQUIREMENT:

11.2.2.6/4.21.2.1-A
11.2.2.6/4.21.2.1-B
The web-based training development plan will describe the steps for the development of a web-based training component to augment classroom training sessions. Nevada already has a web-based training center. This plan will utilize the existing platform, tools, etc. where possible. This plan will also establish the basis for initial and ongoing use of computer and / or web-based training.

The Protech training team will provide end users with an opportunity to familiarize themselves with the look and feel of NCSEAS via a WBT training module. The training team will use web-based training to:

- *Build excitement and motivation for the new application which will be accomplished by showing the look and feel of NCSEAS*
- *Reduce classroom anxiety by providing end users an opportunity to learn how to navigate in NCSEAS and see key features prior to classroom training*
- *Even the playing field in the classroom by allowing end users to practice navigation at their own pace prior to classroom training*
- *Reduce classroom time by demonstrating standard access and navigation procedures, thus increasing the level of familiarity with the new system*

Whenever possible, the Protech training team will leverage existing State resources when developing WBT modules. Collaboration with the Nevada web-based training center will increase the opportunity for saving costs as well as sharing development expertise.

REQUIREMENT:

11.2.2.6/4.21.2.2 Execute the approved Web-Based Training Management Plan successfully.

Protech will execute the approved Web-Based Training Management Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.21.3 Deliverables

4.21.3.1 Web-Based Training Development Plan
4.21.3.2 Successful Execution of the Web-Based Training Management Plan

The Protech web-based training development plan is a required deliverable as described in Section 4.21.1 of this proposal. Upon receipt, the State will review the document within 10 working days and return to the training team with any comments. This review and revision process is required for quality assurance and acceptance. Deliverable number 4.21.3.1, Web-based Training Development Plan and 4.21.3.2, Successful Execution of the Web-Based Training Management Plan will encompass all work products resulting from activity 4.21.2 as described in this section.

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VI-4.22 Security Management Plan

4.22.1 Objective

REQUIREMENT:

11.2.2.6/4.22.1 The Implementation Contractor will prepare and update as required a security management plan for the project.

The security plan establishes a framework that adopts and addresses Federal and State security laws and guidelines.

The Security Plan identifies:

- *The security methodology, approach and standards*
- *The infrastructure, application and database components that must be secure and protected*
- *An Identity Management system that provides single sign-on and authentication for controlling access to the system*
- *The software and hardware tools used to monitor and minimizes security risks*

Security requirements will be addressed for each environment, as follows:

- *Development/Test/Conversion*
- *UAT/Performance/Training*
- *Production*
- *Disaster Recovery*

4.22.2 Activities

REQUIREMENT:

11.2.2.6/4.22.2.1 The security management plan will:
4.21.2.1-A Provide a comprehensive overview of the approach to system and data security.

We have substantial experience in the implementation of secure child support systems and other HHS systems and compliant handling of all CSE program information. We adopt a multi-layered approach in designing and implementing security measures and controls for the NCSEAS system, data, and software to corresponding environments to minimize the security risks.

The three layers we address in this program are:

- *Physical security pertaining to the physical access of components;*
- *Logical security pertaining to the software access and controls of devices and / or servers;*
- *Access control pertaining to the privileges provided to administrators and user groups*

Each layer is secured by restricting user access to only the necessary NCSEAS components, software, and data. The approach is to first deny all access and then only allow minimal access, as required. In addition, we employ a role and attribute based access mechanism. We also work with the State and classify data as confidential, private, public, or unclassified. Confidential data requires more security controls than data classified as private.

At each layer of security, we identify the application-level and data-level security requirements. Because Nevada has identified Novell's products to manage the security environment for the target system, we will work with the State to design and implement Novell's products with these three layers of security.

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These products include:

- *Novell Access Manager*
- *Novell Identity manager*
- *Novell e-Directory*
- *Novell Security Information and Event Management (SIEM)*
- *Novell Change Guardian*
- *Secure Configuration Manager*

We can also evaluate and work with similar/alternative toolsets as desired by the State.

We Recommend Novell's SIEM to collect infrastructure and application event logs to automate compliance audit and reporting functions. This tool significantly reduces the complexity, time and costs of locating and preparing data required for security audits. It also allows Division of Welfare and Supportive Services (DWSS) improved visibility into security management operations by quickly producing reports for auditors.

The security plan details the implementation of:

- *Least privilege*
- *Segregation of duties*
- *Role based access control*
- *Attribute based access control*
- *Information security architecture*

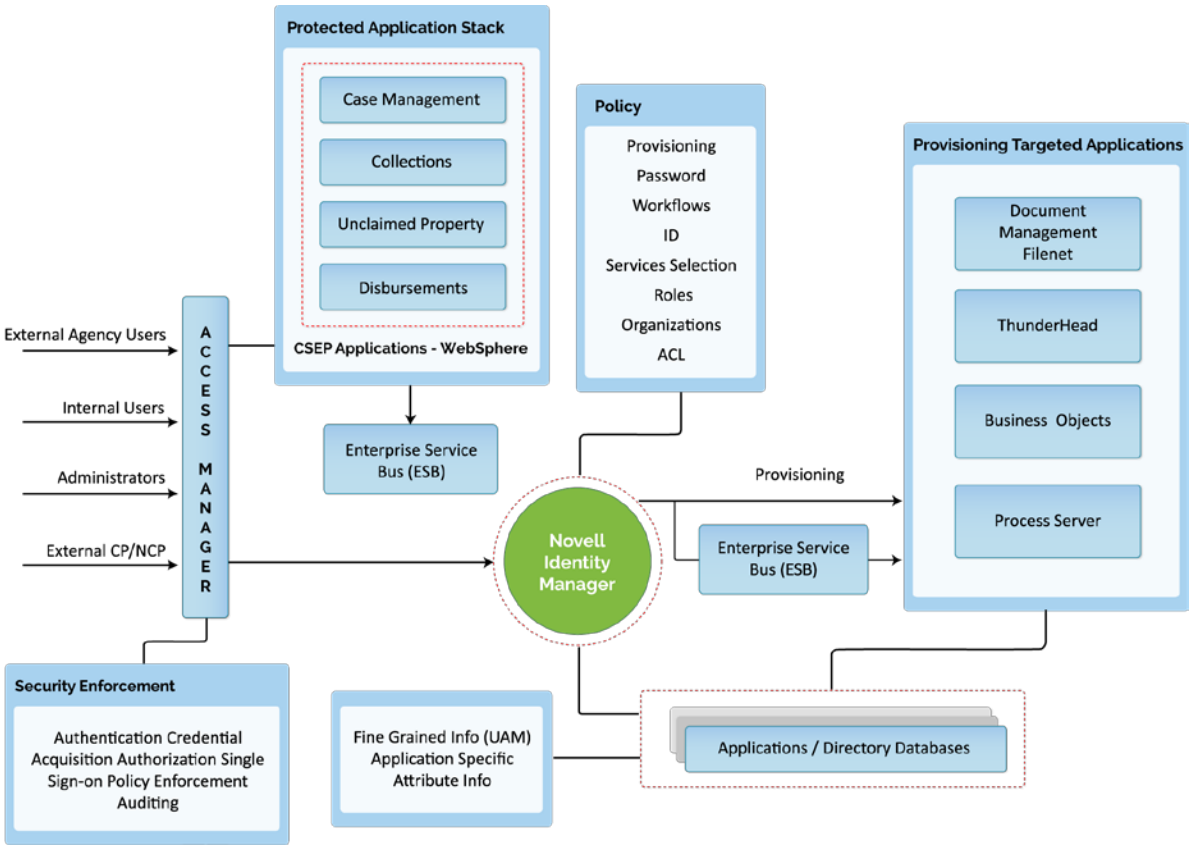

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Figure 4.22-1. Overview of System Security Components

REQUIREMENT:

11.2.2.6/4.22.2.1-B Specify the standards and methodology for securing access to the system, the software, and the data.

Security Standards and Implementation

The Protech Team has been involved in implementing multiple child support systems across the country for many years. In every implementations, we have used the best practices for security and complied with CSEP security standards along with divisional, state, and federal security regulations. We also use the National Institute of Standards & Technology (NIST) standards, particularly 800-53, as the base framework for the security program. We follow NIST's Risk Management Framework (RMF) to implement security NIST standards through security life cycle as described in Figure 5.21-2.

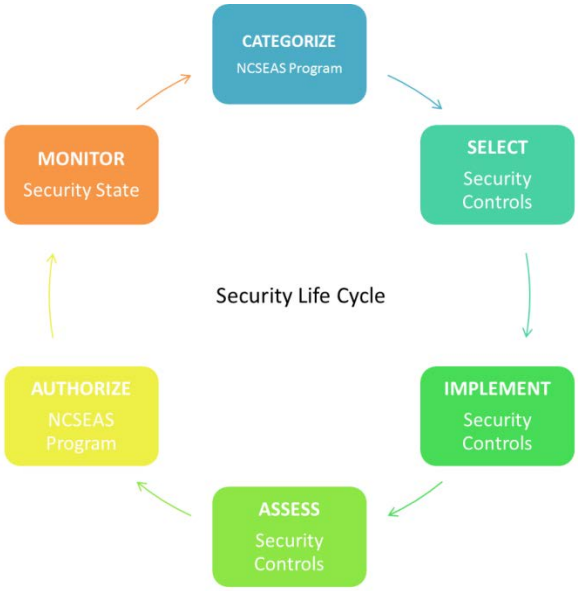

Figure 4.22-2.
Implementation process of NIST standards

The six-step process ensures successful implementation of NIST standards by:

Categorization: Defines criticality/sensitivity of NCSEAS project components according to potential worst-case, adverse impact to the program.

Selection: Selection of baseline security controls; applying supplement controls as needed based on risk assessment.

Implementation: Implementation security controls within NCSEAS project architecture using systems engineering best practices; apply security configuration settings.

Assessment: Determination of security control effectiveness (i.e., controls implemented correctly, operating as intended, meeting security requirements of NCSEAS project).

Authorization: Determine risk to NCSEAS project components; if acceptable, authorize access to program components.

Monitoring: Continuously track changes to the NCSEAS project components that may affect security controls and reassess control effectiveness.

Security Management Methodology

We follow our proven security management methodology, which is aligned with standard SDLC. Our methodology covers security management activities from requirements traceability to compliance management.

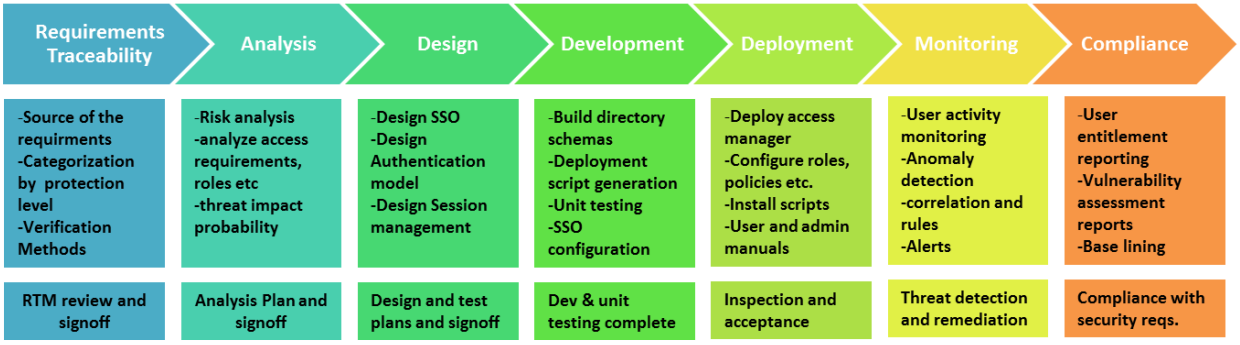

Figure 4.22-3. Protech's Security Management Methodology

The following section details activities of each phase of the process.

Security Requirements Traceability: We anticipate that new security and privacy requirements will be enacted during the life of the NCSEAS project and that many of these requirements may overlap or strengthen existing mandates. We use the security Requirements Traceability Matrix (RTM) to track identified local, state, and federal security and privacy requirements for the proposed NCSEAS solution. Table 5.21-2 shows an example of a security requirements traceability matrix which enables us to incorporate new and update existing security requirements as needed.

Analysis: As part of the analysis phase, Protech will analyze application architecture and access requirements at the attribute level. We will also analyze existing roles, access policies, authentication requirements, and session management needs.

Design: In the design phase, Protech will perform activities such as the design of authentication model and single sign-on, logging and reporting policies etc. This phase includes test case generation to sign-off of design and test plans.

Development: The development phase covers activities such as building directory server schemas and deployment script generation to unit testing.

Deployment: This phase includes deployment preparation and procedures as well as product deployment of scripts and other software artifacts.

Monitoring: Novell's SIEM tool will be used to provide a security overview with automated, enterprise- wide monitoring. This security appliance offers automated monitoring of activity logs with a dashboard and reporting feature to help the administrator manage security compliance. This tool provides DWSS with real-time visibility into the full spectrum of IT activities to mitigate security threats, improve security operations, and automatically enforce policy controls across physical as well as virtual environments. It also provides organizations with a more efficient SIEM solution by combining real-time intelligence, anomaly detection, and user activity monitoring to provide an early-warning mechanism and a more accurate assessment of IT activities.

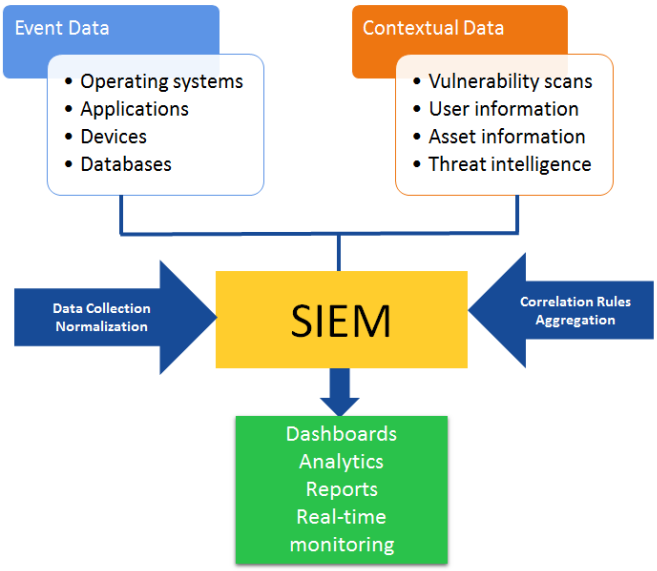

Figure 4.22-4. Novell's SIEM Output Generation Process

Using Novell SIEM's Anomaly detection capability, DWSS can:

- *Automate threat discovery*
- *Remediate threats before they generate damage*
- *Reduce risk to information assets*

Novell's SIEM solution automatically identifies inconsistencies in the NCSEAS environment without building correlation rules. This can also compare trends with a baseline to view historical activity patterns.

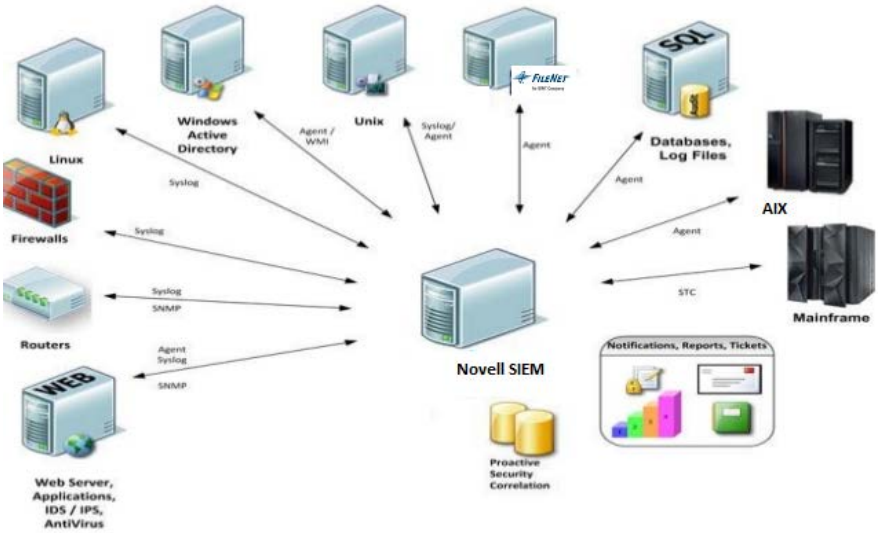

Figure 4.22-5. Novell's SIEM Architecture

Compliance: Protech Recommends Novell's Secure Configuration Manager to meet DWSS's security and compliance goals.

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Novell's Secure Configuration Manager includes:

- *Security and Compliance Dashboard— quickly visualize and communicate configuration compliance and risk status with robust drill-down options and dynamic reporting.*

Figure 4.22-6. Sample Compliance Dashboard

- *User entitlement reporting—assesses user permissions for access to critical information, providing answers to your questions about who has access to what level of critical information.*

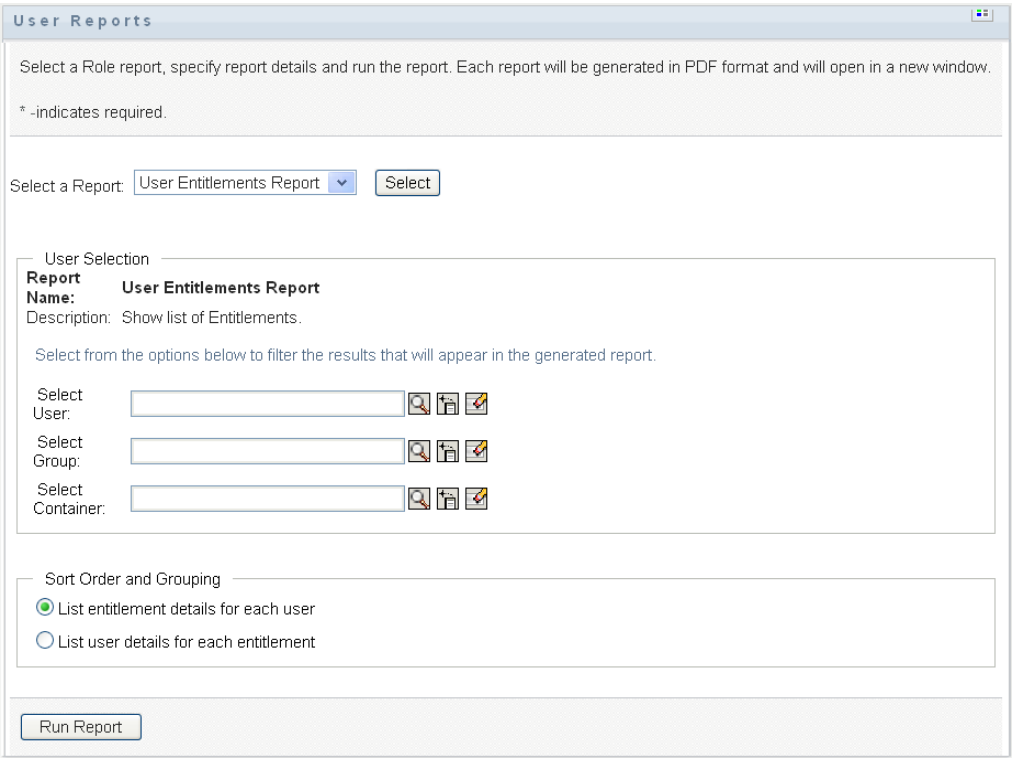

Figure 4.22-7. User Entitlement Report Generation

- *Vulnerability assessment—identifies host flaws by assessing them against security intelligence delivered by an automated service and reports on the frequency and location of vulnerabilities.*

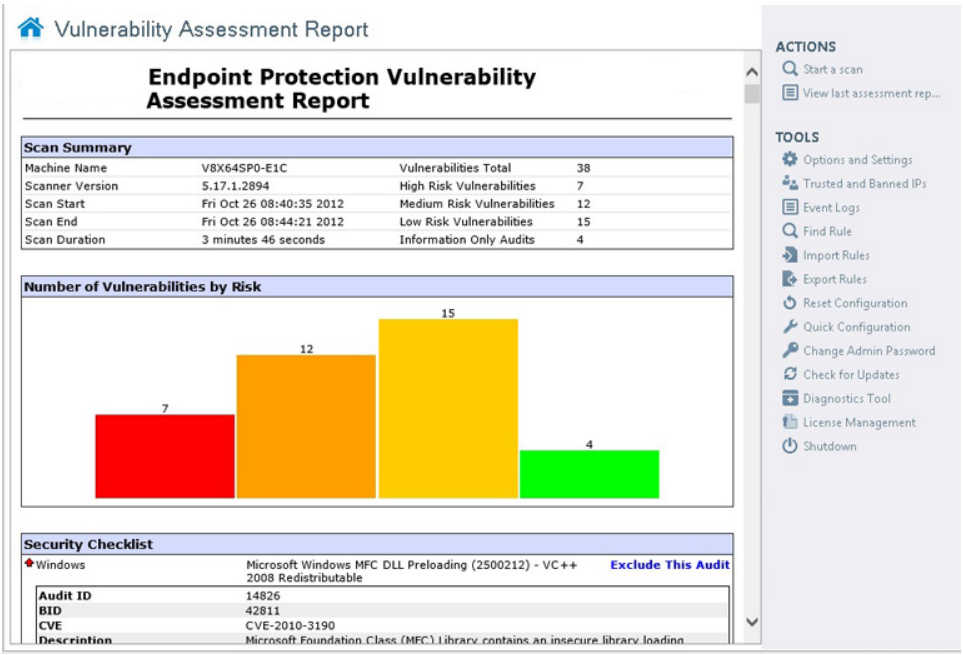

Figure 4.22-8. Vulnerability Assessment Report

- *Provides customizable policy templates that align with regulations and standards, audit system configurations and compares them against best practices, and reports on total and managed risk.*

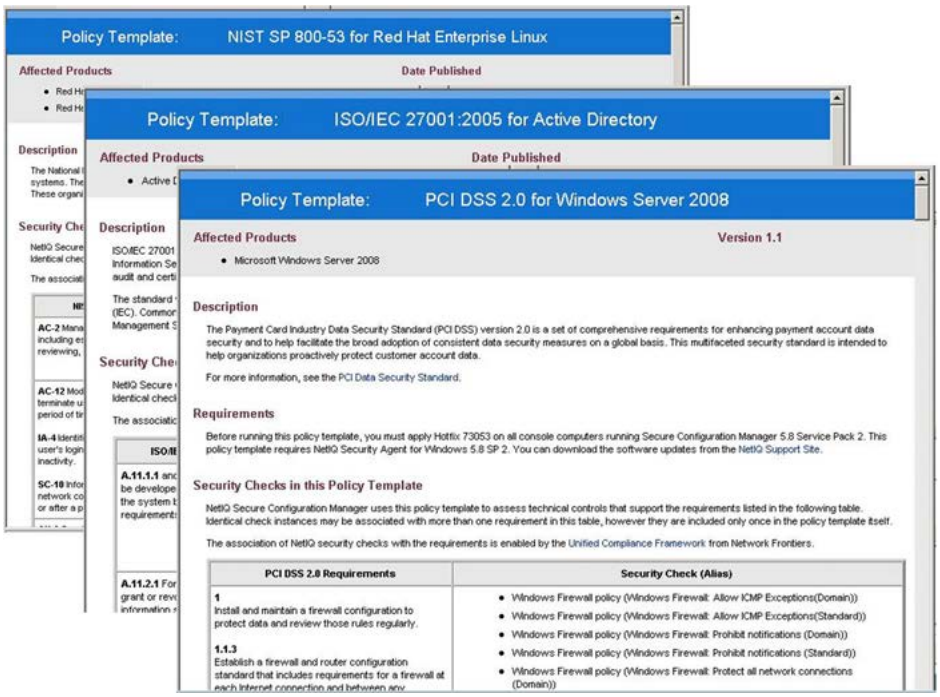

Figure 4.22-9. Sample Policy Templates

- *Base lining and delta reporting—reports changes to system and user configurations, highlights instances in which configurations drift from policy, provides the security information your team needs to quickly remediate poor configurations.*

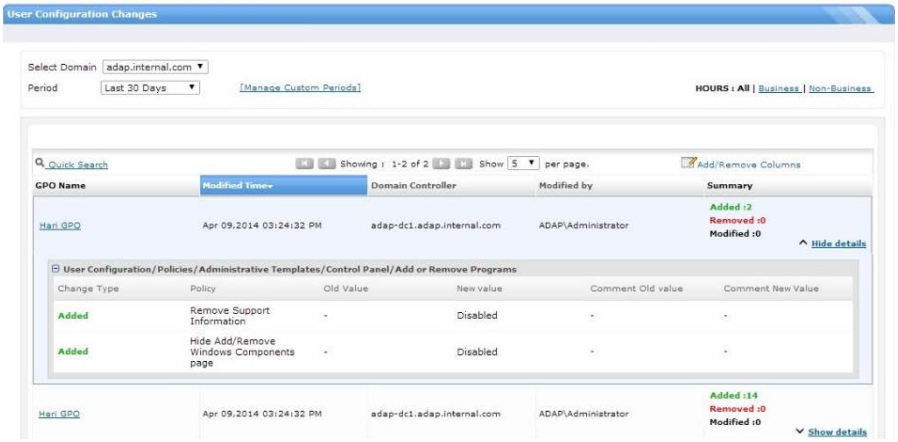

Figure 4.22-10. User Configuration Change Report

REQUIREMENT:

11.2.2.6/4.22.2.1-C Establish the standards for the security component deliverables.

Protech's security management framework categorizes security component deliverables into four layers. The framework provides tools, processes and standards to secure against unauthorized access and minimize security risks. The four layers are:

- *Network security*
- *Enterprise core security*
- *Application security*
- *Data security*

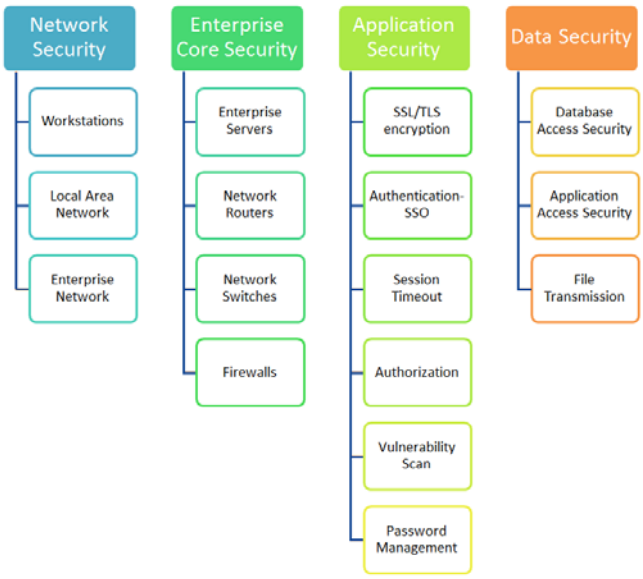

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Figure 4.22-11. Protech's Security Management Framework

Network Security

The network security covers the workstations, local area network and the enterprise network as illustrated in the figure below.

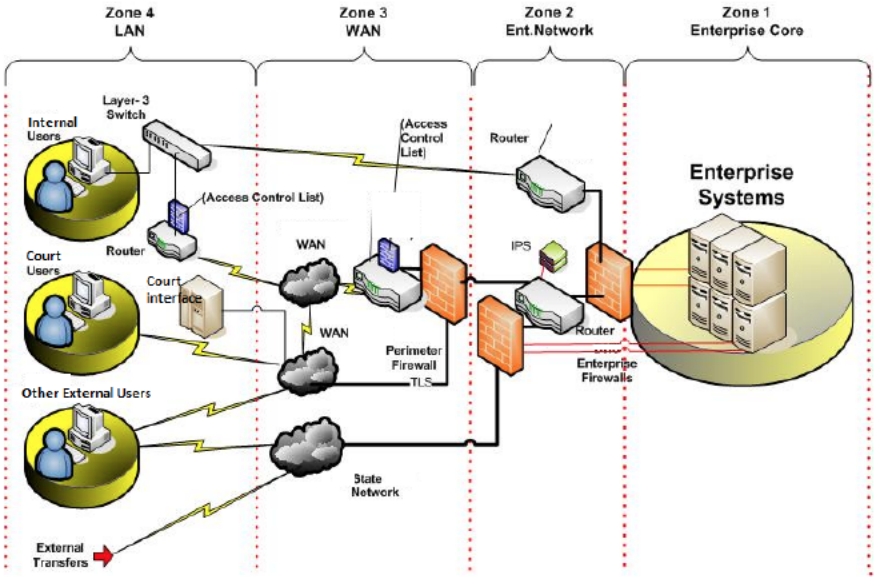

Figure 4.22-12. Network Infrastructure Diagram

The following table outlines each component in the network security layer and several examples of the standards for that component:

Network Security Standards		
Component	Category	Standards
Work Stations	Physical Security	• The workstations should have a safe and secure site to avoid unauthorized access • Only authorized users should have access to the workstation
	Logical Security	• Required to have industry-standard antivirus and antispyware software installed as a base-level defense against virus attacks and security threats • Security software should be set up to receive daily updates and to minimize possible risks, attacks or threats
	Access Control	• Separate user ID and password NCSEAS application • Screen saver on inactive workstations for a specified period • User must re-enter user ID and password to regain access
Local Area Network	Physical Security	• Network switches should have a safe and secure site to avoid unauthorized access • network switches should be in a secure and locked room • Only authorized users should have access to the room
	Logical Security	• LAN will be configured in a star topology where end-points on a network will be connected to a common central switch using point-to-point links • The LAN will communicate with the Enterprise network using an Ethernet port on the Layer-3 switch
	Access Control	• The network switches will require a user authentication to perform any changes to a network switch configuration • Unused ports will be disabled by administratively shutting down to prevent unauthorized access

Network Security Standards		
Component	Category	Standards
Enterprise Network	Physical Security	• The room should have the appropriate environmental and electrical conditions to avoid any physical damage of the network hardware • The room should be cooled by the site's HVAC and hardware protected by UPS systems, and if possible a backup generator
	Logical Security	• The Enterprise network will have firewalls controlling the access to the Enterprise Core and the NCSEAS systems • Close all TCP/UDP ports and allow traffic only on specific ports, providing restricted security and preventing unwanted intrusion
	Access Control	• Switch protection via appropriate firewall devices and setting firewall policies to restrict access • Restrict remote user access control to the hardware • Audit log maintenance for tracking and security breach detection

Enterprise Core Security

The components that form the enterprise core are:

- ***Web servers (Cluster set)***
- ***Application servers (Cluster set)***
- ***Database servers (Cluster set)***
- ***Report servers***
- ***Interface server***
- ***Storage area network***
- ***Firewall (Redundant units)***
- ***Intrusion prevention system***
- ***Load balance switches / SSL accelerator (Redundant units)***
- ***Core network switch (built in redundancy)***
- ***Network switches (L-3) (Redundant units)***

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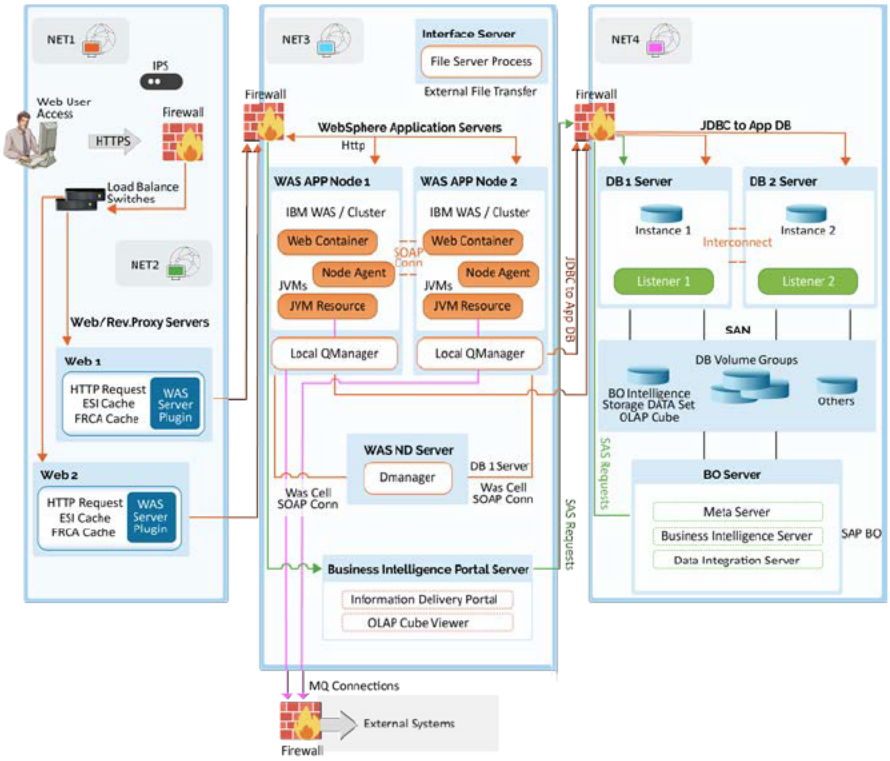

Figure 4.22-13. Enterprise Core Server Infrastructure Diagram

Enterprise Security Standards		
Component	Category	Standards
Enterprise Servers, Network Routers, Network Switches and Firewalls	Physical Security	• Network switches should have a safe and secure site to avoid unauthorized access. • All enterprise servers and devices will have an inventory tag adhering to DWSS security standards to facilitate physical audits and general asset management.
	Logical Security	• All communication between each tier will only go through the firewalls. • The firewalls at the primary facility will be interconnected to provide failover and redundancy. • Close all TCP/UDP ports and allow traffic only on specific ports within each tier, providing restricted security and preventing unwanted intrusion.
	Access Control	• When a firewall TCP or UDP port needs to be established, the corresponding team will send a security access request with the details to the security administrators • Functioning firewall ports are then established within the appropriate firewall validation scheme, ensuring the integrity of the procedure and the process

Application Security

The proposed NCSEAS solution is based on the J2EE platform with multiple logical tiers: presentation, business, database, and integration. User authentication is integrated into the application security through Novell's e-directory, and authorization for user access to system screens is built within the NCSEAS application.

Application Security Standards	
Component	Standards
SSL/TSL Encryption/Decryption	• When the data packet or transmission is sent or received over the network, the application uses a 256-bit TLS1.2 encryption/decryption methodology.
Authentication – Single Sign-on (SSO)	• Novell's e-directory Single Sign-on application will provide the authentication verification mechanism for granting or denying access to the NCSEAS application.
Session Timeout	• The NCSEAS application will facilitate the user session timeout in the WebSphere Application server. The user session in the WebSphere Application Server (WAS) will be destroyed after a specified time (Ex:30 mins).
Authorization	• Users are not assigned permissions directly, but only acquire them through their role or roles • Management of individual user access becomes a matter of assigning appropriate roles to the user.
Vulnerability Scan	• Though the NCSEAS application is ported in a secured network to prevent outside intrusion, an additional layer and comprehensive tool, such as IBM Security Appscan, will be used against the application code to detect any security vulnerabilities.
Password Management	• Passwords should be protected by their individual users and cannot be shared at any time • Password policy enforcement will be managed by the Novell's e-directory or Microsoft Active Directory system.

Data Security

Data security will be implemented in the form of:

- ***Database access security***
- ***Application access security***

Data Security Standards	
Component	Standards
Database Access Security	• Provide database access to a schema based on environments and user types. • Database Administrators (DBA) will be uniquely allowed to access the database. • Database access control will differ from production vs. non-production environments.
Application Access Security	• Comprehensive audit is provided in the NCSEAS application. • When any business or reference data is modified, a detailed audit is stored on the changed information such as worker id, system time etc.
File Transmission	• The NCSEAS application requires that external agencies submit process data files to the State and DWSS. • The data files will be received only through a secured data transmission layer such as Secure File Transfer Protocol (SFTP).

REQUIREMENT:

11.2.2.6/4.22.2.2 Execute the approved Security Management Plan successfully.

Protech will execute the approved Security Management Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

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4.22.3 Deliverables

4.22.3.1 Security Management Plan
4.22.3.2 Successful Execution of the Security Management Plan

Protech will prepare and update a security management plan for the project in accordance with the terms of the contract and as reasonably requested by the State. Deliverable number4.22.3.1, Security Management Plan and 4.22.3.2, Successful Execution of the Security Management Plan will encompass all work products resulting from activity 4.22.2 as described in this section.

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VI-4.23 Operations Support Plan

The purpose of the operations support plan is to define the general guidelines for the daily processes and procedures necessary to ensure that all State and Protech staff is fully engaged in the production application. The plan will be the framework for the operations guide that will provide detailed instructions and procedures for supporting the production application and environment; on-line and batch operations; and system maintenance to ensure desired levels of uninterrupted operations. The operations support plan will address four specific areas as defined in the RFP:

1. *Specify steps needed to prepare the procedures for day-to-day system operation*
2. *Establish the batch job standards and the on-line technical support standards*
3. *Establish the tasks necessary to establish the technical support team for equipment and communications problem solving*
4. *Establish the task necessary to establish the customer support staff needed to:*
    - *Triage application problems*
    - *Manage data correction problems*
    - *Prioritize problems for immediate attention or inclusion in a subsequent release*

4.23.1 Objective

REQUIREMENT:

11.2.2.6/4.23.1 The Implementation Contractor will prepare and update as required an operations support plan for the project.

Protech has achieved premier recognition for its ability to develop award winning child support enforcement systems. This has been achieved through Protech's commitment to outstanding system development standards. The operations support plan is Protech's commitment to defining all the processes and procedures necessary to ensure the proper execution of all the tasks and prepare for the operation of NCSEAS in a production environment. We understand the need to readily address the very specific and evolving needs of a large system such as the NCSEAS project. The plan will also define the various team members that will responsible for the numerous processes.

4.23.2 Activities

4.23.2.1 Operations Support Plan

REQUIREMENT:

11.2.2.6/4.23.2.1-A Specify the processes and procedures needed for day-to-day system operations.

The scope of the development of all processes and procedures will be to support an operations and maintenance environment designed for 24/7 operations. The plan will have five process components plus procedures that will support the processes. The specific processes that will be addressed in the Plan are as follows:

1. *Online Processes:*
    - *Includes startup and shutdown procedures for the proposed NCSEAS system and day-to-day procedures for managing the application*

2. *Batch Execution Processes:*
    - *AutoSys job standards and configuration*
    - *Job runbook, including job control sheets for all batch jobs*

- *Batch schedule summary, list of all production jobs*
- *Operator responsibilities and process for handling run time exceptions, including job monitoring and escalation*

3. *Backup and Recovery Processes:*
   - *Backup and recovery procedures*

4. *System Maintenance Processes:*
   - *Procedures for applying upgrades and patches to the system components*
   - *Procedures for implementing updates to the application, including scheduling considerations, communications protocol, and deployment steps.*

5. *Operations Technical Support Processes:*
   - *Operating procedures for the technical support team responsible for all application, database, and infrastructure problem solving*
   - *Procedures for correcting erroneous data*

REQUIREMENT:

11.2.2.6/4.23.2.1-B Establish batch job standards and online technical support standards.

Our operations support team with extensive system development expertise will first define all standards critical to the success of the NCSEAS production environment. Second, procedures will be developed to accurately execute these standards. Third, the standards will then be incorporated into the operations support plan.

Batch Job Standards

System batch jobs primarily serve to exchange data with external entities. In general, batch jobs will be run after the application is shut down. However, there will be exceptions within this area. The goal is to automate batch processing to the greatest extent possible. Within our approach the operations support group is responsible for responding to problems arising from daily operation of batch jobs. Thus, the operations support plan may contain standards for several of the following areas:

- *Job monitoring*
- *Scheduling jobs*
- *AutoSys scripts*
- *Communication of production problems*
- *AutoSys configuration*
- *Daily run log*
- *Batch execution handling multiple files*
- *File Synchronization between production and disaster recovery site*
- *Recovery from disaster recovery site back to the primary site*

Online Technical Support Standards

The online day is defined by the Division and may vary from day-to-day depending on various maintenance, weekend, weekday, or end-of-month/quarter/year reporting schedules. At the end of the online day the operator responsible for monitoring and controlling the online system will begin the process to bring down the system to begin batch processing. The Protech Team will be dedicated to all components of the online process and ensuring all staff assigned to this area are properly trained. Thus, standards considered for this section of the operations support plan will be in the following areas:

- *Start up*
- *Shutdown*

- *Monitoring and maintenance*

Other considerations for inclusion within the defined standards for these categories could be response time goals for reporting issues to the help desk; fixing production problems; defining the degree of severity; considering if the defect was reported during or after working hours; and documenting a plan of action that includes the anticipated date the problem will be resolved

REQUIREMENT:

11.2.2.6/4.23.2.1-C Identify the tasks necessary to establish the technical support team for equipment and data communications problem solving.

Protech's technical support and State network teams have critical roles and responsibilities. Technical support consists of several support levels: Protech application group; Protech database support group; and infrastructure support group. Through a combined approach State and Protech team members will identify what staff will be assigned to each of the groups.

In many instances, the help desk will be the central repository for all system defects/problems. Once the problem is documented the help desk will determine if the problem requires technical support and will contact the Operation Support Group (OSG). If the problem involves equipment or data communication issues, the Operation Support Group has the main responsibility in the problem-solving cycle to designate technical managers and leads either within Protech or the State to collaborate on the issue. One of the first tasks will be to proactively review the issue and determine the severity. Equipment and data communication problems can have a negative impact on daily business functions. Thus, in the problem-solving life cycle, the OSG will conduct an immediate impact analysis, prioritize and assign appropriate technical staff to the issue/defect. The tasks would be to (1) identify technical resources within the Protech and State staff; (2) assign technical managers, leads and developer to the designated groups; (3) train the technical staff on how the problem-solving approach works; (4) identify the correct method to document and communicate any problem/issue; (5) collaborate between the teams to ensure the problem is given the correct level of attention and problem resolution; and (6) resolve and document the problem. It is possible that issue diagnosis and resolution may involve all the technical groups. Also, if the resolution of the defect/problem involves both a data correction and a code fix, both are typically implemented at the same time. The discussion within the following section 4.23.2.1-C, provides additional information how system application problems are triaged and provides further insight into Protech's approach.

REQUIREMENT:

11.2.2.6/4.23.2.1-D Identify the tasks necessary to establish the customer support staff needed to triage application problems, manage data correction issues, and prioritize those issues needing immediate attention.

The Protech Team, through its Operation Support Group (OSG), will provide easy access to a comprehensive collection of support services. This group is comprised of State and Protech resources. The OSG is responsible for responding to problems arising from daily operations both online and batch jobs. The OSG performs a triage process to determine which group or individual is best suited to resolve a specific problem. Members of the OSG come from various groups that are called upon for assistance and may be involved in providing the solution.

Our operation support process will identify teams that will have responsibility for the customer support entity through the help desk. Customer support will have the important task of responding to problems and resolving them before they have an impact on daily operations. Protech always takes a very proactive and responsive approach when dealing with customer support issues, thus ensuring a positive outcome. The Protech Team intends to provide the State with a knowledge-sharing approach to help desk management. There are several tiers to the development of customer service support that will be addressed within this

section. The center of all customer service support activities will be the help Desk. However, there are ancillary teams that are intricate to the success of the help desk. To complement the help desk and OSG the other resource teams working in concert to resolve issues are Protech's application support group; Protech's database support group; State network operations; and the State infrastructure support group.

We plan to facilitate efficient and appropriate responses understanding that there will be challenges regarding the various help desk issues. Thus, it is important to understand that several major task categories will be working simultaneously.

The following is a list of tasks that will be necessary to establish and develop the help desk:

Identify Help Desk

Identify the help desk placement within the office space and coordinate/gain approval for the equipment and software that will be necessary to make it operational. Key factors are staffing requirements, working with the State on the approved communication equipment which provides multiple lines capable of routing call automatically, and choice of software that will support the help desk staff to ensure that all expectation and requirements are met. In addition, network establishment and access, software access and technology infrastructure need to be in place. After identifying the staff, the Protech Team will insure that proper training occurs so staff can achieve the results necessary to meet the State's expectations.

Establish Processes and Procedures

Establish processes and procedures that are placed in a help desk manual that detail for staff how to be responsive to problems. Critical to this process is to ensure that the help desk works with the various teams to define and implement a detailed process for tracking software-related issues such as data capture not working properly, screen display issues, batch process issues or error messages received by the end-user.

Critical Contact Information

Once the help desk is operational, critical contact information needs to be distributed to all project team members. All project teams and State staff need to understand the roles, responsibilities, response times, capabilities plus operational hours of the help desk.

Customer Support Approach

Our customer support approach is to identify issues/problems, properly track these issues, define the impact of the problem on the application, identify what team could best resolve the problem, determine if the problem can be immediately assigned to the appropriate team or if problematic arrange a meeting to discuss the problem and identify what further action is necessary. These tasks are the cornerstone to the how the triage application problem solving approach will be completed.

While the help desk is in the process of being established and procedures developed, there are other tasks that must be addressed:

- *The help desk tool must be made accessible to all designated authorized users.*
- *All firewall issues and concerns for end-user should be addressed.*
- *Initial training will be provided to the help desk manager, who will then be responsible for training all other help desk staff.*
- *Administrator rights and access are granted to allow configuration management of the ticket on the tracking system.*

- *User profiles will need to be established in the active directory by the DWSS security office for each of the State and local employees who will require help desk support.*

Protech is proposing that application problems will be triaged through the help desk to contact the operations support group. The following tasks may occur:

- *Identify the operations support team members.*
- *Ensure processes and procedures have been developed to trouble shoot application problems.*
- *Define within the operations support team, which group or individual would best be suited to resolve specific problems and document. Members of the operations support group come from the groups that are called upon for assistance and may be involved in providing the solution.*
- *Establish a rotating on-call schedule so one member from the operations support group is always on-call. That person is the first one called when either the help desk or batch operator determines assistance is needed.*
- *Identify the four resource teams that will support the Protech operations support team. The resource teams will be the Protech application support group; Protech database support group; State network operations; and the State infrastructure support.*
- *Identify procedures to review the defect, determine the severity and establish a log in the help desk tool to document the defect and what group is being assigned the defect.*

Protech's approach recognizes that if there is a data correction issue, it must be managed. We use a collaborative method when examining reported defects:

1. *Develop comprehensive procedures on how issues are reviewed and resolved.*
2. *If a meeting is convened to analyze the issue, the tasks will be to review the issue, document the decision and communicate the outcome to the end user. During this process, the issue/defect will be prioritized and authorized. When reviewing an issue/defect, there will be various solutions and scenarios that must be concerned. Every action item and outcome will be documented, tracked and managed through the capabilities of the help desk tool. Thus, the task will be to ensure that all defects are entered and properly monitored through report development. Thus, this entire process will be approved by the State and found in the manual developed for the help desk.*
3. *Our technical personnel have access to many ad-hoc report tools that can be used to help resolve system problems. The task will be to determine which reporting tool will best suit the needs of this project and collaborate with the State on the "right" tool. This task is critical since these tools and resources will be used in conjunction with the Bugzilla tracking system to insure problems are resolved on a timely basis and fully documented. The follow-up task will be to train the technical staff on the procedure and have management assurance that technical staff attach all output from the use of the tool to the defect in Bugzilla.*

REQUIREMENT:

11.2.2.6/4.23.2.2 Execute the approved Operations Support Plan Successfully

Protech will execute the approved Operations Support Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.23.3 Deliverables

4.23.3.1 Operations Support Plan
4.23.3.2 Successful Execution of the Operations Support Plan

Protech will prepare and submit the operations support plan in accordance with the schedule and terms of the contract. Deliverable number 4.23.3.1, Operations Support Plan and 4.23.3.2, Successful Execution of the Operational Support Plan will encompass all work products resulting from activities 4.23.2 as described in this section.

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VI-4.24 Maintenance Transition Plan

Protech promotes an effective transition of programs, knowledge, data, and processes to either the State or to an outside vendor at the end of the development/implementation contract. The maintenance transition plan is the discipline of identifying all services designed to assist DWSS technical staff member, who will be assuming the responsibility for ongoing system operations and management. Our proposed staff has many years of experience in working on large scale maintenance projects that are conversions from legacy systems. Our team is prepared to provide the necessary expertise for a comprehensive system knowledge transition to the State team members. We understand this phase is the final critical success factor on this project.

4.24.1 Objective

REQUIREMENT:

11.2.2.6/4.24.1 The Implementation Contractor will prepare and update as required a maintenance transition plan for the project.

Protech is committed to developing and implementing a quality certified child support system that will be transitioned to the State so their staff may maintain and properly execute all components of the system. Uninterrupted support services and a stable production environment during the transition are critical factors in keeping the transition transparent to the user community. Our maintenance transition objective will foster a timely, comprehensive process; plus, an effective transition of programs, knowledge, data and procedures to the State.

4.24.2 Activities

REQUIREMENT:

11.2.2.6/4.24.2.1-A The maintenance transition plan will specify the tasks necessary to turn over system maintenance to the state's application maintenance team, identifying all the routine tasks and procedures associated with system maintenance.

The maintenance transition plan documents the necessary tasks to turnover system maintenance to a new systems operation team. Our proposed loan will document the routine tasks and procedures associated with the system maintenance. Transition activities are planned, executed and presented to the State. We understand that the job does not terminate after the functionality is deployed. Our methodology dictates that we perform all key tasks with targeted goals to ensure a successful transfer of system knowledge, programs, processes, schedules and reports. This will all be supported with comprehensive documentation coupled with in-depth knowledge of both the business and technical landscape.

Transition Methodology

Protech's transition plans offer a unique approach by offering targeted trainings, extensive documentation plus the ability to adjust the services offered over time. As the State gains knowledge and skills, specific operational responsibilities are transferred over systematically. Over time, and at a pace decided by the State, the services provided by Protech can be reduced as the production responsibilities are assumed by the various divisions within the State. This method reduces the risks associated with the transition of responsibilities.

To ensure a successful transition to the State or to an incoming vendor, Protech will develop a transition method which is comprised of the following phases:

- *Phase 1 – Pre-transition, planning and initiation*
- *Phase 2 – Knowledge transfer*
- *Phase 3 – Transition*
- *Phase 4 – Evaluation and final transition*

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PHASE 1 – Pre-Transition, Planning and Initiation

Protech has organized a transition team with representatives of the technical and functional area to ensure an adequate transition process. Their key goals for pre-transition are:

- *Identify key stakeholders from the State and Protech;*
- *Define the specific goals of the transition;*
- *Understand the duties of each transition team member;*
- *Understand the criticality of effective communications during transition;*
- *Determine the processes to be baselined;*
- *Define the Protech support network for the transition team;*
- *Initiate work on the transition plans; and*
- *Identify the documentation needed to understand the workings of the different service areas.*

The planning and initiation part of phase 1 establishes the roadmap for the remainder of the transition phase. The foundation is put in place for the stakeholder teams to work together throughout the transition of primary responsibilities to the incoming team.

The key tasks to be accomplished during planning and initiation include:

- *Identify all elements within the project communication task with all stakeholders;*
- *Establish the scope of work and transition objectives;*
- *Establish the steps and procedures to be followed to complete the transition;*
- *Identify roles and responsibilities of the transition team and the State;*
- *Develop detailed maintenance transition plan;*
- *Define all detailed transition training tasks within the plan; and*
- *Develop a risk management and mitigation section within the plan.*

PHASE 2 – Knowledge Transfer

Knowledge transfer between Protech and the incoming team is the next phase. The Protech Team work will with the State to identify key people from the project's different service areas to provide orientation and knowledge transfer to the incoming team. Protech will also transfer all project documentation and information concerning process and business-related information to the State.

Key steps in this phase are:

1. *Orientation – Protech will conduct an orientation presentation to assist the incoming State understand the following:*
    - *High level system overviews*
    - *Processes and procedures*

2. *System Documentation Turnover – Protech will inventory relevant documentation, including business process flows and system documentation (application interfaces, data flows, data dictionaries and object models). Additional documentation would include the list of key users, system and business cycles and functional descriptions. All documents will be given to the State.*

3. *Functional Training – Protech will conduct training sessions on functional aspects of NCSEAS to the designated State staff.*

4. *Key Service Support – To ensure smooth transition, uninterrupted support service and a stable production environment, Protech, along with the State, will identify the key production support State staff that will support the NCSEAS system after operational responsibilities are transferred to the State.*

5. *Database Support – Physical database support to manage database table space, free space, and to plan, apply and test database package updates:*
    - *System Administrator – Monitors and maintains operating system and system software versions and updates;*
    - *Network Architect – Monitors and maintains network hardware and software versions and updates;*
    - *Infrastructure Architect – Monitors and maintains related service delivery infrastructure;*

PHASE 3 – Transition

Protech will take the necessary precautions to make sure that the transition process is transparent to NCSEAS users. The following steps will ensure uninterrupted support service and a stable production system during the transition period:

- *Protech will train the State staff in the functional aspects of NCSEAS via "job shadow" process;*
- *Protech will guide the State staff with day-to-day hands-on work assignments; and*
- *Protech will turn over the day-to-day process and act as stand by support for the State or staff.*

At the end of this phase, the State will become responsible for day-to-day operations and maintenance of NCSEAS while Protech will act in a supporting role as needed.

PHASE 4 – Final Transition

The final phase of the transition plan is based on evaluating the State's ability to assume unassisted NCSEAS operations and maintenance. NCSEAS's key performance indicators such as service level agreements (especially those related to system availability and issue response times) will be used as a guide to evaluate the State's capabilities. Less tangible factors (such as team relationships and communications) will also be evaluated. If, for some reason any area within the transition environment is completed less than satisfactorily, it will be identified. Remediation plans will be developed and executed for the weak areas. When all transition tasks are complete, the key stakeholders will sign their acceptance and the Protech Team will hand over all responsibility for NCSEAS to the State.

Other Transition Support Areas

The scope of our proposed Maintenance Transition services will include the following areas:

1. *Maintenance Pre-Plan Development*
   Protech's staff will document the necessary tasks to turnover system maintenance to a new systems operation team. Our plan will entail the full transfer of knowledge for maintenance activities along with specific references to comprehensive documentation regarding technical infrastructure, software, roles and responsibilities for daily maintenance processes of NCSEAS.

2. *Operation Transition*
   These service tasks will complement the other tasks within the plan by summarizing operational activities required for the day-to-day operations of NCSEAS. Our methodology requires comprehensive documentation of all transitional tasks associated with operational responsibilities to the State. We understand that the inclusion of specific instructions, checklists and procedures for

the daily operations of NCSEAS are critical to the success of the operations' portion of the overall transition plan.

3. *Maintenance Training*
   This task will define a comprehensive list of all training and mentoring activities necessary to prepare the State staff for the transition of the system. Our team is proposing that all staff be properly trained in each facet of their assigned responsibility. Our experience has shown that some classroom training may assist staff in becoming better prepared and confident in their acceptance of this new responsibility. As the project nears this phase, our team will assess staff training needs with the State and further define this section of the plan. Considerations may be refining classroom training needs and schedules, descriptions of topics to be covered, class durations, mentoring activities, as well as training materials. The maintenance training section may identify other resources used for assessment and evaluation to measure prospective performance of production support activities.

4. *Maintenance Transition Report*
   This report embodies all results obtained from evaluations and performance assessments for training activities throughout the transition periods. The report includes a description of gaps identified throughout the transition period along with recommendations to ensure continuance of uninterrupted maintenance and operations.

5. *Incident Management*
   This includes the identification, tracking and resolution of issues that impact the operation or performance of NCSEAS. This would include transition of the existing tracking tools and methodology currently being used to support NCSEAS. Another area to be considered may be a review of the existing escalation procedures and protocols employed both during the business day as well as during off-hour support.

6. *Maintenance Enhancements*
   This proposed task will cover corrective, preventative, perfective and adaptive enhancements to improve the performance of the system, including the modification and testing of source code to fix system defects.

7. *Management Services*
   There are various tasks associated with management services. Our team will address the management of source code and the technical environments, configuration management support for the implementation of maintenance release, and updates to training and technical documentation to support software changes, including preventative maintenance and system component upgrades, best practices and lessons learned.

The Protech Team is proposing a very robust approach to the transition of all system elements to the State staff. Our extensive expertise, commitment and discipline to this final phase of the project will produce the results for a successful system transition to the State as we have completed in numerous other States. We are confident that the knowledge transfer and transition tasks outlined in our proposal will significantly prepare the State's technical staff to successfully operate NCSEAS.

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REQUIREMENT:

11.2.2.6/4.24.2.1-B At a minimum, this plan shall include transitioning of version control, source code contained within.

(The source and documentation control is a part of the overall configuration management process for the project and will begin as part of the transition activities. The Protech Team proposes the use of Perforce Version Control Tool for providing life cycle management and control of software development assets.

REQUIREMENT:

11.2.2.6/4.24.2.2 Execute the approved Maintenance Transition Plan successfully.

Protech will execute the approved Maintenance Transition Plan using the plan document as the prime basis and guide to complete the activities successfully. Protech management team will report the completion metrics of the associated activities/task during the execution phase to the NCEAS project management team. Protech and the NCEAS project management team will jointly assess and evaluate the progress and take remediation as needed for successful completion.

4.24.3 Deliverables

4.24.3.1 Maintenance Transition Plan
4.24.3.2 Successful Execution of the Maintenance Transition Plan

Protech's maintenance transition plan provides the detailed knowledge and training needed by the State of Nevada to maintain and properly execute NCSEAS. Deliverable number 4.24.3.1, Maintenance Transition Plan and 4.24.3.2, Successful Execution of the Maintenance Transition Plan will encompass all work products resulting from activity 4.24.2 as described in this section.

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VI-4.25 Warranty Support Plan

The warranty support plan denotes an important final milestone in the development and implementation of NCSEAS. This is evidence of the successful completion of the implementation period for the project by the transition to a fully production environment. The software warranty period as set forth in the RFP is for twenty-four (24) months following statewide implementation. During this time, Protech will be responsible for maintaining the system in production while planning for maintenance and operational transition to the State.

4.25.1 Objective

REQUIREMENT:

11.2.2.6/4.25.1 The Implementation Contractor will prepare and update as required a warranty support plan for the project.

Protech is committed to providing uninterrupted warranty support services in a stable production environment and keeping all maintenance and operations activities transparent to the user community during the warranty period. Another objective is to assure that the Program's maintenance staff will be able to maintain the modernized system after the warranty period ends.

The warrant support plan includes periodic help desk, warranty support and operations reports. The warranty support plan also includes the maintenance transition report and warranty completion report.

4.25.2 Activities

REQUIREMENT:

11.2.2.6/4.25.2.1 This deliverable will identify the Implementation Contractor's approach to providing warranty support for the NCSEAS after statewide implementation.

The Protech Team has a multifaceted approach to the warranty phase of the project. Having the appropriate staff with the "right system knowledge and capabilities" to provide the support necessary is critical to the execution of this important phase. We bring a wealth of experience and expertise to ensure all system problems are addressed and properly resolved without having a negative effect on the production environment. Our approach will include the following areas:

Defects Resolution Process

During the warranty period, the help desk team will log all calls in the help desk tool and assign each ticket a number. The help desk will monitor and track all outstanding tickets until they are resolved satisfactorily. The ticket number will be provided to the State staff person initiating the request, including the severity level which will be assigned to each call. Another critical component during this Phase is having a report of aging help desk tickets to ensure a timely resolution.

For warranty purposes, resolution to a help desk ticket will mean the following:

- *A software/hardware fix was tested and successfully implemented;*
- *An answer or solution to a non-software related issue was provided; or*
- *The issue reported was determined to be user error.*

During the warranty period, there will be multiple organizational units established for the defect resolution process besides the help desk and operations support group. The Protech Team will coordinate with the State and identify the appropriate resources to complete the defect resolution process.

The Operations Support Group (OSG) is the functional organization that blends the resources for the Protech and State teams. The primary goal of OSG is to triage production problems, review and approve proposed solutions, and prioritize issues/defects/enhancement requests. The OSG will consist of individuals

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with the skills necessary to quickly perform an analysis of production problems to determine an initial severity of a ticket, validate the initial triage results prepared by the Protech business analysts, and evaluate the proposed solution.

Protech's approach to the help desk resolving defects will also include a three-level support process. Our team understands that not all defects have a straight forward resolution pattern. Some defects require a more comprehensive problem-solving approach. Therefore the three-level support process was developed and has been so successful in Protech's other numerous system projects. Our approach identifies to the help desk staff a wealth of resources that will be available to achieve the best results quickly in a positive environment within all three levels of support. Each level of support offers increasing levels of expertise and resources to resolve the end-users' help desk ticket(s).

Batch processing problems will be reported by Protech's batch operators to the help desk. The problem will be categorized and logged via the help desk ticket process outlined above. Protech's Business Analysts (BAs) will direct the problem through the defect resolution process closing the communication loop back with the help desk. As part of the defect resolution process, Protech team members understand the importance of strong communication channels between all facets of the project. Thus, our team will handle problems along with a combination of other appropriate State personnel.

Defect Report during Warranty Period

Protech's approach includes providing statistics on the actual number of defects/tickets that will be identified and resolved during the warranty period.

For purpose of discussion find in the chart below an example of what will be available. The chart defines the break out of system environments where defects were identified and a resolution completed. For management purposes, this chart will identify the total number of defects resolved with a specific the system environments:

Statistical Overview of Resolved Defects	
Environment	Total Tickets
Production	2
User Acceptance Testing	6
System Testing	3
Development Testing	3
Performance Testing	4
Unit Integration Testing	2
Staging	1
Training	3
Grand Total	***24***

Defects Resolved by Functional Area

Protech understands that management staff also need to have statistical information available to make appropriate management decisions. We are prepared to provide this critical information. For the purposes of demonstrating this type of report, the tables below will illustrate the delivery of such critical information. The table defines the total number defects resolved in production during the warranty period broken down by functional area and severity. The defects are presented by functional area and severity for the following environments:

- *Production*
- *Unit Integration Test (UIT)*

- *System test*
- *Development*
- *Performance*

This table provides a snap shot of how the report will be organized and presented to the user. This is only a partial view of the overall report.

Defects Resolve Report by Functional Environment		
Category	Severity	Count
Case Initiation	Critical	0
	Major	1
	Moderate	2
	Minor	2
Sub Total	***5***	
Case Management	Critical	0
	Major	1
	Moderate	1
	Minor	2
Sub Total	*4*	
Customer Service	Critical	0
	Major	1
	Moderate	2
	Minor	2
Sub Total	***5***	
Ease of Use	Critical	0
	Major	0
	Moderate	1
	Minor	2
Sub Total	***3***	
Enforcement	Critical	1
	Major	0
	Moderate	2
	Minor	3
Sub Total	*6*	
Establishment	Critical	0
	Major	0
	Moderate	1
	Minor	4
Sub Total	*5*	
Financial Management	Critical	1
	Major	1
	Moderate	3
	Minor	2
Sub Total	***7***	

Defects Created during Warranty Period but Pending Resolution

Protech understands that during the warranty phase it will be important for management staff to also have statistical information developed to define the number of defect pending resolution. Therefore, it is our intent within our approach to also make this information available. We will work with the State to define all the reporting needs and develop a report that will provide appropriate staff with the necessary information to make sound management decisions.

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REQUIREMENT:

11.2.2.6/4.25.2.2 Execute the approved Warranty Support Plan successfully.

The execution of the approved Warranty Support Plan takes begins by taking into consideration the defects resolution process to monitor and track all outstanding defect tickets until final resolution. Accurate statistics will be gathered and presented at all relevant status meetings. Statistics will be presented categorized by environment (Development, system testing, UAT, etc.) as well as by functional area.

4.25.3 Deliverables

4.25.3.1 Warranty Support Plan
4.25.3.2 Successful Execution of the Warranty Support Plan

Protech recognizes that we prepare and submit the warranty support plan in accordance with the schedule and terms of the contract. Deliverable number 4.25.3.1, Warranty Support Plan and 4.25.3.2, Successful Execution of the Warranty Support Plan will encompass all work products resulting from activities 4.25.2 as described in this section.

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VI-4.26 Development and Operations Hardware and Software

4.26.1 Objective
4.26.2 Activities

REQUIREMENT:

11.2.2.6/4.26.1 The purchase of development hardware and software will take place through the Implementation Contractor's agreement with the Program. While the State requires each vendor to include their costs for all base components and third party equipment in Attachment I, Project Costs, the State, at its sole option, reserves the right to procure any or all of the required components and equipment from another source, based upon specifications provided by the successful vendor.

(Protech understands that the State reserves the right to procure any or all of the required hardware and software components from any outside sources at its discretion. Notwithstanding, Protech has included in our cost proposal estimated expenditures for all components.

11.2.2.6/4.26.2.1-A Equipment proposed by the vendor must be all new mainstream computing equipment offered by leading computing equipment manufactures.

All equipment proposed by Protech is comprised of state of the arts mainstream computing hardware as offered by industry leader manufacturers.

11.2.2.6/4.26.2.2-B The State reserves the right to purchase equipment through the vendor as part of the RFP and/or through other available resources approved by the State.

Protech understands that the State reserves the right to procure any or all of the required hardware and software components from any outside sources at its discretion. Protech will work closely with the State regarding the purchase of all software and hardware. We will outline the selection, approval, ordering, delivery, installation, and testing processes for the required software and hardware components to launch the development effort. Meetings will concentrate on identifying necessary equipment and software licenses based on the requirements described in the hardware and software purchase plan deliverable. Protech will also evaluate any currently existing software and hardware components to determine possible alternatives or decisions to reuse.

11.2.2.6/4.26.2.1-C If the vendor's proposed solution requires PC and/or printer equipment of higher performance, capacity, and/or technical capability than the State's current configurations described in Section 2, Background, then the vendor must propose necessary PC, printer and related network connectivity equipment, as well as related costs, required to properly operate the proposed solution.

Protech has included in our cost proposal estimated expenditures for all components.

11.2.2.6/4.26.2.2-D Up to 500 end-users may require a new or upgraded equipment depending on the proposed solution's operational needs.

Protech has included in our cost proposal estimated expenditures for all components.

11.2.2.6/4.26.2.1-E Development, Testing, and Training Environments

Protech has included in our cost proposal estimated expenditures for all components.

11.2.2.6/4.26.2.2-F The State envisions using pre-production environments to facilitate design, development, test, conversion, user acceptance, and training project tasks. Each environment, either physical or virtual, must use mainstream industry-standard hardware, software and relational database management products. Security and network communication protocols must be compatible with existing State LAN and WAN specifications.

All equipment proposed by Protech is comprised of state of the arts mainstream computing hardware as offered by industry leader manufacturers. Security and network communication protocols will be compatible with the State's existing specifications.

11.2.2.6/4.26.2.1-G While the State requires each vendor to include their costs for all base components and third party equipment in Attachment I, Project Costs, the State, at its sole option, reserves the right to procure any or all of the required components and equipment from another source, based upon specifications provided by the successful vendor.

Protech understands that the State reserves the right to procure any or all of the required hardware and software components from any outside sources at its discretion. The State will have the discretion to purchase software and hardware components through the State's procurement process or to use the contract agreement as a vehicle to facilitate and expedite the purchasing through Protech. The conditions for the acquisition of reimbursement of software and hardware components will be outlined in our contractual agreement with the State. Protech will coordinate meetings with the State, as required, to determine preferences and feasibilities for the purchase of hardware and software licenses to initiate development efforts.

11.2.2.6/4.26.2.2-H Within Attachment I, Project Costs, vendors must provide a comprehensive equipment list including equipment make, model and primary configuration.

Attachment I contains a comprehensive list of all equipment including make, model, and primary configuration.

4.26.3 Deliverables

4.26.3.1 Purchased and Installed Development Hardware and Software; Purchased Operations Hardware and Software

Deliverable number 4.26.3.1, Development and Operations Hardware and Software Deliverables will contain all work products resulting from activity 4.26.2.1 A~H Purchased and installed development hardware and software, as described in this section.

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VI-4.27 System Requirements and Design

4.27.1 Objective

REQUIREMENT:

11.2.2.6/4.27.1 The system requirements and design objective is to represent the documentation of key system planning and implementation events. The review and approval of the functional and technical designs will establish that the Implementation Contractor is building the system to conform to the requirements.

4.27.2 Activities

4.27.2.1 Specify Requirements for each Functional and Technical Feature

REQUIREMENT:

11.2.2.6/4.27.2.1 The Program has grouped all requirements into either Functional Requirements or Technical Requirements. Within these requirement groupings are the following categories:

Functional and Technical Requirements

A. Case Initiation
B. Locate
C. Establishment
D. Case Management
E. Enforcement
F. Financial Management
G. Reporting
H. Customer Service
I. Ease of Use

Technical Requirements

J. Core Architecture
K. Archive and Purge
L. Tiered and Modular Architecture
M. Languages
N. Performance
O. Communications
P. System Backup and Recovery
Q. Database
R. Security
S. Interfaces
T. User Interfaces
U. Document Generation and Document Management
V. Data Warehouse and Business Intelligence
W. Code Quality and Maintainability
X. Development Tools
Y. Automated Referral Processing
Z. Calendar Management
AA. Alerts Management
BB. Custom Service

The Protech Team's plan is to deliver the Nevada Child Support Enforcement Program the most functionally rich and technologically sophisticated automated child support enforcement system in the country.

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Protech's proposed solution for the NCSEAS system includes a robust application framework that encompasses a comprehensive, fully integrated workflow and task management component, business analytics, and enterprise content management. Protech describes, in detail, the Functional and Technical solution that supports unified functions for Case initiation, locate, establishment, case management, enforcement, financial management, reporting and customer service subsystems in the corresponding sections of Attachment M – Implementation Vendor Requirements..

The Protech Team's design and development standards are driven by the Protech Systems Development Methodology (PSDM) which emphasizes development practices, processes, and procedures that influence system development, quality, and implementation. These processes and procedures are tailored to conform to the business objectives, functional requirements, and technical feasibility of the project to produce an effective system. The primary objectives of the PSDM are to deliver quality systems that:

- *Meet and exceed customer expectations when promised and within cost estimates;*
- *Operate effectively and efficiently within the current and planned information technology infrastructure; and*
- *Produce high quality outputs and deliverables.*

This approach establishes procedures for information system development including, but not limited to, guidelines for governing requirements analysis and design.

4.27.2.2 Requirements Lifecycle

REQUIREMENT:

11.2.2.6/4.27.2.2 Although the Program has developed an initial set of requirements within these categories, the Implementation Contractor must further specify requirements to a sufficient level of detail to provide the basis for each functional and technical feature of the NCSEAS. It will not be sufficient to simply document the current functionality of the California transfer system. The Implementation Contractor will conduct Joint Application Design (JAD) Sessions to confirm and elaborate the requirements with subject matter experts from the Program. Additional requirements may be discovered in this process and must be addressed in the functional and technical designs and the implemented the NCSEAS system. Requirements not reasonably anticipated by the Implementation Contractor will be subject to the change control process as applicable.

Protech recognizes that meeting the customer's needs and requirements defines the probability of success for our projects. Requirements provide the foundation for both software engineering and project management activities, and all stakeholders must be committed to following an effective requirements process. The requirements engineering process brings together all stakeholders in the software project. The stakeholders include customers, users, business analysts, developers, testers, documenters, project managers, and customer managers. Documenting the process for gathering requirements, as well as training supporting staff in the process, increases the likelihood of developing complete, detailed, and correct requirements leading to project success.

Requirements engineering is categorized into two components:

- *Requirements development is the process of creating requirements and ensuring that those requirements are of sufficient quality to support downstream activities such as design, coding, and testing. The four phases of requirements development are elicitation, analysis, specification, and verification.*
- *Requirements management process involves managing those requirements as they are identified and changed throughout the software development lifecycle.*

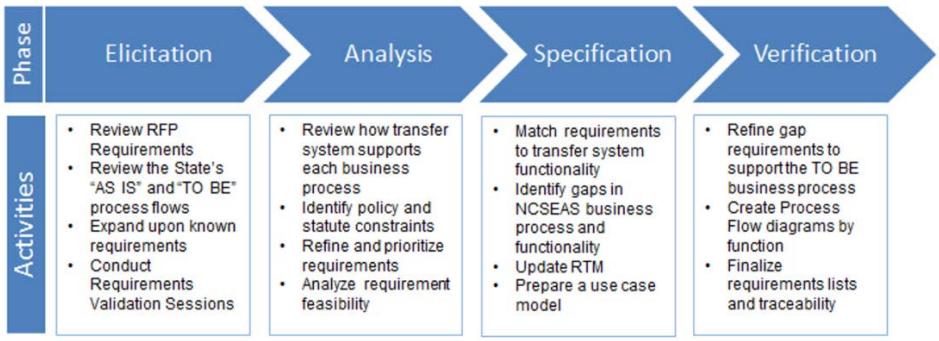

Figure 4.27-1. Overview of Requirements Development Phases

Requirements Traceability Matrix Template

The Elicitation Phase

Requirements Session Planning

The task of requirements development begins with the state's RFP requirements and consideration of the Program's business process re-engineering "To Be" outcomes and process flows. Protech reviews the known requirements seeking to identify requirements unmet by the transfer system and flagging requirements warranting further discussion and clarification. Combined with the Protech Team's extensive knowledge of the IV-D program and years of demonstrated experience helping clients intelligently apply information technology to business needs, Protech compiles a comprehensive list of requirements to be used as the basis of discussion during requirements validation sessions.

The Protech Team will develop a schedule of the requirements validation sessions and review it with the State. The requirements validation orientation meeting for the participants will then be scheduled and conducted to prepare the participants for the validation sessions. The meeting should provide each participant with a solid understanding of requirements validation, key deliverables that will be produced, how a validation session will be conducted, and expectations of participants in the process.

Requirements Validation Session

Requirements will be distributed to attendees prior to the sessions. Each requirements validation session will be led by a Protech facilitator and supported by one or more Protech staff to record the results of the session, track items requiring follow up outside of the meeting, and provide other support as needed. The elicitation phase also includes extracting previously undocumented information from users and stakeholders. The process of requirements elicitation and validation brings together all the stakeholders in the NCSEAS project. It is critical to involve all stakeholders throughout development, beginning with requirements. The purpose of this phase is to focus on what all stakeholders need the system to do – eliciting business and user requirements. The recommended forum for eliciting requirements (and review of known requirements) is a requirements validation session.

Key activities in the elicitation phase:

1. *Review requirements as presented by Nevada in the RFP*
2. *Expand upon the known requirements, prior to Requirements Validation sessions, extracting best practices from Protech's experience with other CSE modernization projects*
3. *Facilitate requirements validation session to review known requirements and elicit additional business and user requirements*

The Analysis Phase

Requirements analysis is truly a separate activity from elicitation completed by Protech functional business analysts working in concert with technical resources after requirements validations sessions. Analysis involves scrutinizing and refining the elicited requirements to ensure they are sufficiently clear to all stakeholders and that requirements contain no errors, omissions, or other deficiencies.

Key activities in the Analysis phase:

1. ***Record all business rules. This is done in the requirements document to trace related requirements back to business rules***
2. ***Refine and prioritize requirements***
3. ***Analyze requirement feasibility***

The Specification phase is detailed in 5.26.2.4.
The Verification phase is detailed in sections 5.26.2.5.

4.27.2.3 Requirements Traceability Matrix

A. Documenting Baseline Requirements

REQUIREMENT:

11.2.2.6/4.27.2.3 Requirements Traceability Matrix:

A - The Implementation Contractor will prepare the RTM deliverable to document each of the baseline requirements, the changes that adjusted or expanded the requirements, the system components that implemented each requirement and the tests that verified them.

The requirements that were gathered and analyzed in the previous stages are not in final form coming into the specification stage of requirements development.

The Specification Phase

Specification is the process of documenting requirements in a detailed, consistent, accessible, and viewable manner. Protech documents business requirements in a project vision and scope document. A requirements traceability matrix is created during the specification phase. The traceability matrix, illustrated in the figure below, provides a visual means of linking related requirements and attributes of each such as requirement source or origin, Administration for Children and Families (ACF) Child Support Enforcement Systems Requirement Guide (Federal Certification Requirement), Nevada's Request for Proposal for Child Support Enforcement System Replacement, and/or Requirements Validation or Joint Application Design session.

Requirements Traceability Matrix Template				
Req. Pro #	Requirement	Fed Req. #	RFP Ref. #	JAD Date
	The automated case record must include data to allow the system to monitor program time standards effectively.	A-6 c.	CI. 18	

In preparation for the design and verification phases, developed requirements are represented in a deliverable – Requirements Definition Specifications (RDS). The RDS includes simple process flows to further illustrate requirements. The RDS reflects functionality of California's Child Support Enforcement system to be removed, modified, or customized for Nevada.

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The requirements development process involves identifying all use cases. A use case defines a set of instances, where each instance is the sequence of actions a system performs that yields an observable result of value to an actor. During the analysis phase, Protech describes a few significant use cases for later prototyping during the first iteration of the design phase.

Key activities in the Specification phase:

- ***Create the Requirements Traceability Matrix (RTM)***
- ***Create the requirements definition specifications document***
- ***Prepare a use case model and prioritize the use cases. Prioritizing use cases is an important task as a precursor to functional design***

At a minimum, Protech provides documentation deliverables in the agreed upon format for the Requirements Validation phase in the table below:

Requirements Traceability Matrix Template	
Functional Documentation Deliverable	Comments
Requirement Definition Specifications (RDS)	Includes Requirements Traceability Matrix, use case model and process flows to illustrate requirements.
Requirements Traceability Matrix (RTM)	Provides a visual means of linking related requirements and documenting requirement source or origin, whether the Federal Certification Guide, Nevada's RFP, or State identified during the Requirements Validation.
Issues and Action Items	Includes a record of all issues raised, resolutions and pending. Also, includes actions items assigned by date, completed and pending.

B. Maintaining the RTM

REQUIREMENT:

11.2.2.6/4.27.2.3 - B The Implementation Contractor will maintain the RTM on an ongoing basis. The QA contractor will review the RTM on a periodic basis to ensure that all entries conform to project requirements.

The Verification Phase

Upon completion of requirements validations sessions, Protech follows a revision process to integrate stakeholder/user input with the existing requirements and produce fully validated requirements. This revision process affords the Protech functional design team, in collaboration with the State functional design team, the opportunity to clarify requirements, raise and resolve issues, and address State comments. In addition, potential scope changes are identified and labeled to facilitate the baseline requirements verification process. These comments, authorized by the NCSEAS project management Team, are the basis for the review and revision of the document.

The process continues through a minimum of two rounds of revision. The Protech Team works with designated decision makers and other interested parties concerning ambiguous, redundant, confusing, or conflicting requirements to resolve issues to the satisfaction of all concerned.

Requirements development ends with the review and approval of a set of validated requirements that originated from the RFP, proceeded through additional elicitation in the JAD sessions, and is finally complete, detailed, accurate, feasible, traceable, and testable. Once approved, these requirements define the scope and form the basis for the development effort. This set of updated base-lined requirements

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constitutes an agreement between the State and Protech as to the exact parameters of the NCSEAS software. Thus, it is a bridge between requirements development and system and software design.

Key activities in the Verification Phase:

- *Create process flow diagrams by function*
- *Update the Requirements Traceability Matrix*
- *Update the Requirements Definition Specifications document*
- *Develop the test Plan*

Requirements management is the process of maintaining the integrity of the requirements set through managing changes to that requirement set throughout the software development lifecycle, preparing and maintaining necessary requirement artifacts, and linking requirements to specific NCSEAS functionality. Subsequent approved changes in the IBM Rational DOORS repository are implemented in the change control process to ensure continuity of requirements

C. Purchase of the RTM Software Tool

REQUIREMENT:

11.2.2.6/4.26.2.3 - C The Implementation Contractor will purchase the RTM software tool, subject to the Program's approval of the tool. The Program's staff, the PMO contractor, and the QA contractor will have copies of this tool so they can read and review the RTM. Functional designs, technical designs, test case development, code construction and unit testing, test execution, and training materials will address all requirements.

Each requirement will be assigned a unique tracking number, organized by functional area and managed through a configuration control process in IBM's Rational DOORS. For requirements traceability, DOORS is designed to track and manage requirements throughout the life of the project. As the project progresses beyond requirements validation, it will be used to establish traceability to the system use cases, components of the system, and test cases. At any time, the most current traceability report can be generated with minimal effort.

Protech will record all changes to the baseline requirements, noting the genesis and scope of change. DOORS will monitor all changes for possible effects on other requirements. This facilitates the detection of any omissions or duplication between requirements. Only the change management process makes changes to this base-lined repository.

Read only access to IBM Rational DOORS allows the state's NCSEAS project team to view the current state of any of project requirements artifacts and examine the traceability links. The state is responsible for verifying the correctness and completeness of such artifacts and links. In two (2) four-hour sessions,

Protech will facilitate hands-on training of appropriate state NCSEAS project personnel in:

- *Construction and reading of requirements-oriented diagrams and models, and*
- *Use of IBM Rational DOORS as a central repository mapping requirements to project artifacts.*

4.27.2.4 Functional Design

A. Review of Functional Design

REQUIREMENT:

11.2.2.6/4.27.2.4 - A The Implementation Contractor will present the functional design for the NCSEAS to the Program's staff for review. The Implementation Contractor will revise the design with the advice and consent of the Program's staff before submission of the final deliverable.

The goals of the design phase are to analyze the problem domain, establish a sound architectural foundation, enhance the project plan, and eliminate the high-risk elements of the project. At the start of this phase, to verify the architecture, Protech will design and implement a prototype for a few of the architecturally significant use cases. Based on the inputs received from the phases of requirements development, Protech will develop an application vision that outlines its ability to meet the business requirements.

Protech's absolute preference is to show Program staff what we developed early and often. In this way, we can correct our course if we begin to move off track. It is important that Program staff is aware of our progress; therefore, they can share the excitement of moving towards a modern CSE system. As such Protech demonstrates the user interface prototype and UI mockups developed during the design phase to the user community in the form of work sessions. After this the user can approve and signoff on the user interface.

B. Functional Design Responsibilities

1. Proposed Schedule and Locations for Functional JAD Sessions

REQUIREMENT:

11.2.2.6/4.27.2.4

B. The Implementation Contractor's functional design responsibilities include:

1. Provide proposed schedule and locations for JAD sessions.

Functional and technical requirements are the emphasis for conducting Joint Application Design (JAD) sessions. Additionally, technical resources attend functional JAD sessions to ensure technical aspects of functional issues are fully addressed.

The approved JAD guidelines and draft Solution Design Documents (SDD) guide the sessions through topic content. Protech organizes sessions by grouping similar functionality for discussion. Topic areas include:

Functional JAD Topics			
Sub System	Functional Area	Sub System	Functional Area
Case Initiation	NPA IV-D Applications	***Financial Management***	Order Entry & Obligation Maintenance
	Non-IV-D Court Orders		Payment Processing
	IV-A Referrals		Held Collections Management
	IV-E Referrals		IV-A, IV-E, & Title XIX Updates
	Intergovernmental, Tribal and International Referrals		Obligor Billing & Account Statements
	Court Interface & Participant Data Management		Account Adjustments and Overpayment Recovery
Locate	State Interagency Interfaces		Financial Distribution
	Vendor Interfaces		Financial Disbursement
	National/Federal Interfaces		Escheatment Management

Functional JAD Topics			
Sub System	Functional Area	Sub System	Functional Area
Establishment	Paternity Acknowledgement & Genetic Testing		Statewide Accounting and Fee Management
	Service of Process & Scheduling		Bank Account Reconciliation
	Paternity Establishment	***Reporting***	Federal Reporting
	Guidelines Calculation & Support Order Establishment		Business Intelligence and Ad Hoc Reporting
Case Management	Workflow Management		Accounting Management Reporting
	Third Party Data Management		Case Management Reporting
	Case Data Management & State Interagency Interfaces		Management Analysis Reporting & Program Compliance Monitoring
	Case Management Monitoring		Data Warehouse
	Obligation Review and Adjustment		Self-Assessment Analysis Reporting
	Alert Management	***Customer Service***	Customer & Employer Portals
	Document Generation		Interactive Voice Response Unit
	Case Closure Management		Imaging & Document Generation
Enforcement	Account Enforcement Monitoring		Imaging & Document Generation Call Center Functionality & Client Communication Facility
	Enforcement Remedy Exemptions	***Ease of Use***	Screen Standards, Online Help & Navigation
	Enforcement Remedy Workflows		Caseload Assignment
			Appointment Scheduling

Protech anticipates scheduling up to three (3) five-hour JAD sessions for each functional topic completing all JAD sessions within four (4) months. JAD sessions are conducted at the project site. A complete JAD schedule will be distributed.

After collaborating in the requirements development phase and reviewing Requirements Definition Specifications (RDS) documents, participants' understanding of the proposed functional design, to be reviewed during the JAD, increases. State NCSEAS project leadership invite JAD participants from the user community to attend appropriate sessions considering the participants' role in the business process and their understanding of current and "To Be" processes defined in the BPR. A key factor in determining the success of JAD sessions is the presence and participation of the right people. Participants must include those who can make decisions regarding policy, "front line" staff responsible for completing the day to day work of case management, supervisors, and Program leadership.

2. JAD Sessions with Functional Experts

REQUIREMENT:

11.2.2.6/4.27.2.4 – B.2 Ensure that the contractor's functional experts are on-site during the JAD sessions.

Protech functional and technical resources are on-site and in attendance during the JAD sessions. The functional experts will be in attendance in addition to the technical resources during these sessions.

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Roles and Responsibilities	
Role	Responsibility
Protech Functional Lead	Facilitates the session using the Solution Design Document and Design Specification documents to guide topic content. Post JAD, the functional lead revises the Requirements Traceability Matrix.
Protech Business Analyst	Scribes notes, key decision points, issues, issue resolutions, and assign action items and due dates requirements. Post JAD, the BA works with functional and development leads to revise the solution accordingly.
Protech Technical Lead	Scribes session notes and offers insight when technical considerations are at issue.
Protech Developer	Scribes session notes documenting issues for follow-up discussion during Technical JAD sessions and/or requiring resolution prior to a Technical JAD session. Post JAD, the Developer works with functional and development leads to revise the solution accordingly.

3. JAD Sessions and Functional Aspects of Design

REQUIREMENT:

11.2.2.6/4.27.2.4 – B.3 Conduct JAD sessions and document functional aspects of the design.

Five (5) days prior to the first JAD session for each functional topic, Protech publishes the initial draft version of the Solution Design Document (SD), including use cases, and Design Specification Documents (DSD) for batch processes, online screens and reports. The JAD process employed by Protech enables users, subject matters experts and other stakeholders to participate in the functional design process providing an opportunity to review and offer input in the solution design documentation. The JAD session is a forum for participants to validate the design adheres to NCSEAS system requirements and:

- ***Gain knowledge of the use case based methodology***
- ***Understand the purpose of the Design Specification Document (DSD)***
- ***Become familiar with the content of the Design Specification Document (DSD)***
- ***Ask questions of Protech concerning proposed functionality***
- ***Provide input into the design and functionality of screens on review of user interface prototypes***
- ***Use Requirements Traceability Matrix, linking requirements to functionality detailed in use cases, to validate the proposed design's adherence***

4. Specify Functional Requirements

REQUIREMENT:

11.2.2.6/4.27.2.4 – B.4 Using the baseline requirements as a starting point, specify the functional requirements to a greater level of detail such that the functional requirements provide the basis for each functional feature of the NCSEAS; update the RTM accordingly.

The functionality detailed in the Solution Design (SD) and Design Specification Documents (DSDs) offers a solution to address each approved and validated requirement that originated from the RFP, BPR and subsequently updated during requirements validations sessions. A solution design document describes the functional design and technical solution for each NCSEAS subsystem in accordance with Nevada CSEP business and user requirements. The solution design document contains use cases to describe how the design satisfies each defined requirement. It is also the basis for software component designs DSD, which describes design features of a software component (batch process, online screen, or report).

5. Draft Report of JAD Sessions

6. Final Report to Project Management Team of JAD Sessions

REQUIREMENT:

11.2.2.6/4.27.2.4 - B.5 Provide a draft report of each JAD session, including issues addressed and decisions made, to the Project Management Team.

B.6 Provide a final report to Project Management Team of each JAD session, incorporating comments and revisions provided by the Program.

At the end of each JAD session, Protech thoroughly documents the meetings by creating meeting minutes that summarize the major topics of discussion during the session, key decision points, and resulting action items. Descriptions of all functional specifications and changes made are also noted. A draft report of each JAD is sent to JAD participants for review. Protech encourages JAD participants to provide input in the design documentation by citing issues, raising concerns, and offering suggested changes. Comments, vetted by State NCSEAS project leadership and submitted to the Protech Team, are incorporated into the design and reflected in the subsequent version of the solution design and detailed design specification documents. Issues and resolutions are tracked and recorded in the solution design document for each functional module.

7. Understanding of State Processes, Requirements, and Data

REQUIREMENT:

11.2.2.6/4.27.2.4 – B.7 Gain the necessary understanding of state processes, requirements, and data.

The process of validating requirements includes expert analysis of the requirements and interactive validation sessions that provide a delineation of preliminary design strategies, business rules, and dependencies. Through a combination of research, review of the State's BPR To-Be report, work observation, facilitated JAD sessions, and analysis, Protech works jointly with the State to gain a clear understanding of current and "To Be" business processes, environment and organization of the child support program.

Compliance to policy and regulations is vital to the certification and maintainability of the system, and we reaffirm our understanding of compliance of the requirements and their correspondence to State and federal standards. We thoroughly review and validate the business requirements focusing on federal and State business standards, business processes, and best practices from other states.

8. Define Ease of use Standards

REQUIREMENT:

11.2.2.6/4.27.2.4 – B.8 Define ease of use standards.

Refer to section 5.13 Ease of Use Management Plan for detail.

9. Business Processes

REQUIREMENT:

11.2.2.6/4.27.2.4 – B.9 Describe the business processes that will exist as a result of the NCSEAS implementation.

Business and system case specifications are developed for each business function. Activity diagrams illustrate the sequence and flow of events. Roles, actors, and processes are clearly defined in this design methodology. Inter-relationships are identified by extended and included indicators.

Use cases provide a structured format to capture functional requirements in the context of the State's business processes. Use cases, included in the Solution Design (SD) documents, are used in the JADs and throughout the remainder of the project to guide analysis, design, development, and testing activities. The Protech Team ensures the completed NCSEAS functionality considers how system users interact with the NCSEAS system to perform their daily work. As illustrated in the figure below, use cases serve as the hub of the requirements model and SD deliverable, ensuring system solutions are user and process driven.

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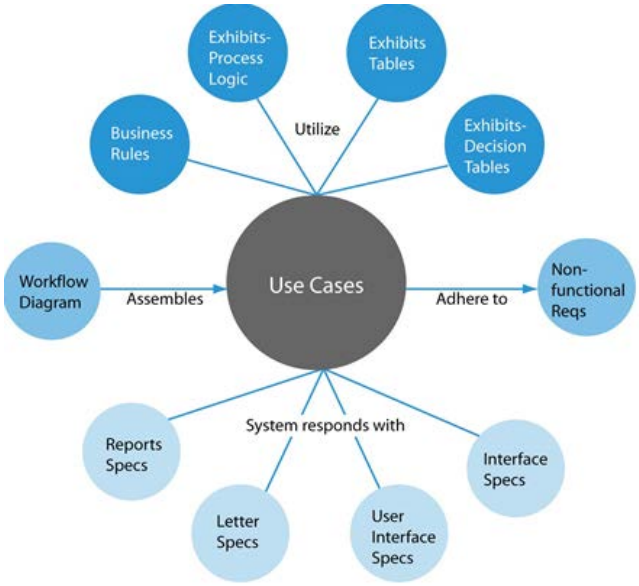

Figure 4.27-2. Requirements Model and SD Deliverable

10. Identify Gaps in Business Processes

REQUIREMENT:

11.2.2.6/4.27.2.4 – B.10 Identify any gaps between current and future business processes.

The Replacement feasibility study conducted by the State's vendor identifies gaps in current business processes and the "To Be" processes and workflows. JAD sessions include discussion of the new process models and business process policies.

To guide discussions of business processes in JAD sessions, the Protech team uses:

- *The "To Be" workflows,*
- *Protech's proven business process reengineering methodology and*
- *Protech's experience in successfully implementing other relevant systems*

Given the functionality of the transfer system and DWSS CSEP requirements to remove, modify, or customize functionality for Nevada, Protech will work closely with JAD participants to identify a system solution that minimizes or eliminates gaps to the satisfaction of all concerned. Additionally, revised "To Be" business process models reflect decisions made during JADs in accord with the system solution. The template of the Solution Design (SD) document includes business process workflows.

11. Validation of Needs

REQUIREMENT:

11.2.2.6/4.27.2.4 – B.11 Validate needs through prototyping of forms / screens, menu navigation, and business functions.

The Protech Team uses prototyping such as screen mock ups, wireframes, and HTML mock up pages with minimal navigation flow during JAD sessions as an effective form of design review.

12. Functional Design Deliverable(s)

REQUIREMENT:

11.2.2.6/4.27.2.4 – B.12 Prepare the functional design deliverable(s).

At a minimum, Protech provides deliverables in the agreed upon format for the functional design phase in the table below:

Functional Design Phase	
Role	Responsibility
Solution Design Document (SD)	Includes an introduction to each topical area, including major business processes supported, process flows incorporating associated use cases for the impacted software components, and detailed functional specifications reflected in use cases and workflows describing functionality designed to satisfy linked functional requirements. Also includes known assumptions and training impacts/considerations.
Design Specification Document (DSD)	Includes detailed design specifications for each software component including online screens, batch processes and reports. DSDs include screen prototypes, navigation descriptions and data inventories specifying elements such as reference data, field validations and content for automated error messages.
Requirements Traceability Matrix (RTM)	Provides a visual means of linking related requirements and documenting requirement source or origin, whether the Federal Certification Guide, Nevada's RFP, or State identified or revised during JAD sessions.
Issues and Action Items	Includes a record of all issues raised, resolutions and pending. Also, includes actions items assigned by date, completed and pending.
Ease of Use Management Plan	Provides sample representations and prototypes illustrating search features, sliding panes to display data, online help functions, navigation methods, Section 508 compliance, personalized menu options and customized views at different levels of authority.

Once all the iterations are complete, the Protech Team will prepare a final package of design documents and uses it for the functional and technical design review.

13. Document Issues and Decisions

REQUIREMENT:

11.2.2.6/4.27.2.4 – B.13 Document issues and decisions in the functional design deliverable(s).

The template of the Solution Design (SD) document for each subsystem includes relevant issues, action items, resolutions and status. Protech also publishes a comprehensive list of issue and action items with final package of design documents

14. Walk-through of Deliverable(s)

REQUIREMENT:

11.2.2.6/4.27.2.4 – B.14 Conduct walk-through of deliverable(s).

State Walkthrough and Review

Protech values client review as a tool to create deliverables to meet DWSS CSEP needs and expectations, and we work closely with DWSS CSEP using walkthroughs of draft and final deliverables. All deliverable and walkthrough due dates, as well as DWSS CSEP deliverable review periods, are identified during the project initiation and planning phase.

When formal walkthroughs are required for draft and/or final deliverables, the State and Protech Team members agree upon the appropriate setting, staff participation, and other logistics related to the walkthrough. After completing all internal Protech Team reviews, we deliver documents to the State allowing adequate time to review all documentation prior to the walkthrough. Then, the State and the Protech Team work together in the review to assess, modify, supplement, and clarify the deliverable. As deficiencies are discovered during the review, the Protech Team rectifies problems, tracks all changes, and calls for follow-up meetings or interviews with the State staff to ensure complete closure of open issues.

Although specific walkthrough content varies by deliverable, a walkthrough typically consists of an overview of the deliverable, an explanation of its organization, and a presentation of critical components of the deliverable. During deliverable walkthroughs and joint reviews, we explain the deliverable and encourage comments and observations from State staff. Protech ensures that appropriate, knowledgeable project team members participate in reviews and walkthroughs, so that we can be truly responsive to any questions that may arise during the review. If, for some reason, a matter cannot be addressed with present staff, project team members leverage the processes for either action items or issues management to ensure open items are logged and tracked to resolution.

During the review of deliverables, Protech continues to work on other project related activities, including those that are a direct antecedent of a submitted deliverable. However, Protech recognizes that if deficiencies are found that require modification of subsequent tasks, changes must be made to the subsequent tasks, even if work on those tasks has already began.

15. Review and Approval Process

REQUIREMENT:

11.2.2.6/4.27.2.4 – B.15 Revise deliverable(s) as a result of the review and approval process.

After deliverable feedback is provided by the State, the Protech team members abide by documented and contractual review periods to address all the State-provided deficits and issues. In some cases, we may request a meeting with appropriate State staff to ensure we fully understand the requests and feedback. We recommend that the State provides notice to the Protech Team regarding acceptance, conditional acceptance, or rejection of the deliverable defined as follows:

- *Acceptance. Indicates all requirements are met and no further updates are required.*
- *Conditional Acceptance. The Protech Team is recommending a conditional acceptance for use with those deliverables that substantially comply with the requirements but require a minor modification or update in some respect. A conditional acceptance permits us to proceed to the next step in situations where time constraints significantly impact progress. We do not anticipate payment for a conditionally accepted deliverable until the State has granted formal acceptance*
- *Rejection. Indicates the deliverable did not comply with material requirements and specifications, including quality standards, and/or contained material errors or omissions. The State and Protech Team managers meet to discuss next steps to ensure successful subsequent redelivery of the work product.*

A Protech functional design team member revises the deliverable to incorporate all the State requested revisions. The revised deliverable undergoes the same Protech Team internal quality review and sign-off as the initial deliverable. After completing revisions, we submit the revised deliverable to the State for review and approval. Typically, a final review of a deliverable consists of verifying that all agreed upon revisions have been incorporated into the final document or work product. If necessary, we walk through the deliverable revisions with the State.

After final review and approval, the State provides written approval of the deliverable by completing and returning the sign-off sheet accompanying the deliverable. We apply strict steps in our process to ensure all deliverables are logically organized and explained for the State's input to be a valuable part of the process and enable the State to confidently sign-off on all deliverables.

C. Functional Design Documents

REQUIREMENT:

11.2.2.6/4.27.2.4 - C A functional design document will address each of the requirements grouped within the component. The Implementation Contractor may combine some requirements into a single design in order to reduce repetition. Each functional

design will identify the requirement addressed and articulate the goal and objectives of the requirement. The functional design will identify and cite the relevant policy and statutory constraints. The functional design will describe known assumptions and identify issues. As issues relevant to the requirement are resolved, the Implementation Contractor will document the resolution in the design document.

The project management plan consolidates document templates for all deliverables. Format, content, and layout of the solution design are reflected in the project management plan. Key components of the solution design template for each subsystem include:

- *Glossary of terms*
- *Assumptions*
- *Process overview including use case process flow model*
- *Use cases, by software component and actor, identifying the requirement satisfied by the described functionality*
- *Software components list and prototypes (screens, reports and notices)*
- *Implementation considerations*
- *Training impacts*
- *Relevant issues, action items, and resolutions*

D. Staff Roles of System Component Users and Security Controls

REQUIREMENT:

11.2.2.6/4.27.2.4 - D The functional design will identify the staff roles of system component users and describe the security controls necessary to enable access to authorized users. The functional design will define the method for documentation of user actions. The functional design will describe the standard usage of the functions and the interaction between staff and system. The functional design will provide an overview flow of the usage of the component and will provide a layout for screens, forms, reports, and input and / or output files.

SD and DSD artifacts are reviewed through successive, collaborative JADs. SDs includes use cases for each software component. Use cases, which are structured process descriptions, serve as the starting point for system design, allowing design decisions to be made and design artifacts to be created with business goals and user needs at the forefront. Analysts identify business goals or tasks within the system and then document the step-by-step tasks a user executes to achieve those goals. In documenting the tasks, analysts tie process steps to segments or outputs of the system, such as web pages, reports, letters, interfaces, and business rules.

JAD sessions typically involve review of such documentation but also provide for demonstration of system functionality when feasible. The Protech Team uses prototyping during JAD sessions as an effective form of design review.

E. Detailed General System Design

REQUIREMENT:

11.2.2.6/4.27.2.4 - E The functional design documents will include sections providing details about the general system design, the detailed system design, system specification, software requirements, the database model, the data dictionary, and use cases. JAD sessions will provide input for the functional design documents. The Program's Project Management Team will schedule JAD sessions as often as needed to ensure that the functional design is well understood and specified. The Implementation Contractor will update the documents as the participants of the JAD sessions unravel complicated functions to maintain the accuracy of the design

The Protech Team creates, delivers, and maintains all required functional, technical and user documentation deliverables including, the data dictionary, logical data model, physical data model, transfer system documentation and use cases. Functional and technical JAD sessions typically involve review of such documentation. Design specification documents include data dictionary references for data elements

specific to each software component relevant to the functional topic. Technical JAD sessions include a review of the comprehensive data dictionary, logical and physical data models. The appropriate Protech Team member revises the deliverable to incorporate all the State requested revisions.

F. Specification of Functional Design

1. Data Derivation Formulae for Complex Operations
2. Edit Criteria
3. Edit Criteria
4. Workflow Events and Algorithms
5. Entries to Chronology Files
6. Documents to be Generated
7. Screen Navigation Options
8. User Responses to Error Messages and Alerts

REQUIREMENT:

11.2.2.6/4.27.2.4 - F The functional design will specify at a minimum:

The below table identifies detail specified in DSDs by software component type:

Design Specification Documents			
Detail Specification	Software Component Type		
	Batch Process	Screen	Report
User Interface Prototypes		X	X
Navigation Options		X	X
Process descriptions and criterion	X	X	X
Logic used to derive data field values	X	X	X
Data validations and field level edits for user inputs	X	X	X
Messages that serve as a guide during data entry • Warning messages notifying users of special conditions allowing processing to continue • Error messages notifying users of invalid data do not allow processing to continue until resolution of errant data • Informational messages inform the user of system confirmation or query/search results		X	X
Automated system responses to user action in the form • Initiate new, advance or termination in-progress workflow • Generate or Complete role-based alerts • Insert records in case action diaries or event logs • Trigger generation of notices	X	X	
Data Dictionary References		X	X
List of Values and associated Reference Tables		X	X
Driver Tables and Output Tables	X		
Input and Output File Layouts	X		
Data Mapping	X	X	X
Exception Handling	X	X	X

[redacted]

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9. Data Initialization and Operations

REQUIREMENT:

11.2.2.6/4.27.2.4 – F.9 The functional design will identify data initialization and operations necessary at the time of implementation.

The Protech Team will gather the requirements for the "seed data" that is required for satisfying the requirements set forth during the functional design sessions. The seed data are stored in the database during implementation in parameter tables. Seed data assists in minimizing code dependency in instances where the parameter data is utilized to define application rules.

Parameter data is defined early in the design process based on the careful analysis of system requirements during the functional design JAD sessions. The governance of the parameter data is the responsibility of the designated data steward, who acts as a gatekeeper for the parameter data. The details of the parameter data are maintained as a document. This document, as well as the associated database scripts, is stored in the Perforce repository.

They seed data stored as parameter tables are broadly classified as:

- *Codes and Description*
- *Event driven rules*
- *User Messages*

Any new additions or changes to the existing parameter data determined during the development phase, leads to the modification of the parameter data scripts before being executed in other environments. The data steward coordinates with the Configuration Management (CM) team during the implementation process.

10. Functional Design Element Will Reference the Requirement

REQUIREMENT:

11.2.2.6/4.27.2.4 – F.10 Each description of a functional design element will reference the requirement that it implements. This cross-reference to objectives will establish traceability for development, testing, and training staff.

The solution design document details the functional design and technical solution for an NCSEAS subsystem in accordance with DWSS CSEP business and user requirements. This document also contains use cases to describe how the design satisfies each defined requirement for NCSEAS. All use cases taken together represent a specification of the range of behavior of the system. Use cases provide the level of detail necessary for development, testing and training to fully understand the requirements of NCSEAS.

11. Presenting Functional Design Components to the Program's Staff

REQUIREMENT:

11.2.2.6/4.27.2.4 – F.11 The Implementation Contractor will present functional design components to the Program's staff for review. The Implementation Contractor will revise each section with the advice and consent of the Program's staff before submission of the full deliverable. The Implementation Contractor may group functional design presentations in a logical manner for clarity of presentation.

DWSS CSEP and Protech agree upon the appropriate setting and staffing for joint reviews of the deliverables. Protech delivers documents to the State to allow for time to review all documentation prior to formal walkthroughs. Then, DWSS and Protech review, modify, supplement, and clarify document contents in formal JAD sessions as well as in less formal meetings and discussions, as appropriate. As deficiencies are discovered during such meetings and reviews, Protech immediately rectifies problems, tracks all changes, and calls for follow-up meetings or interviews with DWSS CSEP staff to ensure complete closure of open issues. For those deliverables requiring federal review, we provide for a reasonable review and approval timeframe in the project plan.

G. Update Functional Design Documentation

REQUIREMENT:

11.2.2.6/4.27.2.4-G The Implementation Contractor must update the functional design documentation to reflect any functional design changes for Program's approval prior to deployment of the changes. Functional design documentation must be maintained through completion of the warranty period.

As a result of any design changes and on the output of any new requirement validation sessions, use cases are prepared for the impacted software components by actor – online user or batch process, which will detail the relevant process flow including the user inputs and system responses. Prototypes are created which include screen mockups and HTML wireframes.

The solution design documents (SD) are updated to include the following:

- ***Process workflows***
- ***System responses for each use case***
- ***Software components impacted***

We will maintain Design Specification Document (DSD) documents for each software component, to validate and memorialize the design prior to application development through the completion of the warranty period.

4.27.2.5 Technical Design

A. Presenting Technical Design Sections to the Program's Staff
B. Technical Design Responsibilities

1. Proposed Schedule and Locations for Technical JAD Sessions

REQUIREMENT:

11.2.2.6/4.27.2.5

A. The Implementation Contractor will present technical design sections to the Program staff for review. The Implementation Contractor will revise each section with the advice and consent of state staff before submission of the full deliverable. The Implementation Contractor may group technical design presentations in a logical manner for clarity of presentation.

B. The Implementation Contractor's technical design responsibilities include:

B.1 Provide proposed schedule and locations for technical JAD sessions.

Functional and technical requirements are the emphasis for conducting Joint Application Design (JAD) sessions.

The Protech Team conducts JAD sessions with State technical subject matter experts. We anticipate scheduling up to ten (10) two-hour technical JAD sessions, completing all JAD sessions within (4) months.

Functional Design Phase		
	Role	Responsibility
Core Architecture	Communications	User Interfaces
Archive and Purge	System Backup and Recovery	Document Generation and Document Management
Tiered and Modular Architecture	Database	Data Warehouse and Business Intelligence
Languages	Security	Code Quality and Maintainability
Performance	Interfaces	Development Tools

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State NCSEAS project leaders invite JAD participants from the State technical teams to attend appropriate sessions considering the participants' role in the implementation process and their understanding of the current system, the transfer system, and the "To Be" workflow for NCSEAS.

2. JAD Sessions with Functional and Technical Experts

REQUIREMENT:

11.2.2.6/4.27.2.5 – B.2 Ensure that the contractor's functional and technical experts are on-site during the JAD sessions.

Protech technical and functional resources are on-site and in attendance during the JAD sessions. The technical JAD sessions are independent of the functional JAD sessions and hence run concurrent to the functional sessions. Technical JAD sessions cover the NCSEAS system's technical aspects as listed in 5.26.2.6 (B) (1).

The below table illustrates the resources present during the JAD sessions.

Roles and Responsibilities	
Role	Responsibility
Protech Technical Lead	Facilitates the session using the Solution Design Document and Design Specification documents to guide topic content. Post JAD, the Technical Lead revises the Requirements Traceability Matrix and other technical documentation deliverables as needed
Protech Developer	Scribes notes, key decision points, issues, issue resolutions, and assigns action items and due dates. Post JAD, the developer works with Technical and Functional leads to revise the solution accordingly
Protech Functional Lead	Scribes session notes and offers insight when functional considerations are at issue
Protech BA	Scribes session notes documenting issues for follow-up discussion during Functional JAD sessions and/or requiring resolution prior to a Functional JAD session. Post JAD, the BA works with Functional and Development leads to revise the solution accordingly
Protech Architect	Post JAD, the architect works with the Technical and Functional Lead to revise the solution pertaining to the system's architecture

3. Conducting Technical JAD Sessions

REQUIREMENT:

11.2.2.6/4.27.2.5 – B.3 Conduct technical JAD sessions as necessary and document technical aspects of the design.

Protech technical resources ensure the architecture will help achieve DWSS CSEP's mission by providing a flexible, secure and stable system that is responsive to the business needs of the Program. This approach features the use of iterative prototyping, where we use several best practices from our comprehensive repositories, baseline requirements, and the transfer system from California as a starting point. We then enhance these to reflect the NCSEAS system design, as that design is refined during the JAD sessions. The technical JAD session is a forum for participants to validate that system design adheres to NCSEAS technical requirements and review of the following documentation:

Roles and Responsibilities	
Technical Documentation Deliverable	Comments
Solution Design Document (SD)	Includes an introduction to each topical area, including major business processes supported, process flows incorporating associated use cases for the impacted software components, and detailed functional specifications reflected in use cases and workflows describing functionality designed to satisfy linked functional requirements. Also includes known assumptions and training impacts/considerations.
Design Specification Document (DSD)	Includes detailed design specifications for each software component including online screens, batch processes and reports. DSDs include screen prototypes, navigation descriptions and data inventories specifying elements such as reference data, field validations and content for automated error messages.
Issues and Action Items	Includes a record of all issues raised, resolutions and pending. Also, includes actions items assigned by date, completed and pending.
Ease of Use Management Plan	Provides sample representations and prototypes illustrating search features, sliding panes to display data, online help functions, navigation methods, Section 508 compliance, personalized menu options and customized views at different levels of authority.
Database Configuration Management Plan	Details the configuration management model which includes identification and storage of artifacts in a secure repository, creation of baseline artifacts, tracking and monitoring application management lifecycles, and integrating toolsets and automating software builds.
Technical Approach Plan	Details activities planned in each phase of building new environments for hardware and software components including a schedule of phase with agreed dates to set up environment in state identified data center.
System Capacity Plan	Used as the basis to build hardware and software equipment purchase orders, this document details computed hardware resources required to support the solution.
Development Hardware and Software Purchase Plan	Outlines the selection, approval, ordering, delivery and installation processes for the hardware and software components to be used in the development of the NCSEAS application.
Database Development Plan	Provides an overview of the activities used during design and development of the NCSEAS database including the schedule of database activities, and the organization, roles and responsibilities involved with database design and build activities.
Application Development Plan	Details best practices including programming languages, naming conventions, system documentation, date/time handling, source and documentation control, source audit capacity, development utilities, development task management, release planning, and integration, regression and performance testing.
Data Governance Plan	Details the alignment of a structured data classification process and information handling requirements demonstrating adherence to the State's IT governance model.
Security Management Plan	Establishes a framework that adopts and addresses federal and state security laws and guidelines identifying the security methodology, approach and standards employed.

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After technical JADs, deliverables are revised accordingly and published for state review. Protech schedules a walkthrough of the documents as needed.

4. Specification of Technical Requirements

REQUIREMENT:

11.2.2.6/4.27.2.5 – B.4 Using the baseline technical requirements as a starting point, specify the technical requirements to a greater level of detail such that the technical requirements provide the basis for each technical feature of the NCSEAS; update the RTM accordingly.

The functionality detailed in the Solution Design (SD) and Design Specification Documents (DSDs) offers a solution to address each approved and validated requirement that originated from the RFP, BPR and subsequently updated during requirements validations sessions. Technical documentation deliverables referenced in 5.26.2.6 (B) (3) detail the solution for each technical feature of NCSEAS. Technical JAD participants validate the proposed design's adherence to requirements and provide input into the design and functionality by:

- *Reviewing technical documentation deliverables*
- *Reviewing prototypes which include screen mockups, HTML wireframes, and transfer system solutions*
- *Asking questions of Protech concerning proposed functionality including the customization of baseline components from the transfer system*

5. Draft Report of Technical JAD Sessions

REQUIREMENT:

11.2.2.6/4.26.2.6 – B.5 Provide a draft report of each technical JAD session, including issues addressed and decisions made, to the Project Management Team.

After each technical JAD session, Protech provides a draft report including meeting minutes and issues log to the project management team.

Meeting minutes include:

- *Attendance list for the JAD*
- *Description of relevant meeting discussion points*
- *List of all action items identified during the JAD*
- *List of all major decisions made at the JAD*

The Issues Log is continuously updated and includes:

- *The status for each issue (e.g., identified, under analysis, resolved, etc.)*
- *A summary of analysis*
- *Documentation of the resolution/outcome of each issue*

6. Final Report of Technical JAD Sessions to Project Management Team

REQUIREMENT:

11.2.2.6/4.27.2.5 – B.6 Provide a final report to the Project Management Team of each technical JAD session, incorporating comments and revisions provided by the State and Program.

Protech publishes a final comprehensive report after technical JADs. Report contents are updated versions of the documents referenced in 5.26.2.6 (B) (5). Upon concluding functional JAD and technical JAD sessions, comments, vetted by State NCSEAS project leadership and submitted to the Protech Team, are incorporated into the design and reflected in the subsequent version of the Solution Design for each subsystem and detailed Design Specification Documents for the relevant software components. Issues and resolutions are tracked and recorded in the Solution Design Document for each functional module.

7. Understanding of State Processes, Requirements, and Data

REQUIREMENT:

11.2.2.6/4.27.2.5 – B.7 Gain the necessary understanding of state processes, requirements, and data.

The outcome of the JAD sessions are the results of eliciting the requirements and the to-be workflows of the NCSEAS system. The Solution Design (SD) and Design Specification Documents (DSD) are reviewed and finalized in detail after considering the state business processes, operating procedures, requirements, and data required to implement the solution.

8. Analyze and Refine the Database Design

REQUIREMENT:

11.2.2.6/4.27.2.5 – B.8 Analyze and refine the database design.

The database design is baselined using the California transfer system. This design is thoroughly analyzed in correlation to the functional and technical requirements that are discussed during the JAD sessions to support the NCSEAS application. Any refinements required to the database design are finalized during the JAD sessions. These refinements are carefully reviewed and incorporated in the database after the approval process involving the project stakeholders.

9. Validation of Needs

REQUIREMENT:

11.2.2.6/4.27.2.5 – B.9 Validate needs through prototyping of forms / screens, menu navigation, and business functions.

Prototypes are created which include screen mockups, HTML wireframes, and transfer system solutions. Protech conducts detailed design sessions for joint application design (JAD) using use-cases, process workflows and prototypes. Principle objectives of the technical design workflow:

- *Confirm understanding of the State's detailed business needs through JAD sessions*
- *Realize the system functional and non-functional requirements with technical artifacts*
- *Document design decisions to a level of detail that allows for configuration, modification, and new development of system functionality*

10. Technical Design Deliverable

REQUIREMENT:

11.2.2.6/4.27.2.5 – B.10 Prepare the technical design deliverable.

Based on the output of the requirement validation sessions, use cases are prepared for each major functional area of NCSEAS which will detail the relevant process flow including the user inputs and system responses.

The technical solution design document (SD) includes the following:

- *Process workflows*
- *System responses for each use case*
- *Software components impacted*
- *Java scripts*
- *HTML*
- *Java methods*
- *Database objects impacted*
- *Parameter data*
- *Constraints*
- *Index*
- *Referential integrity: primary keys and referential keys*
- *Sequences*
- *Columns*
- *Business rules specifications*

- *Data validations*
- *Screen element matrix including database lookups*
- *Presentation layer validations*
- *Business layer validations*
- *Error/warning/informative messages*

In addition, the following details are included for interface technical design document:

- *Data exchange mechanism*
- *Frequency*
- *Dependent job details*
- *Restart procedures*
- *Input /output file layouts*

We create Design Specification Document (DSD) documents for each software component to validate and finalize the design and validations prior to application development.

11. Document Issues and Decisions

REQUIREMENT:

11.2.2.6/4.27.2.5 – B.11 Document issues and decisions in the technical design deliverable.

Issues and resolutions are tracked and recorded in the Solution Design Document for each subsystem.

12. Conduct Walk-through of Deliverable

REQUIREMENT:

11.2.2.6/4.27.2.5 – B.12 Conduct walk-through of deliverable.

Refer to 4.38.2.4 for detail.

13. Review and Approval Process

REQUIREMENT:

11.2.2.6/4.27.2.5 – B.13 Revise deliverable as a result of the review and approval process.

Refer to 4.38.3.5 for detail.

C. Addressing the Means for Implementing the Functional Design

REQUIREMENT:

11.2.2.6/4.27.2.5 – C A technical design document will address the means for implementing the functional design. The technical design will identify all the system components necessary for software development and operation. The technical design will address database components including an entity relationship diagram of the pertinent database tables together with detailed documentation of all system tables and columns. The technical design will identify and specify all system objects. The technical design will identify and specify all job control as well as restart and recovery provisions.

Technical design documents are categorized by subsystem and address usage, referencing system and software components relevant to each subsystem:

The technical design includes procedures facilitating the backup and restoration of interdependent databases and datasets. Because we take scheduled precautions, our system is capable of restart and recovery after system failure with no loss of data or software components. Refer to section 4.11 Database Development Plan for detailed preventative measures and the recovery processes.

D. Addressing Aspects of the NCSEAS system

1. System Architecture

REQUIREMENT:

11.2.2.6/4.27.2.5 – C.1 The technical design will address, as a minimum, the following aspects of the NCSEAS system:
D.1 System architecture, addressing the distinct tiers and major integration points that define the system.

Core technical requirements define the technical capabilities that must exist to meet business requirements as well as provide DWSS with a state-of-the-art technical platform that will have the flexibility and openness to be easily modified or expanded to meet changing needs as the business evolves over time or new technology is introduced. The core technical requirements are grouped into the following areas of the future of the state's architecture vision:

- *The access/presentation layer*
- *Workflow/services layer*
- *Application layer*
- *Database/information management layer*
- *Security layer*
- *Infrastructure layer*
- *System management layer*

These areas are thoroughly discussed and validated during review of the system architecture during JAD sessions.

2. System Architecture

REQUIREMENT:

11.2.2.6/4.27.2. – C.2 System architecture, addressing the distinct tiers and major integration points that define the system.

(Needs Response)

3. Major Subsystems

REQUIREMENT:

11.2.2.6/4.26.2.6 – C.3 Major subsystems and details about each major subsystem's internal design.

The subsystems are:

- *Case initiation*
- *Case management*
- *Locate*
- *Establishment*
- *Enforcement*
- *Financial management*
- *Reporting*
- *Document generation and management*
- *Security*

The interactions between the architecture layers for each subsystem will be thoroughly documented in the technical design documents and further discussed and reviewed before final approval by the stakeholders.

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4. Database Design

REQUIREMENT:

11.2.2.6/4.27.2.5 – C.4 Database design, including an initial entity relationship diagram of the key database tables together with descriptions of all system tables and columns.

We use three types of data models in defining the standards-based business data requirements:

- *Core Business Entities (CBE)*
- *Logical Data Models (LDM)*
- *Physical Data Model (PDM)*

We will use database-enforced referential integrity where primary keys are immutable and meaningless to the extent possible across the system, considering the requirements and specifications of the design and using the fundamental database design precept.

Referential integrity and constraints are the application of 'rules' to entities, attributes, and relationships from a data perspective. Referential integrity applies business rules to the relationships of entities through their attributes. To design an efficient table complete with its entity, domain, and referential integrity, knowledge about constraints is necessary. Constraints are programming elements used to enforce such integrity. Information regarding referential integrity and constraints is captured in the LDM as metadata.

5. Implementing Roles-based Security

REQUIREMENT:

11.2.2.6/4.27.2.5 – C.5 Security architecture, including how the system will implement roles-based security, ensure both at-rest and in-transit data security, and if and how the system will segregate and protect more sensitive data (e.g., Personally Identifiable Information (PII), Protected Health Information (PHI), and Federal Tax Information (FTI)).

The security and confidentiality of personal information is a priority of the Protech Team for the NCSEAS implementation.

"Personal information" means a person's first name or first initial and last name in combination with any one or more of the following data elements:

1. *Social security number*
2. *Driver's license number, driver authorization card number, or identification card number*
3. *Account number, credit card number, or debit card number*
4. *A medical identification number or a health insurance identification number*
5. *A user name, unique identifier, or electronic mail address in combination with a password, access code, or security question and answer that would permit access to an online account*
6. *Federal Tax Information (FTI)*

Due to the sensitive nature of information associated with child support enforcement business processes, and in alignment with Nevada's security standards, Protech will go through a comprehensive approach for designing and implementing the security architecture which includes:

- *Role-based security*
- *Sensitive static data*
- *Sensitive transit data*

6. Key Application Patterns and Technical Solutions

7. Key System Objects and Services

REQUIREMENT:

11.2.2.6/4.26.2.6 – C.6 Key application patterns and technical solutions to implementing those patterns.
D.6 Key system objects and services and their responsibilities in the architecture.

The Protech technical team works in concert with the State technical team to analyze the transfer system solution for identifying key application patterns, system objects and services and subsequent comparison against the NCSEAS application requirements, including "To Be" workflows and proposed architecture.

The application layers, associated patterns, and frameworks are carefully analyzed during the planning phase to understand the architectural impacts to meet NCSEAS requirements. The impact analysis and the approach to refine these common object patterns are then discussed with the State Technical team and re-tuned as necessary to support the NCSEAS application.

8. Coding Specifications

REQUIREMENT:

11.2.2.6/4.27.2.5 – C.8 Sufficient information to convey the coding specifications to the implementation developer(s).

Protech's development team follows the below mentioned processes:

- *Use transfer system programming standards as a baseline and improve as required using best practices*
- *Adhere to programing standards*
- *Adhere to application architecture standards*

Naming conventions have been defined for all aspects of the project life cycle, including:

- *Database naming standards*
- *Class and method names*
- *Variable names*
- *Input and output interface files names*
- *Report naming conventions*
- *Test case naming standards*
- *Document naming standards*
- *Proper usage of system and user variables*
- *Proper usage of indices and other aspects of the database for optimum performance*

E. Present Technical Design Sections to Program's Technical Staff

REQUIREMENT:

11.2.2.6/4.27.2.5 - D The Implementation Contractor will present technical design sections to the Program's technical staff for review. The Implementation Contractor will revise each section with the advice and consent of Program's staff before submission of the full deliverable. The Implementation Contractor may group technical design presentations in a logical manner for clarity of presentation.

Functional and Technical Design Review

As part of the ongoing design process, the Protech Team creates documentation that reflects the design decisions made. This includes updates to any relevant baseline documentation currently available as part of our baseline solutions, as well as the creation of new design specification documents associated with new system features and functions. These functional and technical design materials are used to create a SD package for each of the system's functional modules.

We conduct a series of design review meetings throughout the analysis and design phase where we work with DWSS to review the completed design up to that point, as documented in the SDs. These reviews provide DWSS staff with further opportunity to participate in the functional design process through the formal review and approval of the system's design. After collaborating in the development process in the reviews, all participants have a shared understanding of the proposed functional design.

E. Present Technical Design Sections to Program's Technical Staff

REQUIREMENT:

11.2.2.6/4.27.2.5 - E The Implementation Contractor must update the technical design documentation to reflect any technical design changes from program's approval prior to deployment of the changes. Technical design documentation must be maintained through completion of the warranty period.

In order to maintain the validity and relevance of all technical documentation, Protech will develop an approach and plan to update previously submitted deliverables including technical plans, documents, procedures and manuals as part of the original implementation contract. These documentation updates are required with reference to perfective, adaptive and preventive changes. New coding resulting from change request, new configuration management processes, and changes in batch cycles will result in documentation updates. Each code module will be cross checked against the DSD documentation update matrix and the solution design update matrix to ensure that the corresponding documentation updates are maintained with each release. Technical design documentation will be maintained throughout the completion of the warranty period.

4.27.2.6 Technical Design

A. **Understanding of Functional and Technical Requirements**
B. **Additional Requirement Details**
C. **Addressing all Requirements**
D. **Logical Groupings of Requirements**

REQUIREMENT:

11.2.2.6/4.26.2.7

A. Within the functional and technical groupings are a number of requirements. The Implementation Contractor will review the requirements and ensure their understanding of these requirements.
B. Additional detail may be added to these requirements when necessary for clarity.
C. The functional and technical designs will address all requirements.
D. The Implementation Contractor may combine logical groupings of requirements into a single design deliverable series for clarity and to minimize redundancy.

The technical solution design document details the technical design and solution in accordance with DWSS CSEP technical requirements. This document also contains process workflows, software components, database components and other relevant technical details to describe how the design satisfies each defined requirement for NCSEAS. All process workflows taken together represent a specification of the range of behavior of the system. The components provide the level of detail necessary for development, testing, and training to fully understand the requirements of NCSEAS.

4.27.3 Deliverables

4.27.3.1 Functional and Technical Requirements
4.27.3.2 Conduct JAD Sessions
4.27.3.3 Requirements Traceability Matrix
4.27.3.4 Functional Design
4.27.3.5 Technical Design
4.27.3.6 Detailed Requirements

Protech recognizes that we will prepare and update as required the functional requirements/design, technical requirements/design, Requirements Traceability Matrix (RTM), and detailed design for the project in accordance with the terms of the contract and as reasonably requested by the State. Deliverable number 4.27.3.1 through 4.27.3.6, Systems Requirements and Design Deliverables will encompass all work products resulting from activities 4.27.2.1 through 4.27.2.6 as described in this section.

VI-4.28 Development, Modification and Conversion of System Software Code

4.28.1 Objective

REQUIREMENT:

11.2.2.6/4.28.1 The objective of this task is the development, modification and conversion of system software code.

Protech's approach to developing the software and converting the system software code is a well- defined process, as we have executed transfer system implementations for over 20 years. Our experiences in Michigan, New Jersey, Delaware, and (as of today in) South Carolina, are all transfer solutions and implementations we have completed and obtained federal certification by working with the state project management teams. We intend to leverage those experiences and lessons learned to formulate a plan, an approach and methodology to develop, modify and convert the software of the California child support system (CCSAS) to meet the requirements of the State of Nevada.

4.28.2 Activities

4.28.2.1 Software Modules Created or Modified and Prepared for System Testing

REQUIREMENT:

11.2.2.6/4.28.2.1 During this activity, the software modules will be created or modified and prepared for system testing. The system testing activity is where the deliverables for accepting the development, modification, and conversion of the system code will be tracked and accepted. This is also the activity where the Implementation Contractor will install the purchased operations hardware and software.

During our initial phases of discovery and system assessment in the form of requirements definition and JAD sessions, the Protech Team will map the California child support system modules to the Nevada child support NCSEAS requirements and create a matrix by functional area. Each functional area is assessed for functional compliance, percentage of fit and definition of the business logic. The CCSAS system was developed over an extended period and with many modifications that were California specific, it is prudent to validate the entire set of modules for applicability.

After the mapping and classification of modules and a gap analysis, the modules are baselined for design and development. During the design of the functional and technical components, modules are classified as "as is", "modify" and new modules are tagged as "create". With the completion of design and development, the modules as logical units of work, are moved to the testing phases for integration test and system test.

The technical environments, hardware and software required to build the environment are discussed in detail in Section 5.6 Technical Plan. The hardware and software as specified for each environment is procured, installed, tested and made available to the development team.

In accordance with established software development practices, Protech will test the NCSEAS application to integrate the components by doing the following:

- *Integration testing to confirm that the NCSEAS components and supporting interface application modules, business process rule and forms operate together effectively so that functional objectives are achieved*
- *Interface testing to exercise each interface and confirm that it operates according to the Interface Control Description (ICD), managing external interface requirements) including interfaces to the data warehouse solution*
- *System testing to exercise the assembled system and confirm that it operates as expected including all system security and user profiles*

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- *Stress testing to exercise the system to the limits of its requirements and beyond to confirm graceful exits and workflows*
- *Performance testing to confirm satisfaction of performance requirements in a simulated test environment*
- *Usability testing to evaluate the man - machine interface and the web browser interface*
- *Regression testing to verify core application functionality for all software builds*

Protech will track status for test planning and test conduct and report on this status in status meetings and status reports. We will provide to the state test plans and test results for each of the planned test phases and activities.

Managing the Testing Effort

Protech has extensive experience in managing testing efforts in large child support implementations. We will leverage our experience and established methodologies to define a clear and effective test strategy. Testing is integrated into every facet of our development cycle. Every type of testing effort has general components as follows.

- *Test planning*
- *Test data creation*
- *Defect tracking and resolution*
- *Test environment*
- *Communication approach*

The primary goal of the testing effort is to verify that, when placed in the production environment, the system behaves as expected under all normal circumstances and meets the requirements defined in the RFP.

Test Planning

Our test planning begins during requirements validation. The test plans are presented as deliverables. Each section of the test plans also specifies the components of the NCSEAS system that is tested and reports related to the effort are created. The test plans include a description of the tests being conducted, special requirements for data, and the goal for each test. The test report records the results of the tests, presents capabilities and deficiencies for review, and provides a means of assessing progress toward the next stage of development or testing. When defects are found, the test report provides the error description and appropriate action to correct the affected component subsystem or system. It also provides appropriate statistics for each component.

Test plans will be living documents that must be reviewed and updated as needed. The initial test descriptions are defined according to baseline requirements and are elaborated on during the design phase. During the system test phases, software engineers, testers, and the PMO team may develop additional or more detailed descriptions and test cases. All test artifacts are maintained in the central repository.

Within each test phase, various test conditions are tested and validated, as shown in the following table:

Test Condition System Performance		
Test Condition	System	Performance
Fault Insertion	*	
String Testing (end-to-end)	*	

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Test Condition System Performance		
Test Condition	System	Performance
Error Handling	*	*
Stress		
Performance	*	*
Portal Functionality	*	*
Functional	*	
Regression	*	
Interface Testing	*	*
Security	*	*
Operational Readiness	*	
User Interface	*	
Audit Trails	*	
Backup/Recovery/Failsafe	*	
Usability	*	
Conversion	*	*

As a precursor to testing, Protech develops a comprehensive plan to guide the activities of the levels and stages of testing. The test plans detail the complete end-to-end testing of the system and all its components. To guarantee the completeness of the Test Plans, formal system requirements identified during the requirements validation phase of the release are used to drive the design and execution of the test plans. At the inception of the project, a test team is formed to be responsible for formulating test plans. The team defines criteria for evaluating the testing effort, designs test scenarios for both normal and exceptional situations, and evaluates the results of system-level tests.

As part of the creation of test plans, Protech develops a comprehensive test database to serve as the baseline information required to test the system fully. As the various levels of testing are executed, the data used to verify the viability of each aspect of the system is used to augment the test database. The system test plans are developed for NCSEAS during the application software system test phase. Part of the plan is to break the system test into cycles and test variants within cycles. Expected results are prepared for each test variant. Test variants are grouped into test scripts for execution.

Test Data Creation

Protech plans to use "real-world" data for testing to be able to age the data in the same way a production case might change characteristics. To maintain confidentiality, we scramble critical identifiers such as Social Security Numbers (SSNs) and dates of birth. We also enforce multiple layers of physical data safeguards, including confidentiality agreements, staff training, secure work sites, and use of shredders. This means that we must start data conversion sufficiently early to have a usable test database when developers are ready to begin unit testing. The data conversion team feeds data to the test environment. As the team executes iterations of cleansing and sanitizing converted legacy data and loading it into the NCSEAS data structure, the data become more reliable. The test data created from the NOMADS legacy data conversion processes is used to develop and test all aspects of NCSEAS including interfaces and business processes.

For performance testing, we recognize that it is difficult to generate sufficient data artificially before the real data is created, and the real data only builds up gradually during data conversion and then normal usage. Therefore, test data for performance testing is generated from the storage-area network (SAN) backup database and the data conversion database as needed, repeating load tests as the converted legacy data builds up, for example, at 25 percent, 50 percent, and 100 percent load.

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Defect Tracking and Resolution

Simply detecting issues and defects is not enough; it is critical that they be recorded, assigned for resolution, and retested after they are corrected. Our software development tools support very efficient generation, assignment, and tracking of issues and defects. Using realization connectors, issues and defects can also be linked to model elements that are responsible for them. Issue tracking is important on complex projects, especially projects with multiple state and federal requirements. This software test and defect tracking activity begins the moment a software discrepancy is detected and continues indefinitely across all iterations.

System Testing

Protech will conduct system testing to exercise the assembled system and confirm that it operates as expected including all system security and user profiles. System testing is performed when the software is functioning , or when well-defined subsets of its behavior are implemented and the software under test has successfully progressed through the formal unit and component integration test levels. System testing validates the functional and structural stability of the application or system, as well as nonfunctional requirements such as reliability, security, and interoperability. In this test level, testing is concerned with the behavior of the whole system, not with the workings of individual components. Tests may be based on risks, requirements specifications, business processes, use cases or other high-level descriptions of system behavior, and interactions with the operating system or system resources. Testing investigates both functional and nonfunctional requirements.

Functional test types addressed by system testing consist of the following:

- *System transactions*
- *System processes*
- *System functionality*
- *Business function*
- *Integrated functionality*
- *Application security*
- *Accessibility*

Non-functional test types addressed by system testing consist of the following:

- *Conversion*
- *Data integrity*
- *Legal and regulatory*
- *Compatibility*
- *Portability*
- *Privacy*
- *Application security, being sure that users are restricted to specific functions*
- *System security, being sure that only users granted access to the system can access applications through appropriate gateways*
- *Usability*
- *Infrastructure security*

Each NCSEAS release undergoes rigorous system testing. System tests are prepared and performed based on the approved requirements documents, the application architecture, and the application design as

specified by the development team. Tests are created to exercise the specific business functionality selected and approved by the State. This verifies that the functions perform as specified in the requirements documents and that the system as designed supports the client's business. System test cases are based on two types of scenarios: functions and roles.

Functional testing validates all the functionality associated with functional requirements and data flows using the application. Role-based testing verifies that access to the application and to menus, submenus, buttons, and icons is complete and correct for each defined role and that the process flow is complete and correct for each role. Authorization checks can be performed by entering invalid logon ID or unauthorized access codes to determine whether screens or windows perform as authorized. Test cases verify that specific access codes take the user to where (and only to where) access rules permit (screen level security).

When sufficient components have been developed to constitute a self-contained subsystem and the subsystem has completed component integration testing, the application can be released to system testing for black box testing, which verifies that all its business functions interact correctly with all other business functions. During this type of testing, the database is loaded with sample production data, which provides a foundation for static information as well as initial data for all solution processes.

4.28.2.2 Develop Software and Perform Unit Testing

REQUIREMENT:

11.2.2.6/4.28.2.2 The Implementation Contractor shall develop the software and perform unit testing in accordance with the approved Application Development Plan. The Implementation Contractor must maintain unit-testing results for quality assurance reviews by the Program.

Protech will develop the software modules and perform unit testing. We will maintain code review and unit test results for quality assurance (QA) reviews by the State. Unit testing will be performed on each unit of code to be sure that it functions as specified. Change control procedures will be adhered to address requested changes in design and implementation. Design, development, and testing staff will document the need for changes and the development manager will initiate the process for state review and next steps. Protech will develop and document development and testing guidelines. These guidelines will be approved by the state PMO before coding or development can begin. Protech will maintain a database of all reported problems, document the problems in an issues log, and confirm their successful resolution. We will provide the state direct access to the issues log database and project management repositories as required for the management of the phase.

Protech's approach is to build quality into the system development process using the V-Model approach to testing, which emphasizes the need for a testing focus from the earliest interactions through implementation. After implementing several development methodologies across multiple state projects, our experience has shown that this approach carries the least risk and brings results early in the development cycle.

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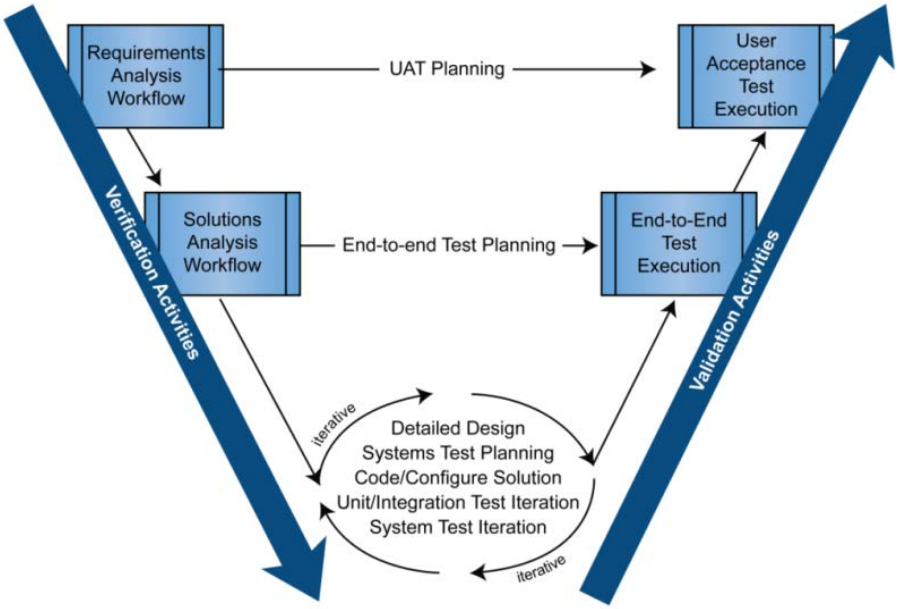

Figure 4.28-1. V-Model Approach to Testing

The Protech Team's testing approach is iterative and integrates development and testing activities

Our Development process is summarized by the following points:

- *Setting out coding, performance, and usage guidelines for the team*
- *Establishing a set of tools*
- *Performing the testing process (V-Model) (Described in detail in Appendix A – Testing Methodology)*
- *Providing dummy data for continues/separate development*
- *Having regular code reviews*
- *Setting code review mile stones*
- *Peer review*
- *Aggressive one-to-one review at the start of development*
- *Static Code Analysis in the middle of the development cycle*
- *Total review at first QA release*
- *One-to-one review after first production release*
- *Achieving continuous build integration*

Unit testing is the testing of individual software components (units). The objective of unit testing is to test the functionality of the code, which implements the functional requirements identified in the business scenario of high-level design (HLD) documents.

Using the Rational Tool Set, developers write unit tests for each documented NCSEAS requirement before starting development. These unit test cases are reviewed and approved by the software development/configuration lead.

- *Unit tests are conducted at the time of development and are performed by each developer on his or her code.*

- *Unit testing follows a self-correcting mechanism in that, if an error occurs, it must be corrected by the developer to commit the code. Unless all defects are fixed, the code cannot be completed and stored in a developed or completed status.*
- *All components are subject to unit testing. Unit testing is an internal Protech activity and the results are stored in the development tool set. Any quality assurance reviews required to validate the results can be achieved by accessing the repository.*

4.28.2.3 Development Responsibilities

A. Transfer, Install, and Customize NCSEAS Software Components
B. Coding New or Modified Program Modules
C. Create Unit Test Data and Test Environment
D. Design and Perform Unit Testing as requested for QA review
E. Report Unit Test Results
F. Integration, System and Acceptance Testing
G. Most Current Versions of Programming Languages and Computing Platforms

REQUIREMENT:

11.2.2.6/4.28.2.3 Implementation Contractor's development responsibilities include:

A. Transfer from California, install, and customize Nevada's NCSEAS software components according to the defined requirements;
B. Code all new or modified program modules according to the defined requirements;
C. Create unit test data and test environment;
D. Design and perform unit testing
E. Report unit test results as requested for QA review
F. Provide the new NCSEAS components ready for integration and system and acceptance testing
G. Ensure application uses most current versions of programming languages and computing platforms.

The baseline system for the development of the NCSEAS application is the California child support system. The transfer system will be installed in an environment to serve as a reference library for the business analysts and developers. Having the baseline system readily available for validation and transfer of application logic or design, is a prerequisite to achieve development efficiency. As we leverage the baseline system and minimize the changes, the productivity gains translate to schedule and cost improvements.

Protech's application development and management plan documents the mandatory and critical functions of the development lifecycle of the NCSEAS system. This plan will include standards, guidelines, help sections and responsibilities of each team member by role. The objective of the application development and management plan is to review, validate the requirements and design artifacts that were previously approved by the state. During the initiation of the software development phase, the development manager, technical manager and supporting technical members (DBA, configuration management lead) will outline the process and coordinate the entire phase with the help of the State project management team.

The plan includes detailed procedures that the development team follows when designing and developing the NCSEAS system, testing the system, creating training materials, and preparing for implementation of the system. The plan also indicates the roles, authorized approvers and leads on both the Protech and State teams to allow them to monitor, review and guide the team towards completing this important and critical milestone.

Development and Unit Testing

Protech understands and appreciates the effort required to finalize the system requirements – technical and functional – of the NCSEAS system. The development phase is critical from a project schedule perspective and it is critical that procedures, processes and configuration management are strictly adhered to and will be enforced all through the development phase. Additional details regarding our test planning, unit testing

and system testing can be found in the responses to the previous two sub-sections. The application development and management plan, at a high level is illustrated below.

High Level Application Development and Management Plan	
Major Tasks and Descriptions	Team
1. ***Review Deliverables by each functional area for requirements and design Documentation***	Development
2. ***Complete Programming and Development***	Development
3. ***Finish Code and Peer Reviews with defined checklists***	Development
4. ***Manage and Monitor Progress at team level with checklist***	Team Lead, Technical Architect, and DBA
5. ***Revise and update code based on findings and discrepancies***	Development
6. ***Review and Sign-off on Code Review Checklist(s)***	Team Lead, Technical Architect, and DBA
7. ***Complete Peer Review***	Development
8. ***Update Code from Peer Review Findings***	Development
9. ***Conduct Unit Testing and Complete Unit Test Document***	Development
10. ***Review Unit Test Document and review touch points and dependencies***	Functional Area Lead
11. ***Update Code Base based on QA results and findings***	Development
12. ***Update Unit Test Document***	Development Team
13. ***Review and Sign-off on Unit Test Document***	Team Lead and QA Lead

4.28.2.4 Module Inventory

REQUIREMENT:

11.2.2.6/4.28.2.4 The module inventory will, as a minimum, detail the modules that will be added, those that will need to be modified, and those that meet requirements without being modified. Modules must conform to system naming standards, and the deliverable must list each module and include a brief description of purpose.

Protech's module inventory is based on NCSEAS scope of work, spread across different functional areas pertaining to the child support and enforcement framework. Our initial analysis and mapping of the CCSAS code base would serve as a baseline for managing and revising the module inventory. All modules to be clearly earmarked as "No Change", "Modified", "New" and categorized by functional areas, utilities, one-time, on-line, batch, and reports.

All modules adhere to the programming standards guidelines and descriptions for each would be documented in the module inventory and handled with strict configuration management and revision updates. The modules are categorized and stored by functional area and business dependencies are clearly marked wherever applicable. All the modules will be managed and versioned using the Perforce tool, primarily to handle configuration management process and procedures.

4.28.2.5 Environments

REQUIREMENT:

11.2.2.6/4.28.2.5 The necessary environments for development, testing, and training will be created as part of the construction phase of the project. The deliverable will include procedures for the creation, maintenance and rebuilds of the environments, and describe controls to maintain the integrity of the data and detail the procedures to recover each environment.

In the hardware, software configuration plan, Protech will list all hardware and software outlined in the technical approach plan, along with the proposed procurement schedule for each item. We will coordinate and plan with the State to determine the procurement schedule based on the key milestones of the NCSEAS project schedule and define the procurement plans. The procurement schedule would allow ample time to handle the procurement cycles, delivery and installation to avoid schedule delays. Our procurement plan will align with the processes established by the state and our collaborative approach guarantees the best value and price for the state.

Hardware and Software

Environments that must support the development, testing, training, data conversion and production are set up prior to the initiation of each track of the Software Development Life Cycle (SDLC). Our configuration management plan and processes, outline the methods for component migration and to avoid version discrepancies between environments, our technical team deploys exact system configurations across the various environments. This approach reduces the risk of the system code working differently in various environments due to pieces of hardware, software, or certain other technology components, not being in place during development, testing, or training. It may be required that hardware, software, or other related components be purchased or made available in multiple environments to support this approach. Within the hardware, software configuration plan, our team documents in detail the needs of each environment as well as a hardware and software procurement plan that:

- *Provides details of the state's responsibility related to authorization, purchase, delivery, and installation of procured technology*
- *Identifies required maintenance arrangements*
- *Defines configuration requirements for procured technologies in all environments*
- *Establishes a procurement schedule to support the required procurement*
- *Establishes the required protocols for backup, recovery and management of historical versions.*

4.28.2.6 Unit Test Results

A. Conditions Tested Per Module
B. Problems and Corrections
C. Outstanding Defects
D. Defects' Impact

REQUIREMENT:

11.2.2.6/4.28.2.6 The unit test results will summarize the results of the unit testing. These results will also include, at a minimum:

A. The number of conditions tested per module
B. Problems encountered and corrections made
C. Any outstanding defects
D. An assessment of the defects' impact

These items are addressed above, please refer to Section 4.28.2.2.

4.28.3 Deliverables

4.28.3.1 Development, Modification and Conversion of System Software
4.28.3.2 Module Inventory
4.28.3.3 Development, Testing and Training Environments
4.28.3.4 Unit Test Results

The deliverables are by-products of each phase. Activities within each phase generate the required artifacts to build the documentation. The module inventory is captured initially during the system requirements and JAD sessions, maintained by configuration management processes until they are updated and maintained as part of the design and development phase. When the entire design phase is completed, a comprehensive list of all modules is generated and submitted as a deliverable for the state to review and catalog. This baseline list will undergo changes and additions as system test would uncover technical or functional issues that may require changes to the inventory. As the development milestone is completed, the unit test results of each individual unit are extracted and compiled as a unit test results document for state review. The unit test results completion is the entry criteria for integration and system test.

The technical environments required for development, testing and training will be built as specified in the technical plan. Our processes and procedures for environment build and maintenance are outlined in various subsections of the technical requirements. Deliverables number 4.28.3.1 through 4.28.3.4, Development, Modification and Conversion of System Software Code Deliverables will encompass all work products resulting from activities 4.28.2.1 through 4.28.2.6 as described in this section.

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VI-4.29 Legacy Data Conversion

4.29.1 Objective

REQUIREMENT:

11.2.2.6/4.29.1 The objective of this task is for the Implementation Contractor to plan and coordinate all conversion activities.

A successful data conversion starts with developing an effective plan of attack, preparing for success, and developing a strategy that will drive the design process.

Accurate and complete data conversion is critical for NCSEAS to address your requirements. Incomplete or incorrect data quickly cripples CSE systems. Incomplete case and person data can result in inefficient member matching and case creation, and increased duplicate cases. Incorrectly converted obligations can result in erroneous payment distribution and lost revenue because of misapplied payments, and can result in manual correction efforts. Incorrect public assistance history can cause the State of Nevada to miss its share of assigned arrears recovery, as payments are misapplied to unassigned support. Incorrect addresses can result in misdirected disbursements and other mailings, increasing CSEP's printing and postage costs.

Protech has experience converting CSE systems. Observation of the CSE systems over time gives Protech an in-depth view of the interaction of the CSE application with its data. The experience gained from the conversion of numerous CSE legacy applications, hands on participation in data clean-up activities, and long-term experience in operating and maintaining CSE systems provide a lower risk conversion approach for Protech.

One of the experiences gained through our numerous CSE system conversions is the critical nature of how legacy data is populated. A mere 'data mapping' exercise is not sufficient. It is critical to observe how end users are populating the data, how the legacy application manipulates that data, and how other sources of application interfaces and interactions with other entities may alter the data.

Protech will draw on its experience to assist CSEP in minimizing project risks through careful planning and ongoing monitoring of conversion efforts. Our suggested approach stresses data mapping and testing of conversion routines, and mock conversions prior to actual system implementation. Our recommended processes for manual data conversion apply the same verifications used in the automated conversion to safeguard the integrity of converted data.

4.29.2 Activities

4.29.2.1 Plan and Coordinate all Conversion Activities

REQUIREMENT:

11.2.2.6/4.29.2.1 The Implementation Contractor must plan and coordinate all conversion activities, including all data currently in the DB2 database to include base, transactional, accounting, and reporting tables as well as all documents stored in the FileNet repository. The Implementation Contractor must work closely with the Program to formulate data conversion algorithms and develop a detailed data conversion plan to convert the existing computerized data from all legacy systems and subsystems.

Based on the Protech Team's conversion experience, we will come prepared with an appreciation of the challenges related to mission-critical statewide system conversions and appropriate strategies for addressing them. We tailor conversion tasks to NCSEAS requirements and include the checkpoints, verification, and testing required to help safeguard data integrity. We will assist The State of Nevada's staff at each step of the process to gather information and verify results.

The Protech Team will develop a detailed plan that addresses:

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- *Analyzing data*
- *Cleansing data with the State's support*
- *Managing data extraction from legacy system*
- *Mapping data between legacy and new system repositories with the State's support*
    - *Legacy data may include data from sub-systems, flat files from a repository, interface agencies, FileNet, etc.*
- *Transforming data*
- *Loading data into NCSEAS*
- *Conducting multiple iterations of data conversion and testing*
- *Completion of data conversion and migration activities*

4.29.2.2 Analyze the Conversion Impact

REQUIREMENT:

11.2.2.6/4.29.2.2 The Implementation Contractor must analyze the impact the conversion will have on the existing State system infrastructure, and must include appropriate remediation in their recommendations and plans.

Based on our prior conversion experience, we are cognizant of the potential impact of conversion from a legacy system to a target system. We understand the importance of the system infrastructure to support data conversion of a large-scale application like NCSEAS. The three areas of infrastructure that is most critical in conversion are:

1. Network Bandwidth: Conversion requires a direct connection between the source NOMADS mainframe environment and the target NCSEAS environment. Since the volume of data that is transferred between the two systems is large, there is a potential for bottlenecks in the network. This will be monitored during each iteration of conversion and a detailed plan on network bandwidth sizing will be provided to remediate the situation

2. Server Utilization: The extraction and loading process of the source data to the target NCSEAS system is server intensive. This has the potential to increase the CPU usage. Every extraction process will include careful monitoring of the CPU overheads and an appropriate recommendation will be provided to add CPUs to support a conversion activity.

3. Support Resources: We realize that conversion of large scale system like NCSEAS needs the support of State technical staffs to monitor and assist the end-to-end conversion process. The number of support staffs required including their roles and responsibilities will be carefully planned during the analysis phase of the data conversion process.

4.29.2.3 Develop and Test Data Conversion and Cleanup Software

REQUIREMENT:

11.2.2.6/4.29.2.3 The Implementation Contractor must develop and test the data conversion and cleanup software. The State will also test the data conversion and cleanup software.

Our proposed data verification and clean-up approach relies on both automated and manual approaches. We will leverage data cleansing tools for data standardization and to resolve conflicts. The tool cleans up standard data such as names, addresses and phone numbers, but leaves specific transactional data records for manual evaluation.

For the remaining conflicts, we will produce reports to identify case or client records that are probable duplicates, based on criteria provided by CSEP staff. The Protech Team's conversion methodology is collaborative and interactive in comparison to more traditional approaches. We do not simply hand the State a stack of data conversion reports to resolve. Instead, we provide these on online, actionable reports to

review each error, identifying the potential cause, suggesting actions that may correct the error, and categorizing errors such as mapping changes, derivation changes, informational, or data cleanup. Hierarchies of sources will assist in resolving data conflicts.

4.29.2.4 Required Manual Data Conversion Efforts

REQUIREMENT:

11.2.2.6/4.29.2.4 The Implementation Contractor will be responsible for any required manual data conversion efforts, although automated methods must be used unless otherwise agreed upon by the Program. Manual efforts are defined as single record efforts. Automated efforts are defined as the processing of groups of records.

We will work with the State on any manual conversion efforts by identifying the requirements, assessing the manual conversion effort and presenting a detailed, time bound plan for such conversion. These include documents such as imaged data and manual case files.

4.29.2.5 Functional and Technical Design for The Conversion Software

REQUIREMENT:

11.2.2.6/4.29.2.5 The Implementation Contractor is responsible for developing a functional and technical design for the conversion software, designing and developing the overall conversion plan, including the manual conversion, developing and testing the conversion software, coordinating all conversion activities, developing the control processes to manage any manual conversion efforts, and supporting the Program's manual conversion as necessary.

The large scope and scale of the NCSEAS project requires a well-planned conversion approach and effort. The data conversion plan will specify the standards and the methodology for extracting data, deriving or otherwise obtain missing or incomplete data. The conversion process encompasses data analysis, mapping, and data cleansing and loading into the target database, commonly referred as ETL (Extraction, Transformation and Loading). The processes outlined in the plan will be used to perform analysis of NCSEAS data, provide exception reports for automated and manual cleansing, mapping source data elements to target data elements during the mock conversions and regional conversions.

4.29.2.6 Converted Data Available for Development, System Test, and Acceptance Test

REQUIREMENT:

11.2.2.6/4.29.2.6 Sufficient converted data must be available for development, system test, and acceptance test.

Very early in the system development life cycle, the conversion team will begin extracting the full volume production data, monthly, and load into a database to uncover data and functional integrity issues. As part of this exercise, the conversion team will attempt to convert the NOMADS production data into the donor system tables. This process will continue with successive conversions to iteratively optimize and enhance the data conversion process in preparation for mock implementation and ultimately, production conversion. NOMADS data will be moved to a staging database for analysis and mapping review. Functional and data issues will be reviewed in this staging environment.

4.29.2.7 Integration with a Phased Rollout

REQUIREMENT:

11.2.2.6/4.29.2.7 Data conversion must be integrated with the phased rollout that is planned for the NCSEAS. Conversion processes and programs must support conversion cohorts that align with the rollout strategies (e.g., office, county, and / or district), as well as account for just-in-time conversion both "in" and "out" to facilitate transmission of cases across converted-system / legacy-system boundaries.

Nevada has opted for a phased rollout using a pilot office followed by 3 regions. The approach to select cases for pilot rollout is by identifying the cases and associated participants (NCP, CST, and Dependents) that belong to the offices, which are part of the pilot region. The cases managed by offices within the pilot region are eligible for pilot conversion. However, some cases or participants may not be included in the pilot conversion based on certain inclusion and exclusion criteria.

Inclusion Criteria:

- *If a participant in the pilot region is associated to a single case, then the case and participant is included for data conversion.*
- *If a participant in the pilot region is associated to multiple cases and all associated cases of that participant are owned by the pilot region, then the participant and associated cases are included for data conversion.*

Exclusion Criteria:

- *If a participant in the pilot region is associated to multiple cases and one or more cases of that participant is owned by a non-pilot region, then the participant and all associated cases are excluded from the data conversion.*

Cases that are not selected and excluded from conversion remain in the source system, and the existing case owners already assigned to that specific case manage those cases in the source system. However, the State may choose an alternative approach for reassigning the non-converted case to a specific set of case managers to minimize duplicating casework.

Figure 5.28-1 below is a schematic representation of the case selection algorithm to determine the cases to convert for the pilot region rollout.

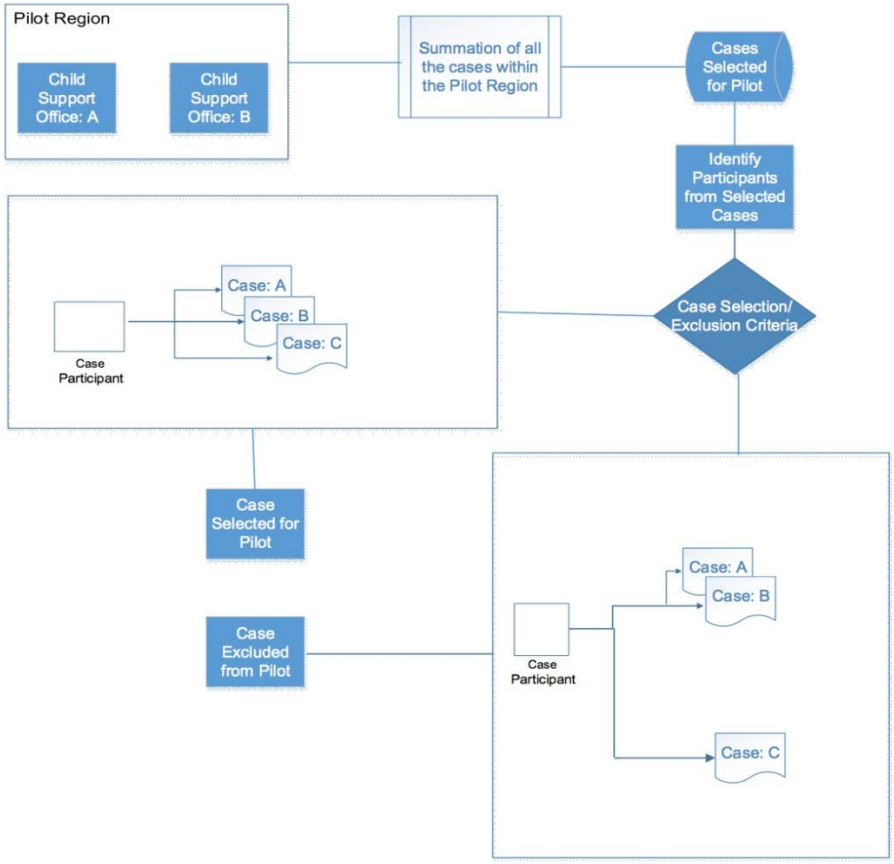

Figure 4.29-1. Case Selection Algorithm for Pilot Region Rollout

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4.29.2.8 Conversion Responsibilities

A. Develop a Comprehensive Conversion Plan

REQUIREMENT:

11.2.2.6/4.29.2.8 Implementation Contractor's conversion responsibilities include:

A. Develop a comprehensive conversion plan, which must include but not be limited to:
   1. Determine and document the expected conversion impact on existing State infrastructure, including mainframe and servers.
   2. Develop and implement a remediation plan (including the acquisition, installation or implementation of associated hardware and software) to address any adverse impacts the conversion may create for the existing infrastructure. The estimated costs of such remediation software / hardware must be included in the Proposer's cost proposal.
   3. Create, maintain, and update documentation associated with the conversion.
   4. Develop Data Conversion specification documents for users and support staff.
   5. Develop Data Conversion schedule.
   6. Develop Data Conversion programs.
   7. Develop Data Conversion materials
   8. Develop Data Conversion test plan

Conversion impact and the remediation plan are both addressed above in section 4.29.2.2.

Protech's conversion plan includes creating, maintaining and updating documentation as well as developing a data conversion test plan.

Protech will create a data conversion specification document detailing the database and field level mapping between legacy data sources and NCSEAS database fields. Part of our methodology is, before any coding or testing occurs, to create a detailed design of the conversion programs that lists each database element from the legacy system that is mapped to the database element of the new system, in this case NCSEAS. This will give everyone a clear understanding of the data transformation rules. Data mapping reports detailing the table and element mappings that have been agree upon by the State and the Protech Team. Data mapping reports are provided to the State during the mapping sessions and throughout the conversion process to facilitate the communication. Protech provides reports to the State for their review and approval for the mapping updates. Documentation regarding unconverted tables and/or fields from the legacy system will be provided to the State for their review. Protech will work with the State to resolve these issues.

For each release of NCSEAS, the data conversion plan will describe the schedule and strategy for each conversion, including the mock conversions. This plan will address the conversions needed for user acceptance testing and pilots.

B. Conduct Mock Conversion(s)

REQUIREMENT:

11.2.2.6/4.29.2.8 - B Conduct mock conversion(s)

Mock Conversion is a process to execute conversion jobs in a production-like environment after the entire set of jobs are completed, tested, and validated in a test environment. The objective is to mimic or reflect the steps that occur during actual production conversion execution.

After preparing the mock conversion environment and verifying access for readiness, Protech will execute the mock conversion. We plan to conduct a minimum of two mock executions approximately 4 weeks before the pilot rollout and one mock execution before each regional rollout. The goal of the first mock executions is to mimic the sequence of executions carried out during the production execution and identify errors related to data and environment. After the identified issues are fixed, the second mock execution focuses on performance of the overall conversion execution processes. The next set of three mock conversions is executed before each consecutive regional rollout. These mock conversions are focused on identifying data

errors related to each regional rollout and assist with fine-tuning the performance of the conversion programs.
Once the execution is complete, both Protech and the State will review the results. Protech also validates the results using data quality reports.

C. Duplicate Cases and Clients Reports, Error Reports, and Conversion Efficiency Reports

REQUIREMENT:

11.2.2.6/4.29.2.8 - C Produce reports of likely duplicate cases and clients, error reports, and conversion efficiency reports for all conversion processes performed.

Protech's plan includes the usage of reports all along the conversion process.

The conversion team provides the reports to the State staff, and works with them to resolve any data fallout issues.

The errors that arise from the conversion of each region during the post-implementation phase would be documented by the conversion team. A walkthrough of these errors will be conducted with the State Staff and any possible mitigation strategy would be developed to prevent such errors in recurring during the conversion of the subsequent regions. These lessons learned will ensure that the conversion process is continually improved for each region-specific conversion.

The Conversion team works with the State staff to prioritize data cleanup activities. When prioritizing manual data cleanup activities, consideration is given to each issue based on several priorities:

- *Data exceptions impacting distribution and disbursement of funds*
- *Data exceptions impacting the case arrears*
- *Data exceptions impacting communications with the client*
- *Data exceptions impacting the case construct*

Since cleanup of financial data is particularly critical, the conversion team will produce the report that specifically lists financial records and balances that are in exception within the conversion. This report displays information about error accounts in the target system format (rather than the source system format).

D. Develop and Run Legacy System Downloads

REQUIREMENT:

11.2.2.6/4.29.2.8 - D Develop and run legacy system downloads to feed to the data conversion software.

The source data is extracted from the source system on a periodic basis using the agreed upon format to perform the conversion development activities. Protect will work with the DBAs to verify the extracted data before transferring to the staging area. Protech uses data quality analysis reports and queries to verify the data extract received from the extract to confirm the format and content of source data.

Protech provides feedback to the State based on the analysis on the source data extract so the DBAs can modify the extraction routines as needed. The State extracts the source data and the extraction process iteratively every two months. The data extracts are a critical step within the conversion process and used iteratively within the data cleanup phase.

E. Develop and Test the data Conversion Software

REQUIREMENT:

11.2.2.6/4.29.2.8 - E Develop and test the data conversion software

The conversion design includes the data mapping used to develop and test the scripts and custom conversion programs. Protech creates routines for conversion. Conversion routines can be grouped by sub-system or dependent tables. During testing we can test them as individual routines and as a group of dependent routines. Testing will be done for data validity as well as performance.

F. Develop and Test the data Conversion Software

REQUIREMENT:

11.2.2.6/4.29.2.8 - F Develop and test automated data cleanup software

This requirement is addressed in detail within section 4.29.2.3.

G. Run data Conversion Software for Unit Test, System Test, Acceptance Test, and Implementation

REQUIREMENT:

11.2.2.6/4.29.2.8 - G Run data conversion software for unit test, system test, acceptance test, and implementation

The goal of conversion testing is to ensure the completeness, accuracy, and usability of the data once migrated to the new system. The roles and responsibilities of the individuals and teams associated with conversion testing tasks are included in our plan.

The conversion test phase activities are:

- *Prepare an environment for testing conversion routines.*
- *Prepare test scripts.*
- *Execute conversion ETL jobs and custom programs.*
- *Load converted data in the test environment to support system test activities.*
- *Review and validate the results.*

Conversion testing is an integral part of the overall application testing and data from the source system used in test scenarios within the target system for verifying conformance and compatibility. The preparation timelines for conversion test scripts aligns with system test preparation to facilitate communication and coordination between test teams for comprehensive testing. The conversion test phase facilitates end-to-end testing using converted data to mimic business scenarios and verify source data ease of usage in the target system.

H. NOMADS System Source Data Fields

REQUIREMENT:

11.2.2.6/4.29.2.8 - H Determine, with Program assistance, the legacy Nevada Operations of Multi-Automated Data Systems (NOMADS) system source data fields, and the NCSEAS target data fields for all legacy system data elements

This requirement is addressed in detail within section 5.28.2.9.

I. Identify "Missing" Data

REQUIREMENT:

11.2.2.6/4.28.2.8 - I Identify "missing" data (i.e., data needed by the NCSEAS but unavailable from existing systems)

We generate reports, including conversion bridge software, to run details and statistics, as well as a listing of each edit that failed within the current iteration. This detailed information identifies specific data items such as case and participant data that must be corrected in NOMADS prior to cutover. The Protech Team and the State use these detailed screens and reports to identify data cleanup during the iterative data cleansing process. The information generated by the tool includes:

- *Summary statistics identifying the number of records processed and acceptance percentages for the functional groups that are measured.*

- *Detailed error files, identifying each edit error or warning that was encountered by the conversion bridge software. These error files identify each record that encountered an error and are used for the detailed error reporting available online.*
- *Wherever possible, a sampling of raw data that violates each of the edits or validations that produced an error or warning messages is provided. These data files allow staff to review actual data that caused each error or warning to occur.*

J. Procedures for Handling Missing Data, Data Exceptions, and Default Values

REQUIREMENT:

11.2.2.6/4.29.2.8 - J Recommend procedures for handling missing data, data exceptions, and default values.

The Protech Team identifies reasons why acceptance percentages have changed and where more focus is needed to increase acceptance percentages. We review the results of conversion bridge software runs with the State, allowing the State to monitor progress over time, and work with the State to determine corrective action for rejected data. Corrective actions may call for correcting/modifying data maps, correcting/modifying data derivation programs, or simply cleansing data in the legacy application. The Protech Team will work with the State staff to prioritize and resolve cleanup issues.

K. Perform Manual Data Cleanup
L. Perform any Manual Data Entry
M. Perform Manual Client Merges

REQUIREMENT:

11.2.2.6/4.29.2.8

K. Perform manual data cleanup.
L. Perform any manual data entry.
M. Perform manual client merges.

One of the biggest challenges to any data conversion effort is handling problem data in the legacy system. Legacy systems have typically been in place for significant periods of time, and data formats, code sets, etc. change over time. This invariably leads to challenges in converting this data over to the new system. Unplanned code set values, data type changes and orphaned records are just a few of the many data issues the typical conversion effort will face. Data issues will be identified throughout the data conversion effort.

The goal of the data cleanup activity is to increase the percentage of cases converted using the conversion tools and reduce the amount of data manually entered following cutover. It ensures the system has the required data to function efficiently right from the Go-Live day. An iterative data cleanup approach is required to achieve these goals. Our approach is based on experience and leading industry practices.

By using an iterative data cleansing process, the State staff and the Protech Team can determine the quality of data early in the conversion process. The goal of this step is to increase the percentage of data that can be converted using automated tools, thereby reducing the number of records that must be converted manually during each phased cutover to NCSEAS.

This process provides the State and Protech insight into known data quality issues as early as the requirements/design phase, and allows the teams to begin data cleanup executions as early as the development phase. Protech will work with the State and set up a team to develop an approach, process and plan for any data that must be manually corrected. Protech has a tool to find duplicate records and cases that may need a merge. The tool will be used to help evaluate the shape of the source data.

The iterative data cleansing process used by the Protech Team involves multiple steps. The process is run for several months per phase and includes the following steps:

- *Extract data from source system*
- *Execute data derivation programs to format legacy data for conversion bridge*
- *Run the conversion bridge process to identify rejected data*
- *Load and use the DCT to report rejects to the State*
- *Identify and correct data exceptions, which may call for correcting/modifying data maps, correcting/modifying data derivation programs, or cleansing data in the legacy systems*
- *Complete remediation steps and repeat process*

N. Combining Multiple Client Records

REQUIREMENT:

11.2.2.6/4.29.2.8 - N Recommend the method to combine multiple client records into one record.

The Protech Team anticipates the need to merge multiple duplicate records found in the legacy NOMADS systems to a single target record. This type of duplicate record merging has been accommodated by the Protech Team in previous conversion efforts; when possible, this merging process is automated.

O. Develop Data Conversion Verification Results

REQUIREMENT:

11.2.2.6/4.28.2.8 - O Develop data conversion verification results.

The most important aspect of data quality in data conversion is ensuring completeness with accurate data converted from source system to the target system. This section defines an approach on how to plan, design, and implement data quality checks and reconciliations before and after data conversion for each rollout.

There are two aspects to validating the correctness of converted data. They are:

- *Validate whether data extracted is converted in its entirety and is accounted for*
- *Validate the correctness of data to ensure business integrity*

The data quality approach starts during the strategy and planning phase and finalized during subsequent phases.

Case, participant, and other key business data-entity elements are identified during the Strategy and Planning phase for use as validation criteria. An initial validation occurs using the data criterion to ensure record sets extracted from the source system and received in the staging area are accurate. A second level of validation takes place to get record counts and business entity counts in the target system after conversion and reconcile with the count of records extracted from the source system. For example, the case counts from the extract region, the staging region, and final target region should all be equal. Protech analyzes why a case or a data set did not convert and corrects the error condition.

The validation criteria are further vetted through the design phase and appropriate scripts are developed during the development phase. Both Protech and the State develop the validation scripts. These scripts are used in the development phase to validate the data extracted, transformed and loaded in target development region. The results of the validation scripts are used to identify issues and fix them in the development and test phases. The validation results also allow for the continuous refinement of the validation scripts.

The validation scripts are used in conversion testing, mock, and production execution phase.

4.29.2.9 Conversion and Testing Plan

A. Data Elements to be Converted to the NCSEAS

REQUIREMENT:

11.2.2.6/4.29.2.9 - A The conversion and testing plan will detail which data elements from NOMADS and any ancillary systems the Program will convert to the NCSEAS. The plan also needs to map the identifying codes for a data element within NOMADS to the corresponding identifying codes for a data element within the NCSEAS. The plan then needs to determine which cases in NOMADS the Program should convert to the NCSEAS and what the initial statuses of these cases should be.

Protech uses the source system's data dictionary, information on data elements provided during the source data sessions, and additional input from agency Business Analysts (BAs) and Subject Matter Experts (SMEs) to identify source data entities and key attributes required to convert from the source system to the target system. The attributes of the source data elements used for Conversion Design include:

- *Data type*
- *Enumeration of the code type values*
- *Optional and not null attributes*
- *Key business rule(s)*

The source data is primarily stored in a DB2 database residing in NOMADS. Additional data is stored on the VSAM files. The conversion team analyzes additional data sources including Agency ad hoc data stores. Protech works with SMEs to gain a better understanding of the ad hoc data stores and finalizes the list of data sources during this phase.

The current implementation approach is to implement the new system using a pilot rollout followed by three regional rollouts. The migration strategy to convert data to support the implementation rollout approach is discussed during the strategy and planning phase. This includes the criteria for selecting the cases pertaining to each rollout and the approach to synchronize data between the source system and target system until statewide rollout is complete.

With the source data elements identified, the next step is the identification of the target system data entities to be converted using the target data model. Protech and CSEP will discuss and finalize the data that need to be converted as well as the data that needs to be excluded from conversion during the strategy and planning phase. Data that is obsolete and not required for functioning of the target system, redundant data that is normalized in the target data model, and data that must be archived for reference purposes are examples of criteria that will result in data that is excluded from conversion to the target system. The data not converted but required for future reference is stored in a separate area in the target system in a read only format and available for retrieval using querying tools.

B. Schedule for Conversion and Criteria for System Conversion Readiness

REQUIREMENT:

11.2.2.6/4.29.2.9 - B The plan needs to set forth a schedule for the conversion and establish the criteria for system conversion readiness. Finally, the plan needs to establish the testing criteria to determine whether the data elements converted successfully for a given case and whether all cases that the Program intended to convert were converted to the correct case status.

Protech's comprehensive conversion plan will include a schedule for the conversion. Prior to a regional/pilot rollout, there are several steps taken to ensure the data conversion is complete for rollout and key readiness metrics identified and evaluated. The key readiness metrics will primarily check the equivalence of:

- ✓ Case status and case types between the two systems
- ✓ Participant welfare status between the two systems
- ✓ Arrear updates, distribution and outgoing checks – if there are differences they should be fully understood and agreed upon, for customer service purposes
- ✓ Arrears and Current Monthly Obligation (CMO) between the two systems

- Welfare information between the two systems
- Charging of arrears and (CMO) calculation equivalence
- Locate information
- Refer to enforcement and counts of potential alerts in NCSEAS vs. NOMADS
- Documents to be generated
- Cases eligible for enforcement in NOMADS and NCSEAS
- Participants, Employers, Cases, Caseworkers, verified addresses, verified employers
- Codes and values, system messages should be comparable in both systems

Conversion validation testing encompasses the validation of all current system data converted to the new system and compared with the mainframe data to ensure integrity of conversion. Based on data mapping rules identified during conversion design, functional, and technical design of the migrated modules, conversion validation testing is conducted through automated batch scripts and validation on the enhanced NCSEAS system screens.

4.29.2.10 Conversion and Testing Report

REQUIREMENT:

11.2.2.6/4.29.2.10 The conversion and testing report will detail the tasks accomplished in preparation for the conversion and testing and will document the state of readiness for data to be converted. Acceptance of this deliverable is necessary for conversion efforts to proceed.

The conversion summary statistics is an important factor in measuring implementation readiness. To measure readiness, the conversion team and the implementation team work with the State to report progress, and provide feedback on data cleanup activities. The results of this periodic assessment along with the conversion statistics provided by the conversion team are inputs into the readiness assessments. Cleanup activities are closely monitored by using the task list. The development of strategies to resolve data exceptions, as well as the actual resolution of these issues is measured as a readiness metric.

4.29.3 Deliverables

4.29.3.1 Data Conversion
4.29.3.2 Conversion and Testing Plan
4.29.3.3 Conversion and Testing Report

Protech plans to submit these deliverables as part of the data conversion effort and follow the deliverables guidelines and criteria for review, feedback and approval.

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VI-4.30 Testing and Accepting New System

The Protech Team proposes a comprehensive, results-driven testing methodology and plan for the State of Nevada. Our approach to developing the integration, system and performance test plans is detailed in the attached Appendix A, Section 1.1.2.

4.30.1 Objective

REQUIREMENT:

11.2.2.6/4.30.1 There will be many forms of testing to establish that the Implementation Contractor adequately scrutinized components for deficiencies and inconsistencies. Each form of testing (e.g., system testing, integration testing, "smoke" and regression testing, performance (load) testing, and user acceptance testing) will require test plans. The test plans will address all requirements. The test reports will serve to confirm the adequacy of the software's functionality.

The Protech Team employs a multi-faceted testing methodology that takes full advantage of an iterative development lifecycle. Our testing methodology focuses on verifying how the system conforms to user requirements and functions in a consistent, acceptable, and correct manner. Our philosophy is to perform iterative testing – that is to test early and often throughout the life cycle to ensure a high-quality application and reduce overall development time and costs. The Protech Team will develop quality test plans that will define phases and tasks thus ensuring that NCSEAS will meet all Federal Certification Requirements and incorporate Nevada specific requirements. Test reports will provide the State and Protech the opportunity to manage each phase and to validate that the software solution meets all functionality standards and requirements by adhering to the defined specifications.

4.30.2 Activities

4.30.2.1 Integration, System, and Performance Testing

REQUIREMENT:

11.2.2.6/4.30.2.1 The Implementation Contractor must plan and coordinate all conversion activities, including all data currently in the DB2 database to include base, transactional, accounting, and reporting tables as well as all documents stored in the FileNet repository. The Implementation Contractor must work closely with the Program to formulate data conversion algorithms and develop a detailed data conversion plan to convert the existing computerized data from all legacy systems and subsystems.

As mentioned in section 5.18, and detailed in Appendix A Section 1.1, Protech's approach is to build quality into the system development process using the V-Model approach to testing, which emphasizes the need for a testing focus from the earliest interactions through implementation.

Conversion testing is an integral part of the overall application testing. Data from the source system is used in test scenarios within the target system for verifying conformance and compatibility. The preparation timelines for conversion test scripts aligns with integration and system test preparation to facilitate communication and coordination between test teams for comprehensive testing. The integration and system test phase facilitates end-to-end testing using converted data to mimic business scenarios and verify source data ease of usage in the target system. The converted data in the integration and system test environments is used to ensure the completeness, accuracy, and usability of the data once migrated to the new system.

The test phase activities include:

- *Prepare an environment for testing.*
- *Prepare test scripts.*
- *Prepare ETL jobs and custom programs to execute in the conversion environment.*
- *Load converted data in the test environment to support integration and system test activities.*
- *Review and validate the results.*

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A. Testing Activities During Project Planning Phase

REQUIREMENT:

11.2.2.6/4.30.2.1 - A During the planning phase of the project, the Implementation Contractor shall prepare test plans to address integration, system, and performance testing. After software development and unit testing, each component of the system must undergo integration and system testing according to the approved testing plans.

The first testing related task of the planning phase is to create the integration, system, and performance test plans. These plans will be developed in collaboration with State staff. The approved plans will then serve as our guide for the total testing effort in that specific phase of the project. Each plan will define the scope of the testing activities and describe the goals and objectives for each phase of testing. The Protech Team will also prepare and apply quality assurance plan that incorporates all aspects of our testing quality management approach.

The Protech Team understands that after software development and unit testing, each component of the system will undergo rigorous integration and system testing. Through our extensive CSE system testing experience, our team members will be very methodical in their approach to testing execution. Protech will ensure that all testing activities will be initiated in accordance with the approved testing plans.

B. Execution of Test Plans, Identification/Correct Software Defects, and Document System's Functionality

REQUIREMENT:

11.2.2.6/4.30.2.1 - B The integration testing addresses the coordination of all system functions to achieve functional objectives. System testing addresses the coordination of all system capabilities for full functionality and adherence to performance standards. The Implementation Contractor must provide for the execution of the test plans, identify and correct software defects, and document the system's full functionality.

Protech's integration testing approach addresses the coordination of all system functions and capabilities to achieve a functionally cohesive, coordinated process with the execution of multiple modules and components. These tests will validate the integration between the individual unit application components and verify that the new system meets defined requirements and supports execution of interfaces and business processes. There will be a dedicated test environment configured with the full CSE system requirements and the migrated modules which are ready for testing.

The objective of this phase is to verify each system component functions as designed through integration testing, followed by system testing, with the focus being the coordination of all system capabilities to ensure full functionality and adherence to performance standards. Our testing methodology focuses on verifying the system conforms to user requirements and functions in a consistent, acceptable, and correct manner. All testing will strictly follow Protech's methodology as defined in our comprehensive test plans and as approved by the State.

Through our methodology, the Protech Team proactively corrects defects early on, when it is less costly and lowers the potential downstream risks to the project. Defects may include issues or concerns with the requirements and documented design, as well as system faults. Protech will manage the defect process using the Bugzilla defect management tool, which allows staff to identify defects, assign a severity level and follow the defect resolution process from the beginning to end, through precise documentation. Protech understands the need to initiate this process thus ensuring there has not been any type of omission in the defect resolution process.

Our system development process includes comprehensive system and detail design documents covering the system's full functionality, user manuals, and training documents.

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C. Integration, System, and Performance Testing Each System Module

REQUIREMENT:

11.2.2.6/4.30.2.1 - C Each system module must be subject to integration, system, and performance testing. One or more test environments must be established, configured with the full NCSEAS, and prepared with test data converted from the legacy systems and interfaces functional to the extent practicable or simulated. The Implementation Contractor must prepare and conduct a performance test plan employing system and network monitoring software and system load simulation software. The applicable test plan must include the use of full-size databases, increasing numbers of users, and increasing activity levels. The system test will continue until performance measures are met under full operational conditions. System integration and performance testing plans, test cases, test scripts, and test results must be documented and maintained for the Program, the QA contractor and for IV&V review and audit.

Our process for integration, system, and performance testing relies on carefully documented and executed test scripts. Protech will provide the State with the results of these tests, and a migrated environment for the State to review and test these scripts using State staff. Protech will provide a testing environment which will provide the State with an executional plan that validates the NCSEAS system adherence with State unique business specifications and provides the required functionality.

All test environments for integration, system and performance testing will be established as we work with the State's technical teams to define and agree upon the configuration management plan. Our team will establish the technical environment for the project. The test environments, where applicable, will consist of multiple copies of the database to support concurrent and independent testing of each module, as well as end-to-end testing of the completed applications. The test environment is configured in accordance with the child support enforcement system and prepared with test data converted from the legacy applications. In addition, it simulates the required interfaces to the extent that is practical and agreed upon with the State.

The performance test environment mirrors production in terms of processor speed and data capacity. Full-sized caseloads are loaded into the environment for application and full conversion cycles. Performance testing will begin after completion of integration and system testing. IBM Rational Performance Tester is an automated performance and load-testing product which can emulate hundreds or thousands of concurrent users to put the application through the rigors of real-life user loads. The Protech Test Team will use IBM Rational Performance Tester to identify performance bottlenecks and remediate before the new system is deployed in production. The performance load test will be conducted to validate the response time of the screen functionality and the scalability of the application for heavy user load based on Performance Tester output.

The system and performance test plans, environment and supporting automated tools, test scripts, and test results will be documented and maintained for the State; QA contractor; IV&V review and audit staff.

D. Testing all Interfaces Between New and all Other Systems

REQUIREMENT:

11.2.2.6/4.30.2.1 - D This task shall include a complete testing of all interfaces between the new system and all other systems to which the new system will interface to fully achieve all functional and technical objectives. The project plan and all test plans must fully incorporate this requirement.

Our team will validate the integration between the individual unit application components and verify that the new system meets defined requirements and supports execution of all interface processes. A full requirements traceability test will be performed to validate that business processes work as expected, including those processes that interact with external interfaces and legacy components. Our team will also test all relevant interfaces between the new system and all other systems to which the new system interfaces to fully achieve all functional and technical objectives.

Since the system migration is accomplished in a phased manner, each appropriate test plan will include specific interface relationships. Thus, interfaces which correspond to and/or are affected by the module that was migrated will be fully tested and validated for all operational elements.

E. Integration, System, and Performance Testing Responsibilities

REQUIREMENT:

11.2.2.6/4.30.2.1 - E Implementation Contractor's integration, system, and performance testing responsibilities include, as a minimum, the following:

1. Prepare Integration Testing Plan
2. Prepare System Testing Plan
3. Prepare Performance Testing Plan
4. Establish the Applicable Test Environments
5. Configure the system to the most current production version of all underlying software, tools, and databases, unless the State agrees to an exception
6. Configure the system to the most current production version of all enabling interfaces to other supporting systems, unless the State agrees to an exception
7. Develop Applicable Test Cases
8. Create and Load Test Case Data
9. Conduct integration and system tests (If appropriate, individual system modules can be tested as readied. The compatibility of all modules for the entire system must be tested when all modules have been completed.)
10. Correct problems, repeating testing until expected results are obtained
11. Conduct Performance Testing
12. Identify/correct problems, repeating performance testing
13. Prepare integration, system and performance test result reports

Protech's testing methodology addresses the thirteen areas of responsibility for executing integration, system, and performance testing as described in Requirement 11.2.2.6/4.29.2.1. This proven testing methodology is based on industry standards, and infused with practical experience in the design and implementation of large scale systems akin to NCSEAS.

For a detailed description of how each of these thirteen areas is addressed in Protech's methodology for testing responsibilities, please see the attached Appendix A, Section 1.1.4.

4.30.2.2 Acceptance Testing

A. Acceptance Test Cycle

REQUIREMENT:

11.2.2.6/4.30.2.2 - A The NCSEAS must undergo an acceptance test cycle. All functional aspects of the system, including workflow components, shall be tested pursuant to an acceptance test plan developed by the Testing Manager. The Implementation Contractor must establish an acceptance testing environment that uses or is equivalent to, the production environment.

The Protech Team's approach to User Acceptance Testing (UAT) is to work with the State's stakeholders to develop an acceptance test process that demonstrates that the system is fully functional, ready for production, and compliant with federal certification requirements.

UAT is the State's opportunity to plan and execute tests that validate the NCSEAS for compliance with the State's business requirements and federal child support enforcement system standards. As with system testing, UAT involves the design of tests to mirror real world business processes, including workflow components, and then actually executing such tests on actual production data. The Protech Team will work with the State in establishing a UAT environment for conducting verification tests and facilitate optional, selective review and verification of test scripts by State personnel.

B. Acceptance Test Team

REQUIREMENT:

11.2.2.6/4.30.2.2 - B An acceptance test team — composed of Program management and users – will perform the acceptance test. The acceptance test will evaluate the NCSEAS as an integrated whole. The acceptance test will include all activities that will take place during the actual implementation.

The Protech management team will work with the State project manager to identify team members who will be performing all UAT functions. The UAT process instills confidence and helps build consensus among users that the system is working as designed and the design facilitates desired productivity improvements. Our focus will be on helping the State achieve an environment that provides for an independent verification that the system is ready for operation and training and other processes are working correctly.

C. Acceptance Testing Will Verify the Following:

REQUIREMENT:

11.2.2.6/4.30.2.2 – C. Acceptance Testing will Verify the Following:

1. There are no critical and high-priority defects existing in the software
2. The application software is fully installed and fully functional
3. Appropriate conversion of legacy data and manual data is complete
4. Complete and accurate system documentation is present
5. The effectiveness of training methods and materials
6. The response time of the system and overall system performance
7. System Hardware, Software, and Telecommunications Performance
8. System, Data, and Application Security
9. Accuracy/Performance of System Interfaces

Protech understands and will ensure that all nine (9) areas defined in this section regarding acceptance testing are addressed and show readiness for the verification process. For a more detailed description of these 9 verifications, please refer to Appendix A, Section 1.2.

D. Acceptance Testing upon Successful Completion of Integration, System, and Performance Testing

REQUIREMENT:

11.2.2.6/4.30.2.2 - D Acceptance testing will be conducted upon successful completion of the integration, system, and performance testing effort and agreement by the Program's project management team that the system is ready for acceptance testing. As problems are discovered they must be evaluated, their impact determined and documented. Necessary modifications must be made to software, documentation, and training materials consistent with the system design documents and other deliverable acceptance criteria.

The purpose of UAT is to accomplish the testing process by pushing the system's functional boundaries. Complete UAT testing is the cornerstone to a successful system testing process.

The State UAT team will execute the test scripts and scenarios developed for this phase. Our testing environment allows users to perform tests based on their previous experience to confirm that the system works properly. If a defect is discovered, Protech has strict procedures to document the defect in the defect management tool and coordinate with the State the initiation of the trouble shooting, prioritizing, and mitigation process. Corrected defects will be migrated to the regression testing environment. Only after the mitigation of the defect and State authorization will the system design documentation and other deliverable elements, i.e. training material, be updated.

E. Acceptance Test Responsibilities

REQUIREMENT:

11.2.2.6/4.30.2.2 - E Implementation Contractor's acceptance test responsibilities include:

1. Establish the application in the acceptance test environment
2. Supply training needed for acceptance testing

3 Supply documentation needed for acceptance testing
4 Provide support during acceptance test in accordance with established service level agreements
5 Document and Correct Problems
6 Create and distribute acceptance test analysis reports

Protech's methodology for acceptance test responsibility is a proven process based upon many implementations of systems akin to NCSEAS. Our process begins with the establishment of the test environment and the training of the State's UAT team. All documentation is provided, and the entire process is supported and coordinated by the Protech Team. During the process of UAT testing, problems will be properly documented and corrected, culminating in an acceptance test analysis report which is then provided to the State.

For a detailed description of Protech's methodology for acceptance test responsibilities, please see Appendix A, Section 1.2.2.

4.30.2.3 Test Plans

A. Meeting Objectives of the Functional Design

REQUIREMENT:

11.2.2.6/4.30.2.3 - A For each functional design, a testing plan will address the means of ensuring that the software has met the objectives of the functional design. The test plan will specify test cases to examine each functional objective. The test plan will describe the test conditions and expected results to verify that the NCSEAS components have achieved each functional objective.

The Protech test plans will describes the appropriate strategies, process, workflows and methodologies used to plan, organize, execute and manage NCSEAS testing This test plan formalizes and guides integration and system integration testing, regression testing, end–to–end (E2E) testing, performance testing and user acceptance testing (UAT) efforts in support of all components of the NCSEAS. Our test plans will address each system function and ensure that the software has met the objectives of the functional design.

The primary objective of testing the application is to provide an objective and independent determination that the software meets all the business and technical requirement objectives. As modules are developed, the testing of those modules will start. The final end-to-end (E2E) and regression tests will confirm that the project has met or exceeded all State requirements. Thus, test case scenarios will be developed by our well-versed testing team that will examine all functional aspects of the specific module being tested. Expected outcomes will be defined and a description of the test condition documented. Actual test results will also be documented through descriptive narratives and screen prints. This though test plan approach will expose all issues and associated risks. Protech is committed to communicating all known issues to the project team, addressing all issues and defects, and ensuring that they are resolved. This requires careful and methodical testing of the application to ensure that all areas of the system are scrutinized and all issues and defects found are resolved.

B. Test Conditions

REQUIREMENT:

11.2.2.6/4.30.2.3 - B The test plan will specify test conditions to verify the functionality of each:

1 Derivation
2 Edit
3 Workflow event
4 User alert and response
5 Document generated
6 Chronology entry
7 Screen navigation

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Protech's test plans will incorporate all user case scenarios, NCSEAS functionalities, screen standards, screen navigation, field validation, system performance, batch processes, notices/documents generated, reports, internal interfaces and external interfaces. Protech's plans will address screen loading performance. Our team understands the importance of rigorously testing identified edits and derivations and incorporates these conditions during development of test plans; case test scripts will also test user alerts and responses, workflow events that are interdependent, and chronology entries.

C. Test Conditions

REQUIREMENT:

11.2.2.6/4.30.2.3 - C The Implementation Contractor is responsible for the following test plans:

1 System Test Plan
2 Integration Test Plan
3 Regression Test Plan
4 Performance Test Plan

The test plans we employ describe our structured approach, which involves designing test scenarios that mirror real world scenarios and executing the test repeatedly throughout the development life cycle, according to the test schedule. For a more detailed look at our test plan creation methodology, please refer to Appendix A, Section 1.1.2.

4.30.2.4 Acceptance Test Reports

A. Functional Design Reports

REQUIREMENT:

11.2.2.6/4.30.2.4 - A For each functional design, an acceptance test report will address the testing results. This report will document the satisfactory results of testing after the Implementation Contractor has remedied the defects. The acceptance test report will provide a summary of testing results and defect remediation. The acceptance test report will provide an overview of testing, re-testing, and remediation with the number of defects by priority and timeframes required for remediation. The acceptance test report will provide for operational readiness documentation with examples of satisfactory results. The acceptance test report will document any outstanding issues.

Protech's chosen software tool, Bugzilla, is a repository for all system defects that are identified during UAT. From the individual functional test results, a statistical report will be produced. The State test manager will notify Protech's technical support member when a defect is identified, if the defect requires technical intervention. Automated test cases are developed, and defects are recorded, prioritized, assigned to be fixed, and tracked to closure.

Upon conclusion of the UAT phase, the Protech Team will prepare a final report summarizing the testing activities and the ramification on the subsequent phases. Our report will identify all functional areas, test cases, and testing statuses (passed/failed), providing the number of case occurrences for re-testing and remediation by priority and required timeframes plus key data cross-referenced to the actual results. The final report also includes any outstanding issues and a system readiness discussion. The readiness component includes activities for testing the integrated NCSEAS with State users and validating whether operational processes are supported. These activities will be documented through defined test outcomes supported by screen shot examples.

B. Acceptance Test Reports

REQUIREMENT:

11.2.2.6/4.30.2.4 - B The Implementation Contractor is responsible for the following acceptance test reports:

1 System Acceptance Test Report
2 Integration Acceptance Test Report
3 Regression Acceptance Test Report
4 Performance Acceptance Test Report

The Protech Team will work with the State on data inclusion and formats for the four required acceptance reports. Each report will be completed at the end of the testing phase. After State approval, Protech will proceed with the development of the following four (4) acceptance test reports:

1. *System Acceptance Test Report*
2. *Integration Acceptance Test Report*
3. *Regression Acceptance Test Report*
4. *Performance Acceptance Test Report*

4.30.2.5 Training Materials

REQUIREMENT:

11.2.2.6/4.30.2.5 The Implementation Contractor is responsible for training Program staff that will perform user acceptance testing. This includes delivering application training and providing training materials.

The Protech Team will collaborate with the State when developing the training materials for training of user acceptance testing personnel. Once the approach and objectives are agreed upon our team will proceed with developing all aspects of the training. Our materials will act as a roadmap that will assist the State user in understanding all the functional and technical aspects of NCSEAS. Our goal will be to build not only understanding of the various functionality but confidence in the mobility of the system. Other aspects of the training will include how the testing workflow process operates, test script and test scenario development, understanding of the testing environment and defect software, and testing summaries and outcome. The Protech training team has the responsibility of developing and delivering a highly effective and informative training program for all users and technical staff for NCSEAS.

4.30.2.6 User Acceptance Test Plan Template

REQUIREMENT:

11.2.2.6/4.30.2.6 The Implementation Contractor is responsible for providing a User Acceptance Test Plan Template. This template will be provided to the Program to use for creating test scripts, use cases, and test cases. The Program will perform the user acceptance testing and document the test results.

UAT provides stakeholders the opportunity to gain first-hand experience with NCSEAS to determine how it will support their business needs prior to the system being put into production. An important part of this process is the implementation of a user acceptance test plan template. The use of this form facilitates the effectiveness of the UAT. For an example of a UAT test plan template, and a more detailed look at Protech's methodology, please see Appendix A, Section 1.2.

4.30.3 Deliverables

4.30.3.1 Integration, System, and Performance Testing
4.30.3.2 Acceptance Testing
4.30.3.3 Test Plans
4.30.3.4 Acceptance Test Reports
4.30.3.5 User Acceptance Test Training Materials
4.30.3.6 User Acceptance Test Plan Template

The details of the test plans will be documented during the test planning phase. This plan will include a schedule of activities with agreed upon dates to complete the integration, system and user acceptance testing phases of NCSEAS. Protech will submit the acceptance test reports to the State of Nevada for review and approval. Deliverable number 4.30.3.1 through 4.30.3.6 Testing and Accepting New System Deliverables will encompass all work products resulting from activities 4.30.2.1 through 4.30.2.6 as described in this section.

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VI-4.31 Training

4.31.1 Objective

REQUIREMENT:

11.2.2.6/4.31.1 The training materials will incrementally attest to the preparations for implementation and will address all requirements. Training plans and preparation activities will specify the steps needed to prepare system users, trainers, and managers for the change in day-to-day operations responsibilities as well as the use of the modernized system's capabilities.

The NCSEAS project is tasked with providing a state-of-the-art child support enforcement system for the State of Nevada. For this system to be effective, technical staff, trainers and end users must be well educated in system capabilities and functionality. The Protech training team has the responsibility of developing and delivering a highly effective and informative training program for all users including technical staff for the State of Nevada.

Our training team is also responsible for preparing CSE staff for the gaps that are created between how child support enforcement processing is currently performed and how the replacement system will change those processes. The training team works closely with the development team during system design and development to understand system functionality and terminology. By blending the training team with the development team, we can provide high quality training materials that meets the specific needs of all child support enforcement management, trainers, system users and the technical team.

As part of the implementation team responsibilities, the On-Site support team is charged with preparing local staff for the gaps that are created between how work is currently done and how NCSEAS will change those processes. The Protech training team, while not training on process change, must also understand those changes as well as NOMADS language and basic functionality. The Protech training team will become the translators of "NOMADS to NCSEAS." The Protech training team will work closely with the On-Site Support Team to acquire this knowledge.

End users are most concerned about their ability to provide service to their clients, once they are working on the newly implemented NCSEAS application. To that end, the Protech training team gives great care to those areas where the end user is most impacted. In a scheduled training program, it is impossible to train the end user on every nuance of NCSEAS functionality. The emphasis of the classroom training will be on the 80% of the caseload that follows a predictable pattern and consumes much of the caseworker's time. Some class time will be dedicated to working with the exceptions to normal caseload but the underlying principle of classroom training will be to have staff prepared to handle the routine cases on day one of NCSEAS implementation. Additional "after training" assistance will be provided by the on-site support team (members of the Implementation team). Through the knowledge gained from the application impact analysis report, the on-site support team will be prepared to assist staff on the use of NCSEAS on those 20% of the caseload that are exceptions.

The formal training program for end users will tie closely to the roll out of the implementation team's on-Site support team to the offices. Upon the arrival of the on-site support team in the offices, the groundwork for a successful training program begins. The on-site support team begins by preparing staff for the transition to the new computing system and environment. After classroom training, the on-site support team will be responsible for assisting staff in working in the training tool known as the "training sandbox." This tool is a replica of the training database that allows staff to practice on training data from their individual workstations before the "go-live" cutover date.

4.31.2 Activities

4.31.2.1 Training Users and Technical Staff

Implementation Contractor responsibilities
Functional Training Materials Deliverables
Technical Training Materials
Trainee Testing and Evaluative Processes

REQUIREMENT:

11.2.2.6/4.31.2.1 The Implementation Contractor shall be responsible for training users and technical staff in all aspects of the new system both from a user and technical perspective. The training strategy shall be outlined in a training plan that defines training goals, expectation, methods, and schedules. A training planning session must be held to review the training plan prior to the first actual training session. The Implementation Contractor shall detail in their proposal a training plan outline and schedule for users of each component of the system. The Contractor will be training approximately 1,000 staff to include State and County program and technical staff.

Effective, comprehensive knowledge transfer (training) is a primary goal and focal point of Protech's project implementation methodology. We are confident that the knowledge transfer activities provided to CSE adequately prepares the State of Nevada's technical staff to support NCSEAS.

Our methodology is based upon the assertion that knowledge transfer must be continuous throughout the entire project lifecycle, rather than being treated as a phase at the end of the project where massive amounts of information are transferred in a brief period. Each service provided to the State of Nevada by the Protech Team is oriented toward completing the specific task at hand while also facilitating knowledge transfer to the NCSEAS project team.

Knowledge transfer (training) begins on day one of the NCSEAS project and continues through the duration of the project. The training program provides one of the central mechanisms for facilitating knowledge transfer to CSE.

We integrate knowledge transfer components and learning opportunities into all training, with the objective of ensuring that the State of Nevada project team members are gaining the skills and information needed to perform ongoing NCSEAS administration, support, and training.

To facilitate efficient and timely training development and delivery, we capitalize on current industry leading training development methods, existing system training materials previously developed, and high level CSE processes, as well as materials and training techniques from other relevant Protech Team projects.

Our training approach provides State staff with the tools they need to provide an outstanding experience and positive memory. Our training team develops a comprehensive training plan. The proposed training outline defines our training goals, expectations, methods, and high-level schedule. This training plan combines the proven best practices and knowledge of The Protech Team to address the State's training needs. The Protech training manager works collaboratively with CSE throughout the development of the training plan enabling us to adapt our methods to the specific needs of the Nevada CSE environment and workforce.

The Protech Team will use the following four phases for training CSE on NCSEAS:

1. *Training strategy - this is our initiation and planning period*
2. *Training development - Materials and tool development*
3. *Trainer and site preparation*
4. *Training delivery*

At the State's request training and roll out will take six months. Training will be provided to the users approximately six weeks prior to their region going live.

REQUIREMENT:

11.2.2.6/4.31.2.1

A. Implementation Contractor training responsibilities include:
   1. Training management plan;
   2. Web-based training development plan;
B. Functional training materials deliverables (examples below):
   1. Online help;
   2. Training manual (student and instructor versions);
   3. User's quick reference guides, and
   4. Web-based training content.
C. Technical training materials (examples below):
   1. Restart and recovery procedures:
   2. Data corrections procedures; and
   3. Configuration procedures.
D. Trainee testing and evaluative processes;
   1. Prepare and deliver training; and
   2. Provide large-volume reproduction of documentation and materials

The Protech Team training designers and developers, will design, develop, test, modify, and implement full training courses that include all required training materials which include functional training (both student and instructor versions), technical training, testing, and evaluative process and the development of an evaluative process.

Protech's training will include tools in the toolbox for the users and the technical staff. Tools for the users will include a quick reference guide, web based training with on-line help and training manuals. The technical staff will have tools such as restart and rec over procedures, data corrections procedures, configuration procedures and an evaluation process.

Training documentation is customized in collaboration with CSE to provide the appropriate focus on both user and technical training and to meet the specific formats agreed to during functional design.

4.31.2.2 Training Materials

A. Functional Design Training
B. Preparation of Training Materials
C. Online Training Materials
D. Update Training Materials

REQUIREMENT:

11.2.2.6/4.31.2.2 Training Materials

A. The Implementation Contractor will prepare and finalize the necessary training materials for each functional design at the conclusion of the acceptance testing process.
B. Preparation of training materials will involve establishing a NCSEAS training environment, setting up the training database, developing training scenarios, and creating the tools for evaluating whether staff has effectively absorbed the functionality and operation of the NCSEAS per the training objectives.
C. The training materials will be made available online as the user's manual to supplement Nevada's policies and procedures.
D. The Implementation Contractor must update all training materials to reflect any system functionality changes and obtain Program's approval prior to deploying the system changes. Training materials must be maintained through completion of the warranty period.

Protech proposes using a separate training region. The Protech training team will develop the training region, develop the training scenarios and create the tools for evaluating the user.

The training environment uses a pre-identified extract of production data, which matches all training materials, examples, and case studies.

The Protech Team recommends that the training environment include a "sandbox" which can be accessed by CSE field staff statewide to provide a safe practice environment. The training materials for each functional design will be finalized at or before the conclusion of the acceptance testing process.

Developing a training program is very much a building process. Ideas, concepts, and information must be introduced in phases and "layered" on top of one another to allow for the full picture and understanding to appear. Additionally, quizzes and tests enable measurement of trainee understanding. The exact format for all materials, WBTs, Instructor Led Training (ILT), guides, tests, scenarios, and scripts are agreed to with CSE during the functional design process and prior to actual development of materials. The training team secures CSE approval of all designs and developed materials prior to implementation.

The training program will use hard copy manuals supplemented by quick reference guides. Online training materials will be used to supplement Nevada's policies and procedures. The anticipated volume of print materials necessitates a carefully choreographed print schedule to ensure all classes and students have materials as needed. Training documentation will be constantly updated to reflect the latest NCSEAS functionality.

4.31.2.3 Training Manual

A. Development of Training Manual
B. Training Deliverables
C. Update of Training Manual

REQUIREMENT:

11.2.2.6/4.31.2.3 Training Manual

A. The Implementation Contractor will develop the training manual for use by training staff in the delivery of training to system users. The Implementation Contractor will make a trainers' version and a students' version of the training manual.
B. The implementation training deliverables will document the satisfactory completion of the training plan tasks prior to the implementation.
C. The Implementation Contractor must update the training manual to reflect any system functionality changes and obtain Program's approval prior to deploying the system changes. The training manual must be maintained through completion of the warranty period.

This requirement is addressed in section 4.31.2.2 and 4.31.2.3.

4.31.2.4 Conduct Training

A. Customer Service Support Staff Training
B. Technical Support Staff Training
C. Trainer Training
D. User Training

REQUIREMENT:

11.2.2.6/4.31.2.4

A. The Implementation Contractor is responsible for conducting training. There are several types of training as described below:
B. The Implementation Contractor's training staff will need to deliver training to the Program's 20 customer service support staff
C. The Implementation Contractor's training staff will need to deliver training to the Programs 30 technical support staff.
D. The Implementation Contractor's training staff will need to deliver train-the-trainer training to the Programs 10 training staff.
E. The Implementation Contractor's training staff will need to deliver training to the approximately 1,000 Program staff that will be using the system for their day-to-day operations.

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The purpose of the NCSEAS project is to provide the child support professionals of Nevada with a more efficient and effective tool to provide services to their clients. For the system to succeed, the users must be proficient in its use. The Protech training team understands this mission and is focused on developing a training program designed to provide for comprehensive training, which will produce measurable results.

A comprehensive training program is one, which includes multiple areas of instruction. The NCSEAS training will require some users to receive instruction on all facets of the NCSEAS application and some users (such as IV-A staff) focused training on just the modules linked to their individual job responsibilities. Additionally, it is equally important that a training program be designed to measure learning results rather than merely track attendance. The Protech training team will focus on the development of outcome based training to provide validation that users benefited from the training experience. The Protech training team has designed an approach to training development and classroom delivery that will build on best practices and lessons learned from previous implementation projects. The plan will be a progressive build from initial planning tasks to training delivery.

4.31.2.5 Web-Based Training Center

REQUIREMENT:

11.2.2.6/4.31.2.5 The Implementation Contractor will establish a web-based application for computer based training for users.

Protech recognizes the State currently has a web-based training center. The establishment of a web-based application is part of our comprehensive training plan.

4.31.2.6 System Training Reports

REQUIREMENT:

11.2.2.6/4.31.2.6 The Implementation Contractor will prepare a report that documents the satisfactory completion of the training plan tasks for each regional rollout.

Protech will prepare the report that documents the satisfactory completion of the training plan tasks for each regional rollout.

4.31.3 Deliverables

4.31.3.1 Train Management and Development
4.31.3.2 Training Materials
4.31.3.3 Training Manual
4.31.3.4 Training
4.31.3.5 Web-Based Training Center
4.31.3.6 System Training Reports

Protech's training plan includes providing training materials, providing training manuals, training staff, developing and training for the web-based training center and the delivery of system training reports. Deliverables number 4.31.3.1 through 4.31.3.5, Training Deliverables will encompass all work products resulting from activities 4.31.2.1 through 4.31.2.6 as described in this section.

VI-4.32 System Implementation

4.32.1 Objective

REQUIREMENT:

11.2.2.6/4.32.1 The objective of this task is for the planning, coordinating and implementing the NCSEAS statewide. This task will prepare the Implementation Contractor, the Program, and its service partners for the implementation of the modernized system.

Protech's implementation approach has evolved from our many successful implementations and follows a tracks-based approach. Not only does the Tracks approach accommodate all the needed activities of the various phases, it also allows for more control over the various correlated activities within a track and allows better coordination of time and resources between tracks. This approach allows for the acceleration of a project schedule and for easier management and oversight of the project. Our implementation methodology provides a comprehensive framework for implementation, fully integrating the technical, business process, and change management elements of the NCSEAS implementation process. This approach coordinates the distinct elements of implementation planning, communications, readiness assessment, business process redesign, and deployment strategy, and end-user support. Protech's implementation specialists take a holistic approach to implementation that increases the likelihood of success of the new system.

Our tracks-based implementation approach, illustrated in Figure 5.31.1, is ideally suited to the challenges of managing a complex statewide system implementation. Our implementation approach can be broken down into four implementation steps and seven disciplines. We will leverage this methodology when the final implementation plan is prepared and submitted to the state for approval.

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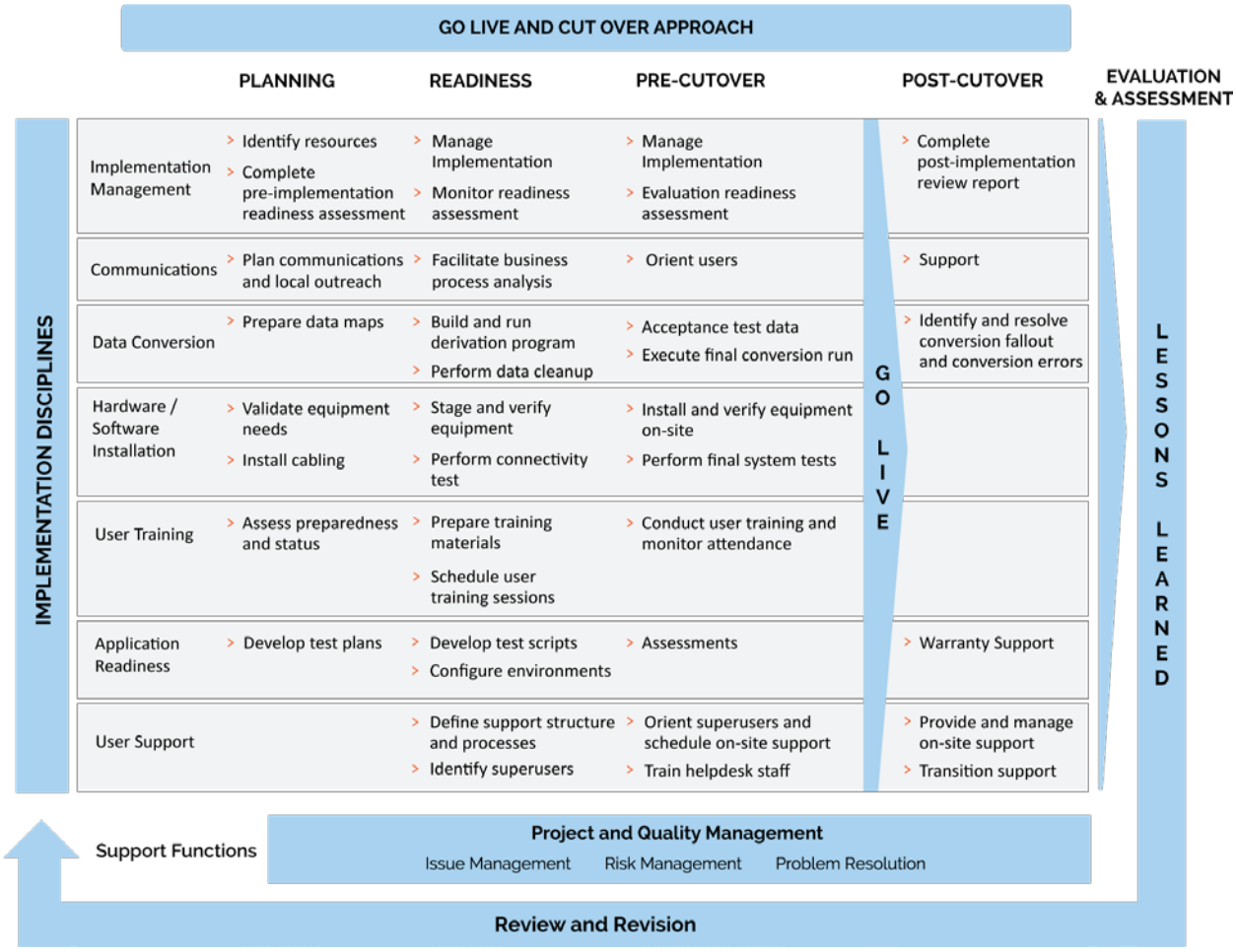

Figure 4.32-1. Implementation Approach

4.32.2 Activities

4.32.2.1 Approach to Implementation Planning, Coordinating, and Execution

- **A. Phased Approach to Implementation**
- **B. Assessment and Decision-Making Process of Deficiencies**
- **C. System Pilot**
- **D. Each Implementation Will Address User Training, Data Conversion, and Other Site Readiness Issues**

REQUIREMENT:

11.2.2.6/4.32.2.1 The Implementation Contractor is responsible for planning, coordinating, and implementing the NCSEAS statewide. The Implementation Contractor will use the following principles in designing its implementation approach:

A. System implementation will be done in a phased approach. Complete rollout of the NCSEAS is expected to take six (6) months. Detailed user testing and pilot programs will be used in order to validate functionality and correct deficiencies.

B. System deficiencies identified in the pilot steps will undergo an assessment and decision making process by the Program and will either be parked for future development or corrected as required.

C. The Implementation Contractor will first pilot the system in a larger office with a larger caseload and then complete the implementation via three regional phased deployments.

D. Each implementation will address user training, data conversion, and other site readiness issues. As each site is implemented, specific issues relevant to moving from the current NOMADS to the NCSEAS will be addressed.

Protech's implementation approach focuses on the preparation, execution and support activities associated to the deployment of the NCSEAS and its stakeholders. These activities span several project areas, such as training and conversion, and impact all project stakeholders. The Protech Team will provide a seasoned and successful implementation manager to coordinate and lead the implementation effort.

Implementation is not solely focused on systems, but users and stakeholders, as well as the activities used to transform the performance, business processes, and technology elements that are to launch the NCSEAS to effectively function in the operational environment.

The table below describes the four phases of our implementation methodology; planning, readiness, pre-cutover, and post-cutover.

Four Main Steps of Implementation Methodology	
Implementation Phase	Description
Planning	Focuses on establishing well-defined activities, tasks, and sub-tasks for implementing the NCSEAS application. Responsible personnel are assigned to each effort, and timeframes are developed within each effort that must be completed. The plans will include tasks from each of the implementation disciplines (described below).
Readiness	Focuses on executing against the plans to ensure that the necessary activities are accomplished prior to cutover. Readiness applies to the organization, the resources, the facilities, the infrastructure, and the data.
Pre-Cutover	Focuses on executing the final activities necessary to cutover from the legacy applications to the new application. During pre-cutover, all the preparation work is completed. At the completion of pre-cutover, we will have completed facility preparations, equipment installation and testing, user training, final data conversion, and final system tests.
Post-Cutover	Focuses on the operational activities necessary to support the users after cutover to the new production NCSEAS system.

Our approach for NCSEAS can be further broken down into seven implementation disciplines. Within each discipline, teams engage in and perform tasks across each of the above implementation phases to prepare stakeholders for system deployment. The implementation disciplines are as follows:

- *Implementation Management:* ***Coordinate all activities necessary to implement the NCSEAS in the target regions. The most important activities are the readiness assessment and the Go-Live Schedule.***
- *Communications:* ***Define and execute appropriate communications regarding the project to align expectations and manage the impact of change on users, customers, interface partners and other stakeholders. Note – this is not to be confused with project communication planning.***
- *Data Conversion:* ***Understand the conversion impacts to the NCSEAS application and the end users ensure the conversion meets readiness criteria, and know the impact to the go-live schedule. Refer to the Data Conversion Plan for detailed information.***
- *Infrastructure and Equipment Installation:* ***Ensure production facilities, hardware, software, and telecommunication preparations are completed prior to cutover, including installation and verification activities, as well as backup and disaster recovery plans and testing.***
- *User Training:* ***Plan, develop, schedule, and deliver training to users to ensure they are well prepared to work with the new NCSEAS solution. Ensure users have access to, or are in possession of appropriate materials.***
- *Application Readiness:* ***Evaluate the readiness of the system functionality and support processes and procedures required for cutover.***

- *User Support: Develop and implement an application incident management process and provide support to users both before and after cutover.*

There are several overarching activities within the framework for the preparation, planning, and implementation for the solution deployment; this information is covered in the following subsections.

Develop NCSEAS Implementation Strategy

Our implementation strategy also provides an overall approach and resource plan to the pilot and regional rollout. The Protech implementation manager will collaborate with the NCSEAS project team to develop a comprehensive implementation strategy that outlines processes and activities to be accomplished, the approximate schedule relative to go-live, critical path, and key milestones. Communications and organizational change management provide input to this strategy from the business and stakeholder relationship perspective, which impact such activities as training, communications, documentation, and support. Additional input, from the technical perspective, is provided from functional, infrastructure, testing, configuration management, and data conversion artifacts and teams.

Monitor and Evaluate Progress

Implementation success is monitored at both the project and stakeholder levels. The approach to monitoring and evaluating the success of the NCSEAS implementation strategy is determined as the project unfolds. Milestone achievement, readiness assessments, and project issue, risk and change control processes are all a part of monitoring and evaluating progress. Additionally, feedback from onsite support and help desk will provide further data for evaluation and monitoring of the solution's effectiveness.

Hardware and Software Installation

As a focus for application readiness, and based on the scope of work, a plan for the installation of all required hardware and the newly designed NCSEAS software will be presented to the state for final approval. Included in the plan will be an agreed upon schedule for installation considering all parties involved in this activity of the project. Protech will work closely with the state to determine the appropriate schedule for installations of production environments based on the implementation plan for pilot and the regional rollout.

Maintain Quality

It is the responsibility of all staff to be vested in the quality of the products delivered to the State. However, the Protech PMO lead is responsible for ensuring deliverables from the NCSEAS implementation streams meet the defined, agreed-upon standards.

Manage Rollout

As a part of the readiness phase a detailed Go-Live Schedule will be iteratively compiled and elaborated with the appropriate activities for ensuring a successful and uneventful rollout. The go-live schedule is a milestone and 24-hour based schedule outside of the master project schedule; however, some key milestones may be duplicated in the master schedule. Our implementation manager collaborates with the NCSEAS business experts and project team leads and managers to ensure we get a complete list of activities before the rollout date.

In the pre-cutover and post-cutover phases, the go-live schedule is managed by the Protech implementation manager and other project staff, while project and partner staff execute their assigned tasks. A command center is employed while core deployment activities are in progress as the command center provides a central management, communication and remediation point for all those involved in the go-live effort to transition from NOMADs to NCSEAS.

Incident Management

As a part of the implementation plan, an incident management process will be defined to manage and resolve reported production incidents. In some instances, these incidents result in system defects that may have serious impacts to operations. When identified, the incidents are triaged by a group of designated program and systems staff and planned for release through a release management process. In some instances, the incident can be mitigated with a temporary work around. Work around solutions are documented and published for NCSEAS users, site support and help desk to use until the defect resolution is scheduled and released to production.

Conduct Rollout Reviews

Upon completion of a rollout, an implementation report is compiled from key implementation activities that have been completed. A part of compiling the report is to gather lessons learned for use with future implementations. Depending on budget, logistics and resources, the reviews may be performed in a variety of ways, but the goal is to obtain useful feedback on the effectiveness of the methods used in each implementation area to rollout NCSEAS. Protech will provide, gather, analyze, and document the information as well as provide recommendations as well as adjust accordingly. The following list includes some of the implementation *tasks that are repeated for each rollout:*

- *Conduct readiness assessment*
- *Install required hardware and software*
- *Implement user security changes*
- *Provide user training*
- *Perform data conversion*
- *Conduct rollout*
- *Evaluate system performance*
- *Provide site support and help desk*
- *Compile implementation report*

Although each of the tasks above have their own timeline and special requirements, they are also interrelated with dependencies and requirements that affect one another. These dependencies and the resulting complexity require strong project management techniques to be followed throughout the process, which is why we emphasize and assign a well-trained, seasoned implementation manager for every project.

The basis of our implementation framework is the integration and use of structured, proven project management practices. Such practices ensure that all standards and procedures established for the NCSEAS project will be well managed. By using an integrated approach to project management, the implementation team will have ready access to the same tools, methods, and procedures used by the Project Management Office (PMO) for overall management of the project. This will speed the identification, the resolution, and the mitigation of issues and risks, enabling the project's overall success.

NCSEAS system Implementation

Protech will carefully follow the agreed upon plan for the installation and implementation of the NCSEAS Solution at the applicable pilot sites, including, as needed, county offices, and applicable partners and agencies. We will provide on-site support as well as off-site support, as needed, for the installation and implementation.

Protech will work with the State to solidify the Pilot +3 regional rollout approach where the pilot consists of an appropriate representation of users, caseloads, and volume that will exercise all the functionality of

NCSEAS. The pilot will take place over a two-month period where it is expected that much of system defects and process issues are found and resolved before rolling out to the remaining regions. Following the pilot, there will be three, two-month regional rollouts, which will allow for complete statewide release of NCSEAS within six months of pilot go-live.

Protech will work in coordination with State to select a pilot county and define the counties that will be included in each regional rollout. Based on the information available now, Protech recommends Washoe County District Attorney, SDU and Reno Program Area Office - Child Support Enforcement offices for Pilot. Although the SDU is in Las Vegas, the DA and CSE offices are close to the project site for support and troubleshooting purposes and represent a medium to large case load and user base. The recommended regional rollout composition is as follows:

- *Region I – Central Office, Lyon County DA, Douglas County DA, Mineral County DA, and Nye County DA*
- *Region II – Churchill County DA, Pershing County DA, Humboldt County DA, Elko Program Area Office – CSE, and Elko County DA*
- *Region III – Clark County DA Family Support Division and Nevada Intergovernmental Initiating Office – CSE*

The Implementation Plan

The implementation plan describes the approach for the preparation, deployment and support involved for a successful delivery of NCSEAS to a fully operational user environment in accordance with the Project Plan, goals and requirements. The plan addresses installing the components of the application in the production environment, testing that the production application has installed properly, training of users and support personnel, and providing required start-up support. Protech will provide a comprehensive implementation plan, building upon our project management plans for risk management, configuration management (installation of application packages), data conversion and data migration, and training.

As shown above in Figure 4.32.1, the Protech model for implementation rollout and support mirrors the NCSEAS requirements for a successful rollout. The implementation plan for the NCSEAS project leverages PMI's PMBOK for project management and our successful and proven tracks-based Approach. The implementation plan includes the following areas: pilot test, implementation support, maintenance and operations, transition, close-out, and warranty.

The NCSEAS implementation plan will be documented and approved by the State through the deliverable processes defined in RFP section 4.38:

Successful implementation of a project the size of NCSEAS is heavily reliant on project management. As such, the Implementation Plan is closely intertwined with the project management plan (PMP). Every step Protech will take related to the implementation will be closely monitored according to the principles set forth in the PMP. Protech recognizes and confirms that it will be responsible for any subcontractor services provided by subcontractors during implementation and rollout.

4.32.2.2 System Support, Help Desk Support, System Maintenance, and Corrective Actions

REQUIREMENT:

11.2.2.6/4.32.2.2 The Implementation Contractor must provide system support, help desk support, system maintenance, and corrective actions during the implementation and for the duration of the contract in accordance with established service level agreements. At the conclusion of the implementation and again at the end of the contract, the Implementation Contractor

must certify that the system is fully implemented and operational. Concurrently, the Implementation Contractor must provide a transfer of knowledge to the State, enabling the State to effectively operate and maintain the system.

To ensure the viability of the NCSEAS implementation, Protech understands and is committed to ensuring the operational system, at a minimum, meets agreed upon service level agreements (SLAs). The Protech Team will monitor and maintain the application and infrastructure architecture as defined in the various infrastructure plans, such as the hardware and software plan, the production configuration plan, and the backup and disaster recovery plan. Protech will support the NCSEAS uses through training, on-site support and an application help desk.

Application and infrastructure incidents will be reported, monitored, and, if necessary, escalated through the application help desk and configuration management tools, as defined in the help desk management plan. Defect resolution, system maintenance, and new functionality will be prioritized and scheduled through established release management processes.

In support of NCSEAS and its users, Protech will endeavor to provide quick, effective corrective action and management of all incidents. The Protech Team's help desk solution is well-proven and will boost productivity, efficiency, customer service, and satisfaction. The state and NCSEAS stakeholders can rely on a single point of contact accountable for supporting the end-to-end environment and resolving all incidents. By designing and improving processes to facilitate higher first-call resolution, the help desk solution improves both user satisfaction and productivity. We further maximize efficiency and customer service through automation and web-based self-help.

- *Quick, Easy Access: Traditional telephone Automated Call Distribution (ACD) technology is combined with online chat interfaces to make it convenient for the system users to gain the assistance of one of our skilled help desk agents*
- *Increased Efficiency: Our approach places an emphasis on quick response and a continuous reduction in the volumes of inbound contacts*
- *Improved First-contact Resolution: Standards-based training and processes allow an increasing proportion of incidents to be resolved on the initial contact, reducing end-to-end costs*
- *Experience-based Analysis and Management: Logging, tracking, and case closure information are assimilated to highlight trends and proactively manage recurring issues that can be solved through better IT management or end-user training*
- *Increased User Satisfaction: Continuous end user surveys shared with the state project management team confirm provided services are always satisfactory*

Throughout these activities knowledge transfer will be done through on-the-job training, procedural and user documentation, and technical training. Protech will certify the NCSEAS is fully implemented and operational at the end of implementation and conclusion of the contract, through the implementation reports and project completion report.

4.32.2.3 Help Desk Hours

REQUIREMENT:

11.2.2.6/4.32.2.3 The help desk must provide support from 8:00 a.m. to 5:00 p.m. (Pacific Time (PT)) Monday through Friday on State business days. In addition, the help desk must be available on an on-call basis 24 hours per day in order to support State technical and operational needs.

Protech has implemented and supported multiple similar CSE implementations and is committed to providing Application help desk services Monday through Friday, except State holidays, between the hours of 8:00 AM and 5:00 PM Pacific Standard Time and 24 hours on-call operations and technical support.

4.32.2.4 Implementation and Initialization Plan

A. Initializing Tasks
B. Implementation Coordination Team
C. Implementation and Initialization Report

REQUIREMENT:

11.2.2.6/4.32.2.4

A. The implementation and initialization plan will identify all the sequenced tasks necessary for initializing the new application and assign responsibilities for each task.
B. The plan will establish an implementation coordination team to coordinate and review the implementation preparations. The plan will establish the criteria for system implementation readiness.
C. The Implementation and Initialization report will detail the tasks accomplished in preparation for implementation and document the system's state of readiness. Program's acceptance of this deliverable is necessary for implementation efforts to proceed.

As stated above in 4.32.2.1, as part of the implementation plan, implementation activities include the development, elaboration and review of go-live schedules for the pilot and the three regional rollouts. The go-live schedules detail key milestones and activities identified throughout the planning and readiness phases of implementation. The go-live schedules are maintained in Microsoft Project and contain, at a minimum, the following information:

- *Explicit milestones or tasks (no summary tasks)*
- *Predecessor and successor linkages*
- *Assigned resource (specific names only)*
- *Accurate task durations*
- *Detailed comments (as needed)*
- *Resource Matrix/Contact/Escalation List:*
- *Resource name*
- *Escalation path (resource to escalate to)*
- *Office number*
- *Home number*
- *Cell number*
- *Email address*

The implementation plan will further elaborate the preparation, verification and execution of the go-live schedules. In addition, it may include deprecation tasks for NOMADs. The go-live schedules, and annotated results from an execution of a rollout, are included as an appendix in a region's implementation report.

It is the responsibility of the Protech implementation manager to ensure an appropriate implementation coordination team is assembled. The implementation coordination team will be made up of other team managers or leads, representing the different areas of the project, such as the PMO, technical, conversion, training and organizational change management areas. It is the team's responsibility to participate in identifying and vetting the implementation related tasks and activities, such as go-live tasks and readiness assessment criteria.

Readiness assessment criteria are the marker for the go/no-go decisions. The implementation coordination team will collaborate to identify items, measures and allowable thresholds related to application/technical, organizational, conversion/data, and users/stakeholders. The readiness assessment contains the following data:

- *Criteria (what is being measured)*

- *Information source (where is the data coming from)*
- *Collection method (how is the information being collected)*
- *Threshold (what is the allowable, measured in numbers or percentages)*
- *Measure (data collected)*
- *Pass/fail indicator (initial)*
- *Mitigation (the actions taken to correct a failed criteria)*
- *Final pass/fail indicator (indication of the mitigation correcting the criteria)*

For example, the item may be UAT defects, the measure is the number of defects by severity, and the threshold is the number of defects allowed to go into production. Should the measure not meet the threshold then the criteria fail and either there is a recommendation for a no-go or a mitigation strategy/corrective action must be documented and executed to allow for the criteria to pass and get a go decision. Note that some items may also be represented as tasks in the go-live schedule, such as testing the disaster recovery plan on the production environment, as this task is both a requirement for federal certification and a factor of readiness it is included in both artifacts.

The detailed plan for implementation is outlined in previous subsections. Protech will prepare the implementation and initialization report, also known as an application readiness report, which will summarize and document the justification for the go/no-go recommendation to secure a go/no-go decision from the State. The report includes key points regarding how well prepared the project is for a pilot or regional rollout. The readiness assessment and implementation and initialization report are completed within three weeks prior to a go-live event and provided to the State. The report will contain, at a minimum, the following information:

- *Implementation overview and scope*
- *Objectives achieved*
- *Site preparation issues and solutions*
- *Training issues and solutions*
- *Performance issues and solutions*
- *Support issues and solutions*
- *Results of the readiness assessment*
- *Current go-live Schedule*
- *Go/no-go Recommendation*

The implementation and initialization report will detail the tasks accomplished in preparation for implementation as a means to document system readiness.

4.32.2.5 Implementation Report

A. **Pilot Site Reports**
B. **Report Submission and Lessons Learned**
C. **Document Significant Events and Data**

REQUIREMENT:

11.2.2.6/4.32.2.5 - A The Implementation Contractor will provide reports documenting the satisfactory implementation of the NCSEAS in the pilot site and for each of the regional rollout groups.
B. The Implementation Contractor will submit the reports after each rollout and will include lessons learned for the next rollout.
C. The report will document significant events and data related to the rollout of the NCSEAS to the pilot sites and the regional groups.

The intent of the implementation report is to provide a summary account of key events, activities and lessons learned of each of the pilot and regional rollouts. Because of completing go-live activities, the

Protech implementation manager will prepare and submit an implementation report to the State. The report will provide information regarding decisions, activities, issues and mitigations for the go-live event, starting with the go-live decision to proceed with rollout to the conclusion of the first batch run following the rollout. As a matter of process improvement, the lessons learned from each rollout will be incorporated into the following rollouts' go-live activities and may spawn additional work items depending on the nature of the subject matter.

The report will consist of, but is not limited to, the following items:

- *Executive summary*
- *Key points of readiness, pre-cutover and post-cutover*
- *Known issues and mitigations*
- *Go-live schedule execution*
- *Conversion results*
- *Site support activities*
- *Batch run results*
- *Lessons learned*

4.32.2.6 Fully Implemented System

REQUIREMENT:

11.2.2.6/4.32.2.6 At the end of this activity, the Program will have a fully implemented system.

After the final rollout of NCSEAS, the Protech Team will have delivered a complete, statewide system, at which point the State may request federal certification from OCSE. This is to say that release planning is in place, all end-users have been trained and adopted the system and business processes, and the legacy systems and processes are no longer engaged from a production/operational standpoint; however, legacy systems may be accessible, as read only, for historical and verification needs.

4.32.3 Deliverables

4.32.3.1 System Implementation and Support
4.32.3.2 Implementation and Initialization Plan and Report
4.32.3.3 Implementation Rollout Report
4.32.3.4 Fully Implemented, Functional and Operational Statewide System

The Protech Team has had extensive CSES implementation experience in multiple states with generation I and II implementation efforts. The Protech Team understands the importance of a sound and effective implementation approach and execution. We understand the importance of team collaboration and coordination to ensure success and will furnish fully elaborated implementation plan, implementation artifacts, and services to prepare, deploy and support the NCSEAS application and project. Deliverables number 4.32.3.1 through 4.32.3.4, System Implementation Deliverables will encompass all work products resulting from activities 4.32.2.1 through 4.32.2.6 as described in this section.

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VI-4.33 Warranty Period (Initial Maintenance and Operation)

Warranty support is guided by the development of a maintenance and system operation plan that is delivered to CSEP which outlines the scope, content, and timeframes for provision of warranty services. It covers how system issues are categorized and prioritized. This document is delivered prior to the initiation of warranty services to ensure that from day one, warranty support is in place and is consistent with CSEP's requirements and expectations.

4.33.1 Objective

REQUIREMENT:

11.2.2.6/4.33.1 The Implementation Contractor is responsible for the initial maintenance and operation of the system. This includes fixing bugs, communicating solutions to end users, and maintaining and updating training materials.

The purpose of the warranty period is to ensure that NCSEAS operates as designed and meets all the system availability, performance objectives and federal requirements. The objective of the warranty period and warranty support phase is to provide warranty services that ensure the ongoing integrity of the system and provides the help desk with the support necessary to assist the CSEP end user community during the post-implementation period.

4.33.2 Activities

This is the process of supporting end-users as they adopt new workflows, begin to incorporate the new system into their daily operations, and gain confidence in the operational aspects of the new system; thus, ensuring the CSEP offices return to normal business practices. During this phase, transition is emphasized, workers are encouraged to work independently in the new system and disruption to daily program operations is minimized. Off-site support, liaisons, functional specialist will be available as resources to help CSEP users who might encounter problems or issues which have not been anticipated. The Protech Team will work with the State to develop procedures that detail the means of communication, types of assistance, contingencies, and decision authority for this period.

4.33.2.1 Initial Maintenance and Operation of the System

REQUIREMENT:

11.2.2.6/4.33.2.1 The Implementation Contractor is responsible for the initial maintenance and operation of the system. This includes fixing bugs, communicating solutions to end users, and maintaining and updating training materials.

During this phase, Protech Team is responsible for code development or modifications, testing, documenting, training and implementing post-implementation warranty fixes to the system. Additionally, we rigorously monitor the performance of the system to ensure it continues to function properly and within the defined system parameters. We will work closely with DWSS staff to obtain as much feedback as possible about the application's performance and identify required software, data corrections, and modifications. Our team understands the importance of software repairs and corrections. Thus, our team will devise, test, document, train and implement post-implementation warranty fixes to the system.

Some software corrections may require additional updates to the user training materials and technical documentation. Our team will assess what modification to existing training materials and job aids may be necessary. Careful consideration will be given to each job function and process. Also, our team understands that all system documentation must remain current; thus, updates will be part of our warranty support phase. Protech staff understands the importance of communicating to the State all aspects of this phase.

During this phase, users become more confident in their capabilities and the functionality of the remote help desk as a form of support. User dependence for onsite support will be significantly reduced. During this

phase, onsite support is transitioned completely to the remote help desk. This marks the final phase of the project and signifies successful completion of the implementation process.

Remote help desk support will be established as a process that will become institutionalized within the CSEP offices designated to encourage the use of the help desk, including procedures for communicating system alerts such as system downtime, upgrades, etc. and a method of reporting all system issues to the Protech Team. As a companion to the maintenance and operations plan, the Protech Team will deliver the help desk staffing plan that recommends the types and numbers of resources necessary to operate the help desk. It will also provide information about the hours of operation, processes used for logging and tracking calls, and types of reports generated.

Communication is important to the overall help desk process. For example, during the warranty period there will be multiple organizational units supporting the defect resolution process. Besides the help desk, the operations support group will be a major contributor. This makes it very important that strong lines of communication occur so help desk issues and defects are identified, resolved quickly, and properly documented.

The help desk staff will utilize a three levels (tiers) of support approach when resolving defects. Each level of support offers increasing levels of expertise and resources to resolve the end-users' help desk ticket(s). The Operations Support Group (OSG) will be a functional support group comprising of Protech and State team members. The primary goal of OSG is to triage production problems, review and approve proposed solutions, and prioritize issues/defects/enhancement requests. The OSG consists of individuals with the skills necessary to quickly perform an analysis of production problems to determine the initial severity of the defect ticket, validate the initial triage results prepared by the Protech BA, and evaluate the proposed solution.

Once the warranty phase is about to commence, the Protech Team maintaining the help desk will transition to providing another level of support and system fixes in the event the NCSEAS has functional or technical deficiencies in comparison to the approved functional and technical requirements.

4.33.2.2 Periodic Help Desk Reports

REQUIREMENT:

11.2.2.6/4.33.2.2 Periodic help desk reports will indicate the status of help desk requests from the previous month and plan the work for the upcoming month. The reports will identify the tasks, Implementation Contractor staff assignments, and schedule of work for the upcoming month. The reports will also describe the status of the work underway and document the tasks completed in the prior month.

The Protech Team logs and categorizes issues that are reported to the help desk according to their severity. We use a hierarchy for this categorization ranging from non-critical to mission-critical to determine the priority of each incident.

During the warranty period, the primary function of the help desk staff will be to manage, coordinate, and resolve issues as quickly as possible. The help desk team will log all calls in the help desk tool and assign each ticket a number. The staff will record the reported NCSEAS application issue(s) and, where applicable, share the relevant information.

The Protech team has been successful through its extensive CSE experience developing reports that will provide the State and stakeholders with comprehensive management information. Our team will develop two types of reports, metric driven and issue descriptive status reports.

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Metric Reports

The help desk staff will monitor and track tickets until they are resolved satisfactorily. The ticket number will be provided to the State staff initiating the request and severity levels will assigned to each call. For warranty purposes, resolution to a help desk ticket will mean the following:

- *A software/hardware fix was tested and successfully implemented*
- *An answer or solution to a non-software related issue was provided*
- *The issue reported was determined to be user error*

The help desk report will also maintain an aging help desk ticket summary to ensure a timely resolution. An incident metric report will be developed each month so management has a comprehensive overview of help desk activities. All appropriate help desk activities will be identified monthly and once approved by the State will be summarized in metric style reports. A secondary activity driven report, which will be a summary of all the previous month activities, will also be developed. This metric report will provide management with an ability to forecast future months' activities and identify workflow trends. This report will be critical to Protech and the State during warranty planning meetings. Such questions as what type of help desk activities are occurring, the level of resources needed to support these activities and reviewing predictability trends (i.e., activity demands increasing or decreasing by the type of system activity).

Issue Overview/Status Reports

Protech is also prepared to submit monthly a narrative style report that will support the metric reports. For example, a high-level overview of all the prior months' activities will be provided to the State in a status report format. Management needs to be advised about critical issues/activities that have occurred not only in real time but also through a follow-up monthly documented report. The format for these reports will be discussed with the State. However, the format we are proposing will be to (1) describe the issue or situation; (2) define the action steps necessary to resolve the issue; (3) identify the types of resources necessary to complete the task; and (4) summarize the outcome. Since many of these issues/activities may carry over to the following month, our team will also provide a projected outcome indicator by issue when developing the forth coming month work schedule. Also, the reports will not only advise the State about the prior months' tasks but will also describe the status of ongoing tasks that will be included in the following months work schedule. During the planning meetings, understanding the workflow demands for the next month will help in the management of the help desk.

4.33.2.3 Periodic Warranty Support Reports

REQUIREMENT:

11.2.2.6/4.33.2.3 Periodic warranty support reports will provide for regular status reports of warranty defects and remediation plans and corrections.

The Protech Team anticipates the CSEP user will report system defects that will require immediate attention by our technical team. Once the warranty defects have gone through the remediation cycle and resolved, the information will be reflected through a warranty support report. During the warranty review meetings, Protech will utilize this type of report to advise the State. Once the State approval process has been completed, then the next phase will be engaged. Release warranty fixes – either through the regularly scheduled maintenance releases or via a more critical path-process will be initiated. The Protech Team will create/ prepare System Change Bulletins (SCBs) that will be distributed to users via an online application update. The SCBs contain information about what was changed in the application, where additional documentation is available, and what the timeframes are for the maintenance releases. The SCB is a proven method of successfully communicating the system information to appropriate staff.

4.33.2.4 Periodic Operations Reports

REQUIREMENT:

11.2.2.6/4.33.2.4 Periodic operations reports will report the status of operational activities during the previous month and plan the maintenance and operation work for the upcoming month. The reports will identify the tasks, staff assignments, and schedule of work for the upcoming month; describe the status of the work underway; and document the tasks completed in the prior month. The reports will identify any unusual circumstances that the Implementation Contractor had to deal with during system operations.

We will continue to provide weekly and monthly status reports during the warranty period and the warranty support phase, providing information such as system performance, identified defects, defects resolved, and progress toward resolution.

As part of the warranty responsibility, our team will monitor the performance of the system to ensure it continues to function properly and within the parameters outlined in the SLAs. It is our intent to provide regular reports to DWSS regarding the status of operational activities from the previous month and the planned M&O for the upcoming month. The report will identify the tasks, staff assignments, status of task, projected completion date, etc. Additionally, the report will provide information about the system performance and include items such as the number of identified defects, impact on the project, and progress toward resolution.

As the warranty period progresses towards the end of the phase, it is Protech's intent to work with appropriate CSEP and DWSS staff to identify what reports will be needed once all operational aspects of the system are turned over to the State and educate the staff on where the information in these reports reside. The Protech team will transition all reporting operational responsibility through appropriate training and system documentation to the State.

4.33.2.5 Maintenance Transition Report

REQUIREMENT:

11.2.2.6/4.33.2.5 This deliverable will document the satisfactory completion of the transition of maintenance to the Program's maintenance team. The Implementation Contractor will highlight in the report maintenance issues and any special circumstances its staff encountered and resolved.

The delivery of the maintenance transition report denotes an important final milestone in the development and implementation of NCSEAS. This report is evidence of the successful completion of the warranty period set forth in the RFP from the date of implementation of the first region until the last day of the development contract between DWSS and Protech Solutions, Inc.

Protech is committed to providing uninterrupted support services in a stable production environment and keeping all maintenance and operations activities transparent to the user community during the warranty period. Protech will be responsible for maintaining the system in production while planning for maintenance and operational transition to the State. As part of this report Protech will summarize any overall system maintenance issues that may be encountered. If a special set of circumstances occurs that requires extra attention, the report will include (1) an overview of the situation, (2) the activities involved to address the issue; and (3) the outcome of the situation.

4.33.2.6 Warranty Completion Report

REQUIREMENT:

11.2.2.6/4.33.2.6 The warranty completion report will document the satisfactory completion of all software warranty tasks.

The Protech team will develop the warranty completion report signifying that the twenty-four (24) month warranty is complete and DWSS will assume all maintenance and operational responsibilities.

Along with ensuring the system's performance post-implementation, the Protech Team is committed to working collaboratively with DWSS to facilitate a seamless turnover of all system maintenance, operations, and artifacts to the State. Based on our extensive experience on other child support enforcement and human services IT projects, we are confident that our provision of knowledge transfer, technical training, and system turnover will ensure the ongoing success of the NCSEAS.

Included in the warranty completion report will be several tables that will summarize numerous tasks that were completed during the warranty period. The following are samples of two tables that will be included in our report. The tables below display the total number defects resolved in production during the warranty period broken down by functional area and severity. The defects are presented by functional area and severity for the following environments:

- *Production*
- *Unit Integration Test (UIT)*
- *System test*
- *Development*
- *Performance*

It is Protech's responsibility to ensure the NCSEAS operates as designed and meets all the system availability, performance objectives, and federal requirements. This is accomplished by the successful identification and correction of all defects submitted during the warranty period. It is important that the Protech Team communicates well in advance if any defect resolutions are still pending when the final system transition to the State occurs.

Sample Warranty Completion Report					
Ticket	Headline	Date Submitted	Environment	Date Resolved	Severity
CQINT00018080	CUSW DBCR	10/1/2008 12:23:29 AM	DEV	10/1/2008 4:47:32 AM	4
CQINT00018088	WRKL-Oracle Error is Incurred	10/1/2008 7:54:46 AM	SYT	10/14/2008 11:30:00 AM	1
CQINT00018090	ICOR-UIFFSA form on ICOR	10/1/2008 8:04:09 AM	SYT	10/14/2008 11:30:44 AM	4
CQINT00018091	INEX-Expense Source Not Being Retained	10/1/2008 8:09:12 AM	SYT	10/14/2008 11:30:59 AM	3

4.33.3 Deliverables

4.33.3.1 Maintenance and System Operation
4.33.3.2 Periodic Help Desk Reports
4.33.3.3 Periodic Warranty Support Reports
4.33.3.4 Periodic Operations Reports
4.33.3.5 Maintenance Transition Report
4.33.3.6 Warranty Completion Report

Protech recognizes we are responsible for the initial maintenance and operation of the NCSEAS; periodic help desk, warranty support and operations reports; and maintenance transition and warranty completion reports, all in accordance with the schedule and terms of the contract. Deliverables number 4.33.3.1 through 4.33.3.6, Warranty Period (Initial Maintenance and Operations) Deliverable will encompass all work products resulting from activities 4.33.2.1 through 4.33.2.6 as described in this section.

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VI-4.34 System Certification

4.34.1 Objective

REQUIREMENT:

11.2.2.6/4.34.1 Federal certification deliverables establish key components and milestones for the federal review and certification of the system's functionality.

The Protech Team has a great deal of relevant experience working with states to ensure that their child support enforcement systems meet federal requirements and the state is appropriately prepared for their federal review. Along with our team partners, our team has worked successfully with numerous states—including Massachusetts, New Jersey, Michigan, Arkansas, New Hampshire, Delaware, and Maine—in their efforts to achieve federal certification and as such, we have a wealth of experience and best practices that we offer to Nevada.

4.34.2 Activities

4.34.2.1 Supporting Federal System Certification Review

REQUIREMENT:

11.2.2.6/4.34.2.1 The Implementation Contractor must support the federal system certification review, through successful certification, with the establishment of a certification environment for demonstration of the systems functionality and with the design, implementation, and installation of all software corrections as needed to bring the system into compliance with federal certification standards.

Our priority is to meet Nevada's needs, making the certification process as smooth and successful as possible. Our basic eight-step approach to assuring federal certification includes such items as meticulous planning, proactive participation, and comprehensive documentation and, of course, the all-important first step of building a system that meets federal requirements. The basic steps in our eight–step process is presented in the following graphic, Figure 4.34-1.

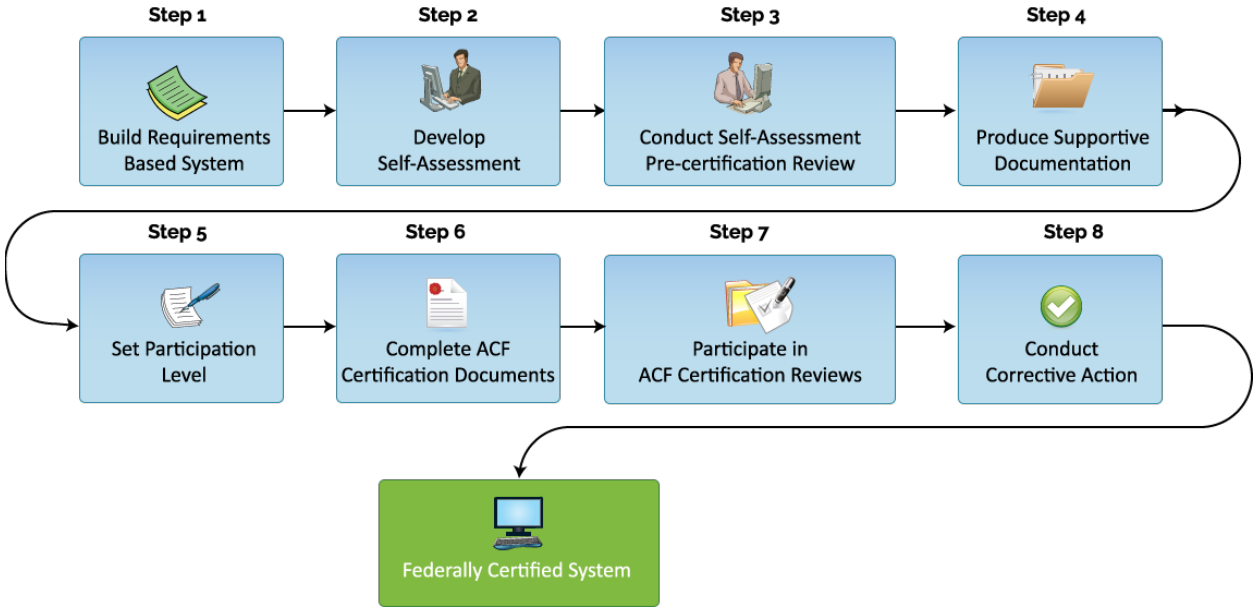

Figure 4.34-1. Eight-step Approach to Assuring Federal Certification

As part of the environment builds required for the project, Protech plans to prepare a certification environment for demonstration of the systems functionality and with the design, implementation, and

installation of all software corrections as needed to bring the system into compliance with federal certification standards.

4.34.2.2 Assurance of Child Support Distribution Logic

REQUIREMENT:

11.2.2.6/4.34.2.2 The Implementation Contractor must assure the implementation of child support distribution logic to conform to the requirements of the Federal Certification Distribution Test Deck. A special test environment must be established for the federal certification distribution testing process. This environment must provide for automated test scripting for regular regression testing repetition of the test deck conditions.

The Protech Team employs a multi-faceted testing methodology that takes full advantage of an iterative development lifecycle. Our testing methodology focuses on verifying the system conformity to user requirements and functions in a consistent, acceptable, and correct manner. The Protech Team philosophy is to perform iterative testing – that is, to test early and often throughout the life cycle to ensure a high-quality application and reduce overall development time and costs.

We begin with upfront test planning during the project initiation and planning phase to define and agree upon the testing objectives, methodology, responsibilities, and procedures. This is followed by the definition of acceptance test criteria and the development of a test environment that permits frequent testing, including regression testing, throughout the development lifecycle. The Protech Team follows a structured approach that involves designing test scenarios that mirror real world scenarios and executing those tests repeatedly throughout the development life cycle. We use sophisticated tools to both manage and automate our testing effort.

We plan to build a separate copy of the production environment for Federal test deck testing and run the test deck in accordance with the federal prescription. We review the results of the test deck through online interfaces to the test deck environment. The PRWORA distribution test deck rules are built into the requirements analysis phase and sustained through the development and testing phases of the Software Development Life Cycle (SDLC) to validate that the system is consistently compliant. Specific test scenarios and scripts for all the certification requirements are incorporated within our unit, system, and integration test plans. Testing of the child support function of financial distributions is not limited to the federal scenarios. Our test plans include specific scripts and expected outcomes to thoroughly test the distribution module in addition to satisfying the certification test deck requirements.

The PRWORA test deck documentation includes all the specific requirements and documentary evidence to demonstrate compliance with the federal PRWORA distribution requirements. The presentation of the documentation is color coded and consolidated into a composite spreadsheet to facilitate both State and federal review of the results.

4.34.2.3 Conformance Documentation

REQUIREMENT:

11.2.2.6/4.34.2.3 The Implementation Contractor must document the conformance of the NCSEAS with the requirements in the Federal Certification Guide by preparing responses and documentation for each requirement.

Our meticulous testing process was built around and fully complies with the Federal Certification Guide and much more. Protech will prepare responses and provide documentation for each requirement in accordance with the Federal Certification Guide.

4.34.2.4 Establishment of a Certification Environment

REQUIREMENT:

11.2.2.6/4.34.2.4 The Implementation Contractor must support the federal system certification review with the establishment of a certification environment for demonstration of the system's functionality, with the preparation of demonstration case data, demonstration of system functionality, and with software corrections as needed to bring the system into compliance with federal certification standards and certification review findings.

We plan to build a certification environment for demonstration of the systems functionality, including case data, and with the design, implementation, and installation of all software corrections as needed to bring the system into compliance with federal certification standards.

4.34.2.5 Conformance with Federal Requirements

A. **Federal Certification Compliance Demonstration Deliverable**
B. **Federal Certification Compliance Corrections Deliverable**
C. **PRWORA Distribution Test Deck Documentation Deliverable**
D. **Federal Certification Compliance Narrative Documentation Deliverable**
E. **Program, Document, Train, Test, and Implement Systems Modifications to Correct Deficiencies**

REQUIREMENT:

11.2.2.6/4.34.2.5 The Implementation Contractor must assure that the NCSEAS delivered is in conformance with federal requirements as may be applicable at the time of certification and is responsible for the design, coding, and implementation of any system modifications required by the federal government to attain such certification. Implementation Contractor's system certification support responsibilities include:

A. Provide federal certification compliance demonstration deliverable
B. Provide federal certification compliance corrections deliverable
C. Provide PRWORA distribution test deck documentation deliverable
D. Provide federal certification compliance narrative documentation deliverable
E. Devise, program, document, train, test, and implement any required systems modifications required to correct deficiencies cited in the federal certification process that otherwise prevent full federal certification

Our priorities are to meet Nevada's needs, assure the NCSEAS conforms to current federal requirements, and make the certification process as smooth and successful as possible. The Protech Team is prepared to fully support the Division's preparation and conduct of the federal review process in accordance with the RFP and the terms of the contract by:

- *Providing the federal certification compliance demonstration deliverable;*
- *Providing the federal certification compliance corrections deliverable;*
- *Providing the PRWORA distribution test deck documentation deliverable;*
- *Providing the federal certification compliance narrative documentation deliverable; and*
- *Devising, programming, documenting, training, testing, and implementing any required systems modifications required to correct deficiencies cited in the federal certification process that otherwise prevent full federal certification*

4.34.2.6 Federal Certification Compliance Narrative

REQUIREMENT:

11.2.2.6/4.34.2.6 The federal certification guide narrative will address each certification requirement, identify the system component or components that implement the requirement, describe how the implementation is accomplished, and present screens and reports to support the description. The narrative will address the PRWORA auxiliary questions, the Family Support Act of 1988, and the Deficit Reduction Act of 2005, and all other federal certification requirements.

Through the successful system certification in seven states, the Protech Team has gained experience preparing the federal certification compliance narrative that addresses each certification requirement, identifies the system component(s) that implements the requirement, describes how the implementation is accomplished, and presents screens and/or reports to support the description.

The variations between states typically cause federal reviewers to request more information on contractor tasks. Federal questionnaires are easily completed in draft by the Protech Team and are submitted to the

State well in advance of the required submission to ACF. As part of the federal certification task deliverables, we are prepared to complete and deliver to the Department for approval, the Federal Certification Questionnaire. While the completion of documents and questionnaires may seem insignificant to inexperienced contractors, the Protech Team knows the importance of written documentation both in advance of a review and to confirm post-review results. By thoroughly understanding these requirements, we can communicate this information in the reviewer's own language and eliminate confusion or misinterpretation. Our priority is to meet Nevada's needs, making the certification process as smooth and successful as possible.

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4.34.2.7 PRWORA Test Documentation

REQUIREMENT:

11.2.2.6/4.34.2.7 The federal test deck documentation will provide test results to verify the system's compliance with the federal distribution test decks expected results. The staff testing the NCSEAS will incorporate test deck conditions into the regression testing software so that the federal Office of Child Support Enforcement (OCSE) can verify the system complies with the test deck's distribution requirements.

The PRWORA test deck documentation includes all the specific requirements and documentary evidence to demonstrate compliance with the federal PRWORA distribution requirements. The presentation of the documentation is color coded and consolidated into a composite spreadsheet to facilitate both State and federal review of the results.

4.34.2.8 Federal Certification Compliance Demonstration

REQUIREMENT:

11.2.2.6/4.34.2.8 The federal certification compliance demonstration will prepare an environment with test cases to demonstrate successful implementation of each of the federal certification requirements.

We plan to build a separate copy of the production environment for federal test deck testing and run the test deck in accordance with the federal prescription. Specific test scenarios and scripts for all the certification requirements are incorporated within our unit, system, and integration test plans. Distribution testing is not limited to the federal scenarios. Our test plans include specific scripts and expected outcomes to thoroughly test the distribution module in addition to satisfying the certification test deck requirements.

Because the system test deck demonstration takes place in the UAT environment the participants who conduct the demonstration and staff targeted to answer the questions need to be thoroughly knowledgeable of the types of questions they may be asked. We cannot overstate the need for adequate preparation and practice walkthroughs for success. Managers and staff involved in the demonstration or staff targeted to be a part of the process during the review must be thoroughly prepared to answer review questions. We will work with the State to help prepare and respond to the questions. We prepare diligently, and the result is a smooth review that leads to system certification.

4.34.2.9 Federal Certification Compliance

REQUIREMENT:

11.2.2.6/4.34.2.9 The federal OCSE certification of the system will be the final verification of the system's functionality. The Implementation Contractor warranty will provide for correcting any functional deficiency and for adding any post-implementation enhancements to the NCSEAS, as cited by OCSE in the certification review of the system.

Towards the conclusion of the Certification Process, Protech will work with the State in communicating with the Federal Certification Team for award of Certificate. Protech will provide clarifications sought by the certification team and review the certification narrative and test deck to address the certification requirements as required. Protech will continue to engage with the Federal Certification Team until all outstanding issues are cleared and the certificate is awarded.

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4.34.3 Deliverables

4.34.3.1 Federal Certification Support
4.34.3.2 Federal Certification Compliance Narrative
4.34.3.3 PRWORA Test Documentation
4.34.3.4 Federal Certification Compliance Demonstration
4.34.3.5 Federal Certification Compliance

Protech will provide the system certification deliverables in accordance with the schedule and terms of the contract. Deliverables number 4.34.3.1 through 4.34.3.5, System Certification Deliverables will encompass all work products resulting from activities 4.34.2.1 through 4.34.2.9 as described in this section.

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VI-4.35 Transition Maintenance and Operation of System to the State

4.35.1 Objective

REQUIREMENT:

11.2.2.6/4.35.1 The objective of this task is to ensure a smooth, uninterrupted transition of the system to the State. The Implementation Contractor is responsible for training technology staff, help desk staff, and operations staff.

The key to a smooth, uninterrupted transition of the system to the State of Nevada is establishing a roadmap to transfer the knowledge. Knowledge transfer is the process of planning, delivering, and monitoring the transfer of knowledge and skills from Protech to the NCSEAS team members. Our maintenance transition plan provides a road map for the transition of knowledge and skills to prepare the State of Nevada Project team members for the implementation of NCSEAS and during the warranty period. Our maintenance transition plan includes the framework, tools, and templates that Protech will use to plan, deliver, assess, track, and report knowledge transfer.

The goal of knowledge transfer is to prepare the operations, help desk and technology staff so they can operate and maintain the NCSEAS system post go-live. The objectives of knowledge transfer are to:

1. ***Provide team members who will fill the operations, help desk and technology roles of the post production support organization with the appropriate amount of knowledge transfer to prepare them to support the system***
2. ***Transition knowledge and skills from Protech to the NCSEAS team members to help better position them to perform their roles both on the project and in the post production support organization***
3. ***Bring knowledge transfer recipients up to speed on the applicable knowledge, skills, and abilities in accordance with project timelines***
4. ***Help knowledge transfer recipients be more effective in their new roles***

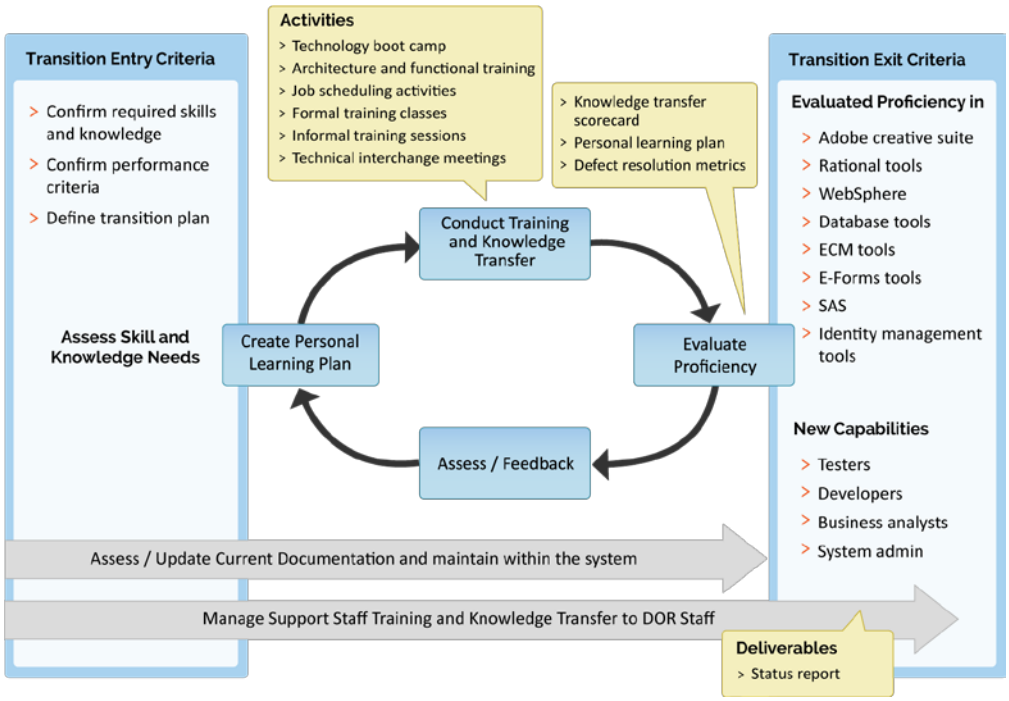

Figure 4.35-1. Training Plan Activity Flow

Support Staff Training Plan prepares CSEP developers, testers, and business analysts to maintain and support NCSEAS

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Appendix B: Sample Personal Learning Plan Template

Name: Susan Smith **Initial Personal Learning Plan Date:** 8/1/2016 **Today's Date:** 9/7/2016

Role: Change Lead **Last Update:** 9/1/2016 **Team Lead:** John Smith

Knowledge / Skill / Ability	Knowledge Transfer (KT) Activities	Knowledge Mentor	Assessed Proficiency	Desired Level of Proficiency	% Complete	Completion Date	Status	Sign Off
Business								
Knowledge of Agency & State business requirements and the scope of project activities	> Review RTM > Review CRP materials > Review Statement of Work > Review Change Orders	Project Leadership Team	☐ Beginner ☐ Proficient ☑ Advanced ☐ Expert	☐ Beginner ☐ Proficient ☐ Advanced ☑ Expert	60%		8/29/16 Reviewing CRP and RTM documents in detail	
Professional								
Ability to establish priorities, set deadlines, and manage completion of tasks according to timeline	> Review project plan, dependencies, and Issues Log to understand critical tasks > Participate in team meetings to be aware of project objectives	Project Leadership Team	☐ Beginner ☐ Proficient ☐ Advanced ☑ Expert	☐ Beginner ☐ Proficient ☐ Advanced ☑ Expert	100%	8/29/16	8/29/16 - Has achieved desired level of proficiency.	J.S.
Ability to track project progress against established timeline and report on status	> Assess completion of tasks against plan > Prepare status reports according to project standards > Review current status report	Project Leadership Team	☐ Beginner ☐ Proficient ☑ Advanced ☐ Expert	☐ Beginner ☐ Proficient ☐ Advanced ☑ Expert	65%		8/29/16 - Working with John to prepare status reports and maintain CL tasks in work plan.	

Figure 5.34-2. Sample Personal Learning Plan Template

4.35.2 Activities

4.35.2.1 Knowledge Transfer Plan and Procedures

A. Project Organization, Positions, and Skills

REQUIREMENT:

11.2.2.6/4.35.2.1 - A The knowledge transfer plan will provide for the Implementation Contractor to identify the Program's parallel project organization, positions, and skills.

Protech's knowledge transfer plan will cover the organization charts. Protech works with the State of Nevada, utilizing their input, in developing the organization chart. The plan will cover the benefits of identifying and interviewing staff assigned to the NCSEAS project for roles in the NCSEAS organization chart.

B. Detailed Steps to Transition Knowledge Specific to Role

REQUIREMENT:

11.2.2.6/4.35.2.1 - B The plan will also develop detailed steps to transition knowledge specific to each role on the Program's maintenance team.

Our knowledge transfer process includes developing role specific personal learning plans for the Program's maintenance team. The personal learning plans outline the training approach for each knowledge transfer activity, formalizing what and how knowledge is transferred, along with target start and end dates for the knowledge transfer to occur.

Using these plans enables both the State and Protech project teams to objectively and proactively plan and manage knowledge transfer activities to confirm knowledge transfer is taking place on the project.

Each personal learning plan lists the knowledge, skills, and abilities (KSAs) required to successfully execute tasks for a role in the project and/or the new post production support organization. Each skill has associated

knowledge transfer activities for the NCSEAS team members to complete. The change leadership team will create the initial personal learning plan template for each designated NCSEAS team member.

C. Maintain the System After Warranty Period

REQUIREMENT:

11.2.2.6/4.35.2.1 - C The plan will be in effect throughout the life of the project so that the Implementation Contractor will work with the Program to assure that the Program's maintenance staff will be able to maintain the modernized system after the warranty period ends.

The ongoing success of the project and technology initiatives is essential. Through our comprehensive methodology, the Protech Team works closely with the NCSEAS project team to develop the comprehensive maintenance plan to instruct the incoming team on how to administer and maintain the system configuration on an ongoing basis and facilitate a smooth implementation and effective knowledge transfer for use well after the warranty period ends.

4.35.2.2 Execution of Knowledge Transfer Plan and Procedures

REQUIREMENT:

11.2.2.6/4.35.2.2 Execute the approved Knowledge Transfer Plan and Procedures successfully.

The Protech Team provides measurable objectives to gauge competencies as a part of the knowledge transfer plan. Performance standards are set for each role. Performance standards are a part of the training plan, principally as part of the evaluation process. Our experience tells us that such performance markers make the goals objective and, when properly structured, show progress thereby motivating the learner.

4.35.2.3 Maintenance Training Plan

REQUIREMENT:

11.2.2.6/4.35.2.3 Develop a Maintenance Training Plan for a new maintenance team.

Protech's operations plan will establish the tasks and provide the operational support knowledge transfer to the State to prepare for and maintain ongoing operation of the system. Key components to prepare the State are:

- *Hands-on training*
- *Job shadowing and instruction for each role and responsibility*

Protech provides hands-on instruction and job shadowing to the State staff to learn how to perform batch support and support for online operations. This will allow the State staff to be exposed and to learn operations support by giving them groundwork on system fundamentals, architecture and framework. For example: Our plan will specify batch jobs and for each routine batch support activity, Protech expects the State staff to observe the Protech Team perform the batch support work the first time. Then, the State Staff will perform the batch support work with the Protech Team present to answer any questions or to provide additional assistance as the State staff completes the task. The success criteria to be used to define the successful completion of knowledge transfer topics are that the participants leave the session without unanswered questions. This will complete the knowledge transfer of a task.

These service tasks will complement the other tasks within the plan by summarizing operational activities required for the day-to-day operations of NCSEAS. Our methodology requires comprehensive documentation of all transitional tasks associated with operational responsibilities to the State.

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4.35.2.4 Execution of Maintenance Training Plan

REQUIREMENT:

11.2.2.6/4.35.2.4 Execute the approved Maintenance Training Plan Successfully

We understand the inclusion of specific instructions, checklists and procedures for the daily operations of NCSEAS are critical to the success of the operations' portion of the overall transition plan. Our maintenance transition plan includes documentation laying out the tasks and procedures necessary for the Program's systems operation team to provide the ongoing support. Protech promotes an effective transition of programs, knowledge, data, and processes by executing a plan that identifies all services designed to the new team who will be assuming the responsibility for ongoing system operations and management. Our team is prepared to provide the necessary expertise for a comprehensive system knowledge transition to State team members or to the new contractor at the conclusion of this contract. We understand this phase is the final critical factor on this maintenance and operations contract.

4.35.2.5 Develop an Operations Plan

REQUIREMENT:

11.2.2.6/4.35.2.5 Develop an Operations Plan which will establish the tasks required to prepare for and maintain ongoing operation of the system. The plan will specify batch jobs as well as the necessary support for online operations.

The purpose of the Operations Plan is to provide general instructions and procedures for supporting the NCSEAS production application and environment, on-line and batch operations, system maintenance to ensure desired levels of uninterrupted operations. We understand the inclusion of specific instructions, checklists and procedures for the daily operations of NCSEAS are critical to the success of the operations' portion of the overall transition plan. Our Operations Plan includes documentation laying out the tasks and procedures necessary for the Program's systems operation team to provide the ongoing support.

4.35.2.6 Execution of Approved Operations Plan

REQUIREMENT:

11.2.2.6/4.35.2.6 Execute the approved Operations Plan Successfully

Once approved, the Operations Plan will direct all efforts to prepare for and maintain ongoing operations.

4.35.2.7 Operations Transition Plan

REQUIREMENT:

11.2.2.6/4.35.2.7 Develop an Operations Transition Plan which will document the tasks necessary to turn over system operations to the programs' systems operation team. The plan will document all the routine tasks and procedures associated with system operation.

We understand the inclusion of specific instructions, checklists and procedures for the daily operations of NCSEAS are critical to the success of the operations' portion of the overall transition plan. Our maintenance transition plan includes documentation laying out the tasks and procedures necessary for the Program's systems operation team to provide the ongoing support and activities necessary for a successful transition

4.35.2.8 Execution of Operations Transition Plan

REQUIREMENT:

11.2.2.6/4.35.2.8 Execute the approved Operations Plan successfully*The execution of the approved Operations Plan will ensure the success of transitioned activities to ensure the completion of specify steps needed to prepare the procedures for day-to-day system operations. The plan will establish the batch job standards*

[redacted]

and the on-line technical support standards. It will also ascertain the transition of tasks necessary to establish the technical support team for equipment and communications problem solving. Finally, it will establish the task necessary related to the customer support staff needed to enable them to Triage application problems, manage data correction problems, and ensure the new staff's ability to prioritize problems for immediate attention

4.35.2.9 Technical Support Procedures

A. Project Organization, Positions, and Skills

REQUIREMENT:

11.2.2.6/4.3.2.9 - A Develop Technical Support Procedures will be for use by the system operations staff.

Our plan includes documents providing the technical support procedures needed by the system operations staff.

The system will have the support tools and technical documentation needed to assist Nevada in maintaining and operating the system. We create, maintain, and archive the following types of technical documentation:

- *Technical support procedures*
- *Restart and recovery procedures*
- *Software change procedures*
- *Impact analysis procedures*
- *Software correction procedures*
- *Configuration management procedures*
- *Ad-hoc reporting procedures*
- *Performance monitoring procedures*
- *Security procedures*
- *System operations procedures*
- *System maintenance procedures*
- *System disaster recovery procedures*
- *Source code library and documentation*

B. Day-to-day Operations, Batch Schedule, and Restart and Recovery

REQUIREMENT:

11.2.2.6/4.34.2.9 - B The procedures will define the processes for day-to-day operations, the batch schedule, and the restart and recovery procedures.

Protech's maintenance transition plan will provide the procedures that define the processes and the knowledge transfer to the State technology team for batch schedule, restart and recovery procedures and the day-to-day operations. Two of our key factors used to enhance the learning experience during the maintenance and warranty is job shadowing and hands on experience with the processes.

C. Software and Data Corrections and Managing Fixes

REQUIREMENT:

11.2.2.6/4.34.2.9 - C The procedures will also establish the processes for making software and data corrections and managing fixes.

We understand the inclusion of procedures establishing the processes for data corrections and changes are critical to the State of Nevada. Our maintenance transition plan includes procedures for managing the fixes, data correction and the processes for making software corrections. One of our Key factors, job shadowing, will allow the State to learn quicker.

D. Standards for Responding to System Problems

REQUIREMENT:

11.2.2.6/4.34.2.9 - D Set the standards for responding to system problems.

The Protech Team follows regimented processes and procedures to rectify issues or problems that may arise during the daily operation of NCSEAS. Our post-implementation support procedures are designed to quickly and efficiently resolve any problems or issue which may occur in the production environment.

4.35.2.10 Customer Support Procedures

A. Customer Support Staff Assisting NCSEAS Users

REQUIREMENT:

11.2.2.6/4.35.2.10 - A The customer support procedures will be for use by customer support staff assisting the NCSEAS users.

The procedure manual Protech provides for customer support includes documentation for information flows and processes needed to assist the users. The customer support procedures will explain to the customer support staff how to manage, coordinate, expedite and report the resolution of issues as quickly as possible. Assisting the user will increase the system knowledge level and elevate the end-user's confidence in the new system.

B. Managing System Problems and Issues

REQUIREMENT:

11.2.2.6/4.35.2.10 - B The procedures will define the procedures for managing system problems and issues, including the reporting process, tutelage as needed to assist system users in the correct usage of the system, prioritization for system deficiencies, the use of tools for data correction, and communication of software defects to the technical support team.

The help desk will work with the Protech maintenance team to define the detailed process and procedure for tracking system-related issues such as data captures not working properly, screen display issues, batch process issues or error messages received by the end-user. Protech will ensure the procedure manual addresses using a ticket severity level process for prioritization, reports, the tools in the toolbox for data correction and the procedure for communicating with the technical support team.

4.35.2.11 Help Desk Management Plan

REQUIREMENT:

11.2.2.6/4.35.2.11 The help desk management plan will identify the Implementation Contractor's approach to establishing the infrastructure, staffing, and operation of a NCSEAS help desk to provide users with post-implementation functional and technical support.

The NCSEAS help desk will be responsible for supporting approximately 1000 end-users. The phased in deployment of the NCSEAS application will begin with Region 1, (also known as the Pilot Region, the Reno PAO). Following the successful implementation of the Pilot, the remaining 3 regions will be converted to the NCSEAS application. It is anticipated that the demand for help desk services will be greatest during the initial rollout of the first regions and will require a full staff during the rollout of the larger counties prior to the Region 3 rollout. As the application and environment become more stable and fewer changes are incurred, less staff will be required and the staffing numbers will ramp down.

To determine the Help Desk staffing requirements, a Help Desk management tool will be used for the model estimate. Protech will work with the State to determine the staffing levels and threshold for queue hold times.

An example of the staffing structure is as follows:

- *Tier 1 help desk support staff*
- *Tier 2 help desk support staff*
- *Help desk manager*

The help desk will utilize staff to offer three levels of support. Each level of support offers increasing levels of expertise and resources to resolve the end-users' help desk ticket(s). Specific staff duties are defined below:

- *Tier 1 - Support Staff are the initial staff who answer the call, respond to the request, open a ticket, and provide initial problem determination that frequently results in problem resolution. Tier 1 support staff seeks to resolve the help desk ticket by drawing upon past experiences, use of reference materials, searching of FAQ's, reviewing training materials, etc. If unable to resolve the help desk ticket, they escalate it to the next level.*

- *Tier 2 – Support staff identify the root cause of problems by examining the business process flow and the application process flow to find a solution for the end-user. Examination of activity chains or investigations of batch processes are examples of the type of research done by the Tier 2 support staff. If unable to resolve the help desk ticket, escalate it to the next level.*

- *Help Desk Manager is the person responsible for the day to day management of the NCSEAS help desk operations, including ongoing liaison with the State project manager and the Protech project manager.*

The assignee (the help desk support person designated as the assignee by the help desk ticketing software), always maintains the responsibility to communicate the status as well as the resolution of the issue back to the end-user. This allows for seamless communication and provides an opportunity to ask and answer additional questions relating to the original help desk ticket. Having the assignee communicate and discuss the resolution of the issue with the end-user also provides the assignee the opportunity to confirm the resolution is acceptable and that the ticket in fact can be closed. This process allows each member to manage his or her commitment to the end-user and reduces the chances of a help desk ticket being closed by mistake.

The staff roles and responsibilities are listed below and identify at a high level, the roles and responsibilities associated with each of the staff titles.

Help Desk Manager:

- *Monitors the performance of the help desk team*
- *Communicates with external help desk teams*
- *Communicates with the functional and technical design teams to produce solutions*
- *Monitors incoming e-mails from other help desks*
- *Assigns help desk tickets that have been transferred from other help desks*
- *Broadcasts to the field solutions and outstanding problems status*

Help Desk - Tier 2 Support Staff:

- *Assists in resolving tickets escalated from Tier 1*
- *Documents all relevant information into a help desk ticket activity log*
- *Researches business processes to provide end-user solutions*
- *Monitor call hold times in the help desk queue*
- *Assists in resolving tickets escalated from Tier 1*
- *Investigates application anomalies to provide end-user solutions*
- *Uses appropriate tools to investigate and research end-user problems*
- *Prepares reports as directed*
- *Posts all relevant information into the help desk ticket activity log*
- *Escalates help desk tickets that are unable to be resolved at this level*

Help Desk - Tier 1 Support Staff:

- *Receiving all telephone, email and fax requests for help desk assistance*
- *Creating help desk ticket on all calls, emails a fax requests*
- *Tracking single response resolutions*
- *Forwarding all help desk tickets that are not resolved to tier 2 help desk lead within 1 hour of their determination that they cannot resolve ticket*
- *Responding to user regarding resolution provided by tier 2 help desk lead or technical team within 1 hour of receipt*
- *Reviewing open tickets at a minimum of once per day*
- *Closing tickets when appropriate based upon current help desk protocol.*

4.35.2.12 Execution of the Help Desk Management Plan

REQUIREMENT:

11.2.2.6/4.35.2.12 Execute the approved Help Desk Management Plan successfully.

The execution of the approved Help Desk management Plan ensures the adequate deployment of a tiered approach aimed to provide the best possible Help Desk management and services.

4.35.3 Deliverables

4.35.3.1 Knowledge Transfer Plan and Procedures
4.35.3.2 Successful Execution of the Knowledge Transfer Plan and Procedures
4.35.3.3 Maintenance Training Plan
4.35.3.4 Successful Execution of the Maintenance Training Plan
4.35.3.5 Operations Plan
4.35.3.6 Successful Execution of the Operations Plan
4.35.3.7 Operations Transition Plan
4.35.3.8 Successful Execution of the Operations Transition Plan
4.35.3.9 Technical Support Procedures
4.35.3.10 Customer Support Procedures
4.35.3.11 Help Desk Management Plan
4.35.3.12 Successful Execution of the Helpdesk Management Plan

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Documentation that is uniformly done well is generally indicative of the quality of the software developed. Detailed, integrated, and communicative documentation that starts at the system requirements analysis phase and traces all the way to software coding is a critical requirement of a large, fundamentally complex endeavor such as the NCSEAS project.

The Protech Team believes the only way to build an effective and consistent system is to develop and deliver properly updated and notated documentation. Protech's plans and procedure manuals detailing the processes for NCSEAS are complete and thorough. Deliverables number 4.35.3.1 through 4.35.3.12, Transition Maintenance and Operation of System to State Deliverables will encompass all work products resulting from activities 4.34.2.1 through 4.34.2.12 as described in this section.

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VI-4.36 Project Closeout

4.36.1 Objective

REQUIREMENT:

11.2.2.6/4.36.1 The Implementation Contractor will be responsible for a project completion report that includes lessons learned. The Implementation Contractor will ensure all the most recent plans, design documents, training materials, and manuals are in the central repository.

The Protech Team combines a collaborative working relationship, proven project management and system development methodologies and tools, and effective change management processes that ensure that NCSEAS meets the goals, objectives, and requirements of the State of Nevada. Protech is committed to producing a quality final product and ensuring success of the NCSEAS project.

4.36.2 Activities

Project Completion Report

Protech will submit a project completion report that emphasizes lessons learned and includes all project artifacts (recent plans, design documents, training materials and manuals) that have been archived in the central repository; financial documentation is complete; and all obligations have been fulfilled.

REQUIREMENT:

11.2.2.6/4.36.2 The project completion report will include, as a minimum, lessons learned, confirmation of the knowledge transfer delivery, confirmation that the system software repository is update to date, and confirmation that all project documentation is updated and in the project central repository.

Following the guidance in the state project closeout plan, Protech will compose the project completion report using the State provided template that includes lessons learned and a checklist of items to ensure all deliverables are up-to-date and archived in the central repository. In addition to the lessons learned throughout the project, the report will include at a minimum confirmation of the knowledge transfer delivery, system software repository is current, and all project documentation is current and archived in the central repository.

Below is an example of the items that will be included in the project completion report checklist:

- *Warranty Completion Report: The warranty completion report will document the satisfactory completion of all software warranty tasks.*

- *Knowledge Transfer Plan and Procedures: The knowledge transfer plan will provide for the Protech Team to identify the DWSS' parallel project organization, positions, and skills. The plan will also develop detailed steps to transition knowledge specific to each role on the DWSS' maintenance team. The plan will be in effect throughout the life of the NCSEAS project so that the Protech Team will work with the DWSS to assure that the DWSS' maintenance staff will be able to maintain the system after the warranty period ends.*

- *Maintenance Training: This training deliverable will document the satisfactory completion of maintenance training for a new maintenance team.*

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- *Operations Plan: The operations plan will establish the tasks required to prepare for and maintain ongoing operation of the system. The plan will specify batch jobs as well as the necessary support for online operations.*
- *Operations Transition Plan: The operations transition plan will document the tasks necessary to turn over system operations to the DWSS' systems operation team. The plan will document all the routine tasks and procedures associated with system operation.*

- *Technical Support Procedures: The technical support procedures will be for use by the system operations staff. The procedures will define the processes for day-to-day operations, the batch schedule, and the restart and recovery procedures. The procedures will also establish the processes for making software and data corrections and managing fixes. Finally, the procedures will set the standards for responding to system problems.*

- *Customer Support Procedures: The customer support procedures will be for use by customer support staff assisting NCSEAS users. The procedures will define the procedures for managing system problems and issues, including the reporting process, tutorage as needed to assist system users in the correct usage of the system, prioritization for system deficiencies, the use of tools for data correction, and communication of software defects to the technical support team.*

- *Help Desk Management Plan: The help desk management plan will identify Protech's approach to establishing the infrastructure, staffing, and operation of a NCSEAS help desk to provide users with post-implementation functional and technical support.*

4.36.3 Deliverables

4.36.3.1 Project Completion Report

Protech recognizes that we prepare and submit the project completion report in accordance with the Schedule and terms of the contract and as reasonably requested by the State in formats approved by the State. Deliverable number 4.36.3.1, Project Closeout Deliverable will encompass all work products resulting from activity 4.36.2 as described in this section.

VI-4.37 Vendor Response to Scope of Work

4.37.1 Meeting the Requirements Described in Sections 5.1 through 5.35

REQUIREMENT:

11.2.2.6/4.37.1 Within the proposal, vendors must provide information regarding their approach to meeting the requirements described within Sections 5.1 through 5.35.

Protech has provided our approach to meeting all scope of work requirements in Sections 4.4 through 4.39, since sections 5.1 to 5.35 are not relevant. It seems to be left behind from a previous RFP version (RFP 2107).

4.37.2 Subcontractor(s)

REQUIREMENT:

11.2.2.6/4.37.2 If subcontractors will be used for any of the tasks, vendors must indicate what tasks and the percentage of time subcontractor(s) will spend on those tasks.

Scope of Work Subcontractor Tasks		
Deliverable Tasks	Vendor/Subcontractor	Percentage of Time
4.3.3.1 Project Initiation and Management	Protech	4
4.4.3.1 Project Site Establishment, Maintenance and Management	Protech	2
4.5.3.1 Project Schedule	Protech	1
4.6.3.1 Weekly Meetings and Minutes 4.6.3.2 Weekly Reports 4.6.3.3 Monthly Reports	Protech	1
4.7.3.1 Technical Approach Plan 4.7.3.2 Successful Execution of the Technical Approach Plan	Tech Mahindra	1
4.8.3.1 Business Continuity and Disaster Recovery Plan.	Tech Mahindra	1
4.9.3.1 System Capacity Plan 4.9.3.2 Successful Execution of the System Capacity Plan	Tech Mahindra	1
4.10.3.1 Development Hardware and Software Purchase Plan 4.10.3.2 Successful Execution of the Development Hardware and Software Purchase Plan	Tech Mahindra	1
4.11.3.1 Production Hardware and Software Configuration Plan 4.11.3.2 Successful Execution of the Production Hardware and Software Configuration Plan	Tech Mahindra	1
4.12.3.1 Database Development Plan 4.12.3.2 Successful Execution of the Database Development Plan	Protech	1
4.13.3.1 Application Development Plan 4.13.3.2 Successful execution of the Application Development Plan	Protech	1
4.14.3.1 Ease of Use Management Plan 4.14.3.2 Successful Execution of the Ease of Use Plan	Protech	1

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Scope of Work Subcontractor Tasks		
Deliverable Tasks	Vendor/Subcontractor	Percentage of Time
4.15.3.1 Database Configuration Management Plan 4.15.3.2 Successful Execution of the Database Configuration Management Plan	Tech Mahindra	1
4.16.3.1 Data Governance Plan 4.16.3.2 Successful Execution of the Data Governance Plan	Tech Mahindra	1
4.17.3.1 Release Management Plan 4.17.3.2 Successful Execution of the Release Management Plan	Protech	1
4.18.3.1 Data Conversion Management Plan 4.18.3.2 Successful Execution of the Data Conversion Management Plan	Protech	1
4.19.3.1 Test Management Plan 4.19.3.2 Successful Execution of the Test Management Plan	Protech	1
4.20.3.1 Training Management Plan 4.20.3.2 Successful Execution of the Training Management Plan	Courtland Consulting	1
4.21.3.1 Web-Based Training Development Plan 4.21.3.2 Successful Execution of the Web-Based Training Management Plan	Courtland Consulting	1
4.22.3.1 Security Management Plan 4.22.3.2 Successful Execution of the Security Management Plan	Tech Mahindra	2
4.23.3.1 Operations Support Plan 4.23.3.2 Successful Execution of the Operations Support Plan	Protech	1
4.24.3.1 Maintenance Transition Plan 4.24.3.2 Successful Execution of the Maintenance Transition Plan	Protech	1
4.25.3.1 Warranty Support Plan 4.25.3.2 Successful Execution of the Warranty Support Plan	Protech	1
4.26.3.1 Purchased and Installed Development Hardware and Software; Purchased Operations Hardware and Software	Protech	1
4.27.3.1 Functional and Technical Requirements 4.27.3.2 Conduct JAD Sessions 4.27.3.3 Requirements Traceability Matrix 4.27.3.4 Functional Design 4.27.3.6 Detailed Requirements	Protech	7
4.27.3.5 Technical Design	Tech Mahindra	3
4.28.3.1 Development, Modification and Conversion of System Software 4.28.3.4 Unit Test Results.	Protech	7
4.28.3.2 Module Inventory 4.28.3.3 Environments	Tech Mahindra	3
4.29.3.1 Data Conversion 4.29.3.2 Conversion and Testing Plan 4.29.3.3 Conversion and Testing Report	Protech	8

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Scope of Work Subcontractor Tasks		
Deliverable Tasks	Vendor/Subcontractor	Percentage of Time
4.30.3.1 Integration, System, and Performance Testing 4.30.3.2 Acceptance Testing 4.30.3.3 Test Plans 4.30.3.4 Acceptance Test Reports 4.30.3.5 User Acceptance Test Training Materials 4.30.3.6 User Acceptance Test Plan Template	Protech	8
4.31.3.1 Training Management and Development 4.31.3.2 Training Materials 4.31.3.3 Training Manual 4.31.3.4 Conduct Training 4.31.3.4 Web-Based Training Center 4.31.3.5 System Training Reports	Courtland Consulting	5
4.32.3.1 System Implementation and Support 4.32.3.4 Fully Implemented, Functional and Operational Statewide System	Protech	5
4.32.3.2 Implementation and Initialization Plan and Report 4.32.3.3 Implementation Rollout Reports	Courtland Consulting	5
4.33.3.1 Initial Maintenance and System Operation 4.33.3.2 Periodic Help Desk Reports 4.33.3.3 Periodic Warranty Support Reports 4.33.3.4 Periodic Operations Reports 4.33.3.5 Maintenance Transition Report 4.33.3.6 Warranty Completion Report	Protech	6
4.34.3.1 Federal Certification Support 4.34.3.2 Federal Certification Compliance Narrative 4.34.3.3 PRWORA Test Documentation 4.34.3.4 Federal Certification Compliance Demonstration 4.34.3.5 Federal Certification Compliance	Protech	5
4.35.3.1 Knowledge Transfer Plan and Procedures 4.35.3.2 Successful Execution of the Knowledge Transfer Plan and Procedures 4.35.3.5 Operations Plan 4.35.3.6 Successful Execution of the Operations Plan 4.35.3.7 Operations Transition Plan 4.35.3.8 Successful Execution of the Operations Transition Plan	Protech	5
4.35.3.3 Maintenance Training Plan 4.35.3.4 Successful Execution of the Maintenance Training Plan 4.35.3.10 Customer Support Procedures 4.35.3.11 Help Desk Management Plan 4.35.3.12 Successful Execution of the Helpdesk Management Plan	Courtland Consulting	2
4.35.3.9 Technical Support Procedures	Tech Mahindra	1
4.36.3.1 Project Completion Report	Protech	1

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4.37.3 Response Limited to Five (5) Pages per Task

REQUIREMENT:

11.2.2.6/4.37.3 Vendor's response must be limited to no more than five (5) pages per task not including appendices, samples, and/or exhibits.

Appendix A contains additional details from Section 4.18 of our response.

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VI-4.38 Deliverable Submission and Review Process

REQUIREMENT:

11.2.2.6/4.38 Once the detailed project plan is approved by the State, the following sections detail the process for submission and review of deliverables during the life of the project/contract.

Protech understands and acknowledges this requirement.

4.38.1 General

4.38.1.1 Written Deliverable

REQUIREMENT:

11.2.2.6/4.38.1.1 The Implementation Contractor must provide one (1) master (both hard and soft copies) of each written deliverable to the appropriate State Project Manager as identified in the contract.

Protech will provide one (1) master copy, in both hard and soft copies, to the state project manager as identified in the contract.

4.38.1.2 Walk-through of Deliverables

REQUIREMENT:

11.2.2.6/4.38.1.2 Concurrent with the submission of a draft deliverable, the Implementation Contractor will present a walk-through of the deliverable to the Project Management Team, the QA contractor staff, and other relevant project staff (depending on the subject of the deliverable). This process will serve to inform all project participants of the substance of each deliverable and will allow potential issues with the deliverables, including inconsistencies with respect to project requirements, to be identified early in the review process.

A walkthrough of a draft deliverable will be presented to the project management team, the QA contractor staff, and other relevant project staff. The selected participants will depend on the content of the deliverable. This walkthrough will provide details on the substances of the deliverables under review and allow the participants the ability to identify inconsistences early in the process.

4.38.1.3 Reviewing and Commenting on Deliverables

REQUIREMENT:

11.2.2.6/4.38.1.3 The Program's Project Management Team and QA contractor will carefully review all Implementation Contractor deliverables before approval. The Program's Project Management Team will commit to reviewing and commenting on draft deliverables timely to assure the quality and consistency of the application and to maintain the project schedule. Unless otherwise stated in a Deliverables Table, the Project Team will have a minimum of fifteen (15) business days to review and provide comments on an initial draft deliverable and five (5) additional business days to review and provide comments on a final deliverable submission.

Protech will design the project deliverable table schedule, to allow for a minimum of fifteen (15) days for the Project Team to review and provide comments on the initial draft deliverable and an additional five (5) business days to review and provide comments on the final deliverables, when possible.

4.38.1.4 Electronic Copy of Approved and Accepted Deliverables

REQUIREMENT:

11.2.2.6/4.38.1.4 Once a deliverable is approved and accepted by the State, the Implementation Contractor must provide an electronic copy. The State may, at its discretion, waive this requirement for a particular deliverable.

An electronic copy of all deliverables will be provided to the State when they have been approved and accepted.

4.38.1.5 Electronic Copy Software Format

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REQUIREMENT:

11.2.2.6/4.38.1.5 The electronic copy must be provided in software currently utilized by the agency or provided by the Implementation Contractor.

An electronic copy of all deliverables will be provided to the State in software that is currently being utilized by the agency or in new software that will be provided by Protech.

4.38.1.6 Acceptance/Exit Criteria

REQUIREMENT:

11.2.2.6/4.38.1.6 Deliverables will be evaluated by the State utilizing mutually agreed to acceptance/exit criteria.

Mutually agreed upon acceptance and exit criteria shall be developed between Protech and the State for the evaluation of the deliverables. Protech will meet formal delivery guidelines published by the State and gain State acknowledgement for receipt of the document.

4.38.2 Deliverable Submission

4.38.2.1 Deliverable Summary Documents

REQUIREMENT:

11.2.2.6/4.38.2.1 Prior to development and submission of each contract deliverable, a summary document containing a description of the format and content of each deliverable will be delivered to the State Project Manager for review and approval. The summary document must contain, at a minimum, the following:

Protech shall, in collaboration with the State, design a summary document template. This approved document template will be completed prior to development and submission for each deliverable and provided to the State project manager for their review and approval. The summary document will include a cover letter for the deliverable, a detailed table of contents, an estimation of the number of pages for the completed document, an identification of the appendices, review history, and an approval/ reject section.

A. Cover letter

REQUIREMENT:

11.2.2.6/4.38.2.1 - A Cover letter

A cover letter will be included in the summary document for each of the deliverables.

B. Table of Contents

REQUIREMENT:

11.2.2.6/4.38.2.1 - B Table of Contents with a brief description of the content of each section

The table of contents in the provided summary documents will include a brief description for each section.

C. Anticipated Pages

REQUIREMENT:

11.2.2.6/4.38.2.1 - C Anticipated number of pages.

The summary document will detail the anticipated number of pages that the draft document for each of the contract deliverables will contain.

D. Appendices/Exhibits

REQUIREMENT:

11.2.2.6/4.38.2.1 - D Identification of appendices/exhibits.

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Appendices and exhibits that will be detailed in the contract deliverable will be identified in the summary document for the State project manager review.

4.38.2.2 Approval/Rejection Section

REQUIREMENT:

11.2.2.6/4.38.2.2 The summary document must contain an approval/rejection section that can be completed by the State. The summary document will be returned to the Implementation Contractor within a mutually agreed upon time frame.

The summary document will include an approval/rejection section that will be processed by the State. The State will have a mutually agreed upon time frame to conduct their review and return the approved or rejected document to Protech.

4.38.2.3 Approved Format and Content of Summary Document

REQUIREMENT:

11.2.2.6/4.38.2.3 Deliverables must be developed by the Implementation Contractor according to the approved format and content of the summary document for each specific deliverable.

All deliverables will be developed in accordance to the approved format and content of the summary document, as defined for each specific deliverable.

4.38.2.4 Walk-through of Each Deliverable

REQUIREMENT:

11.2.2.6/4.38.2.4 At a mutually agreed to meeting, on or before the time of delivery to the State, the Implementation Contractor must provide a walkthrough of each deliverable.

A walkthrough for each deliverable will be provided by Protech to the State at a mutually agreed date.

4.38.2.5 Deliverable Submission Time and Form(s) Attached

REQUIREMENT:

11.2.2.6/4.38.2.5 Deliverables must be submitted no later than 5:00 PM, per the approved contract deliverable schedule and must be accompanied by a deliverable sign-off form (refer to Attachment G ~ Project Deliverable Sign-Off Form) with the appropriate sections completed by the Implementation Contractor.

Based on the approved contact deliverable schedule, all deliverables will be submitted no later than 5:00 PM on the delivery date. A deliverable sign-off form, Attachment G ~ Project Deliverable Sign-Off Form, will be completed by Protech and will accompany each of the deliverables.

4.38.3 Deliverable Review

4.38.3.1 General

When State Review Time Begins

REQUIREMENT:

11.2.2.6/4.38.3.1 - A The State's review time begins on the next working day following receipt of the deliverable.

Based on the approved contact deliverable schedule, all deliverables will be submitted no later than 5:00 PM on the delivery date. The State's review time will begin on the next working day following the acceptance of the delivery.

State Review Time Determined by

REQUIREMENT:

11.2.2.6/4.38.3.2 The State's review time will be determined by the approved and accepted detailed project plan and the approved contract.

The approved project plan and contract will be used to determine the State's review time.

Determination of a Complete Deliverable

REQUIREMENT:

11.2.2.6/4.37.3.3 Unless stated otherwise in a Deliverable Table, the State has up to fifteen (15) working days to determine if a deliverable is complete and ready for review. Unless otherwise negotiated, this is part of the State's review time.

The State will have up to fifteen (15) working days to determine if a deliverable is complete and ready to review, unless otherwise stated in the deliverable table.

Deliverable Dependent Upon the State's Acceptance of a Prior Deliverable

REQUIREMENT:

11.2.2.6/4.38.3.4 - Any subsequent deliverable dependent upon the State's acceptance of a prior deliverable will not be accepted for review until all issues related to the previous deliverable have been resolved.

If a prior deliverable has not been accepted, all dependent deliverables will not be accepted for review by the State until all issues related to the previous deliverable have been resolved.

Deliverables Incomplete and/or Unacceptable for Review

REQUIREMENT:

11.2.2.6/4.38.3.5 - Deliverables determined to be incomplete and/or unacceptable for review will be rejected, not considered delivered and returned to the Implementation Contractor.

If the State rejects a deliverable, determining it is incomplete or otherwise unacceptable for review, the deliverable in question will not be considered delivered and will be returned to Protech.

After Review of a Deliverable

REQUIREMENT:

11.2.2.6/4.38.3.6 - After review of a deliverable, the State will return to the Implementation Contractor the project deliverable sign-off form with the deliverable submission and review history section completed.

When the State has completed the review of a deliverable, the State will return the completed project deliverable sign off form and review history.

A. Accepted Deliverable

REQUIREMENT:

11.2.2.6/4.38.4.1 - If the deliverable is accepted, the original deliverable sign-off form signed by the appropriate State representatives will be returned to the Implementation Contractor.

When the State has completed the review and accepted the deliverable, the State will return the completed deliverable sign off form and review history.

B. Invoicing the State

REQUIREMENT:

11.2.2.6/4.38.4.2 - Once the Implementation Contractor receives the original deliverable sign-off form, the State can then be invoiced for the deliverable (refer to Section 8, Financial).

When the State has approved and returned the completed deliverable sign-off form, Protech will invoice for the approved deliverable, following the guidelines as set for in Section 8, Financials.

4.38.3.2 Comments/Revisions Requested by the State

REQUIREMENT:

11.2.2.6/4.38.4.3 If the State has comments and/or revisions to a deliverable, the following will be provided to the Implementation Contractor:

Protech will accept comments and revisions provided by the State regarding a submitted deliverable.

State will provide a Deliverable Sign-off Form with an updated entry

REQUIREMENT:

11.2.2.6/4.38.4.3 – 1 The original deliverable sign-off form with an updated entry to the deliverable submission and review history section.

The comments and revisions that will be accepted for review by Protech will include the original sign-off form that has been updated by the State to include an entry in the deliverable submission and the review history section.

State will provide a detailed explanation of revisions

REQUIREMENT:

11.2.2.6/4.38.4.3 – 2 Attached to the deliverable sign-off form will be a detailed explanation of the revisions to be made and/or a marked-up copy of the deliverable.

A detailed explanation of the revisions will be provided by the State regarding the revisions to be made by Protech.

State will provide a first review within the times specified

REQUIREMENT:

11.2.2.6/4.38.4.3 - 3 The State's first review and return with comments will be completed within the times specified in the contract.

Based upon the time frames dictated in the contract, the State will complete and return comments regarding the reviewed deliverable.

Review, Acceptance and/or Rejection of the State's Comments

REQUIREMENT:

11.2.2.6/4.38.4.3 - 4 The Implementation Contractor will have five (5) working days, unless otherwise mutually agreed to, for review, acceptance, and/or rejection of the State's comments.

Upon reception of the State's comments, Protech will review, accept and or reject the comments within five (5) working days.

Meeting to Resolve Outstanding Issues

REQUIREMENT:

11.2.2.6/4.38.4.3 – 5 A meeting to resolve outstanding issues must be completed within three (3) working days after completion of the Implementation Contractor's review or a mutually agreed upon time frame.

To resolve all outstating issues a meeting will be scheduled within three (3) working days after the completion of Protech review, or at a mutually agreed upon date and time.

Agreements to Resolve Issues Documented Separately

REQUIREMENT:

11.2.2.6/4.38.4.3 – 6 Agreements made during meetings to resolve issues must be documented separately.

All details for agreements made during resolution meetings will be documents separately, in a mutually agreed upon format.

Agreements Reached Regarding Changes

REQUIREMENT:

11.2.2.6/4.37.3.3 - 7 Once an agreement is reached regarding changes, the Implementation Contractor must incorporate them into the deliverable for resubmission to the State.

All details of agreements regarding changes will be incorporated by Protech into the deliverable resubmitted to the State.

All changes must be easily identifiable by the State

REQUIREMENT:

11.2.2.6/4.38.4.3 - 8 All changes must be easily identifiable by the State.

All revision changes made to a deliverable document by Protech will be marked for easy identification.

Resubmission of Deliverable

REQUIREMENT:

11.2.2.6/4.38.4.3 - 9 Resubmission of the deliverable must occur within five (5) working days or a mutually agreed upon time frame of the resolution of any outstanding issues.

If a deliverable requires resubmission it will occur within a mutually agreed upon time frame or within five (5) working days of the resolution.

Resubmitted Deliverable and Original Deliverable Sign-off Form

REQUIREMENT:

11.2.2.6/4.38.4.3 – 10 The resubmitted deliverable must be accompanied by the original deliverable sign-off form.

When resubmitting a deliverable, Protech will ensure that the original deliverable sign-off form accompanies the deliverable.

Review Process Continues until Issues are Resolved

REQUIREMENT:

11.2.2.6/4.38.4.3 - 11 This review process continues until all issues have been resolved within a mutually agreed upon time frame.

Protech and the State will continue the review process until all issue has been resolved within a mutually agreed upon time frame.

Re-review Process

REQUIREMENT:

11.2.2.6/4.38.4.3 – 12 During the re-review process, the State may only comment on the original exceptions noted.

Protech will only accept comments made by the State during the re-review process regarding the original noted exceptions.

Items without Original Comments

REQUIREMENT:

11.2.2.6/4.38.4.3 – 13 All other items not originally commented on are considered to be accepted by the State.

Protech will consider all items not originally commented on as accepted by the State.

Once all Revisions are Accepted

REQUIREMENT:

11.2.2.6/4.38.4.3 - 14 Once all revisions have been accepted, the original deliverable sign-off form signed by the appropriate State representatives will be returned to the Implementation Contractor.

The State will return the signed original deliverable sign-off sheet to Protech once all revisions have been accepted.

Master Paper Copy of Each Deliverable

REQUIREMENT:

11.2.2.6/4.38.4.3 - 15 The Implementation Contractor must provide one (1) updated and complete master paper copy of each deliverable after approval and acceptance by the State.

Upon approval by the State, Protech will provide one (1) updated and complete master paper copy of each deliverable.

Invoicing the State

REQUIREMENT:

11.2.2.6/4.38.4.3 – 16 Once the Implementation Contractor receives the original deliverable sign-off form, the State can then be invoiced for the deliverable (refer to Section 8, Financial).

When the State has approved and returned the completed deliverable sign-off form, Protech will invoice for the approved deliverable following the guidelines as set forth in Section 8, Financials.

4.38.3.3 Rejected, Not Considered Delivered

REQUIREMENT:

11.2.2.6/4.38.4.4 If the State considers a deliverable not ready for review, the following will be returned to the Implementation Contractor:

Protech will expect the State to return the following items if a deliverable is deemed not ready for review; the original deliverable sign-off form, all copies of the original deliverable, and a written explanation detailing the reason for the rejection/ non-acceptance.

A. Original Deliverable Sign-off Form with Updated Entry

REQUIREMENT:

11.2.2.6/4.38.4.4 - 1 The original deliverable sign-off form with an updated entry to the deliverable submission and review history section.

The original deliverable sign-off form, with an updated entry to the deliverable submission and review history section will be returned to Protech upon rejection.

B. Original Deliverable with a Written Explanation

REQUIREMENT:

11.2.2.6/4.38.4.4 - 2 The original deliverable and all copies with a written explanation as to why the deliverable is being rejected, not considered delivered.

The rejected deliverable will include a written explanation as to why the deliverable is being rejected. The State will not consider a rejected deliverable as delivered.

C. Review, Acceptance and/or Rejection of the State's Comments

REQUIREMENT:

11.2.2.6/4.38.4.4 - 3 The Implementation Contractor will have five (5) working days, unless otherwise mutually agreed to, for review, acceptance, and/or rejection of the State's comments.

Upon reception of the State's comments, Protech will review, accept and or reject the comments within five (5) working days, unless another mutually agreed upon schedule is accepted.

D. Meeting Regarding State's Position on Rejection of the Deliverable

REQUIREMENT:

11.2.2.6/4.38.4.4 - 4 A meeting to discuss the State's position regarding the rejection of the deliverable must be completed within three (3) working days after completion of the Implementation Contractor's review or a mutually agreed upon time frame.

To resolve all outstating issues regarding the rejection of a deliverable, a meeting must be held within three (3) working days after the completion of Protech's review, or at a mutually agreed upon time.

E. Resubmission of Deliverable

REQUIREMENT:

11.2.2.6/4.38.4.4 - 5 Resubmission of the deliverable must occur within a mutually agreed upon time frame.

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If a deliverable requires resubmission it will occur within a mutually agreed upon time frame.

F. Resubmitted Deliverable and Original Deliverable Sign-off Form

REQUIREMENT:

11.2.2.6/4.38.4.4 - 6 The resubmitted deliverable must be accompanied by the original deliverable sign-off form.

When resubmitting a deliverable Protech will ensure that the original deliverable sign-off form accompanies the deliverable.

G. Steps Followed by State upon Resubmission of the Completed Deliverable

REQUIREMENT:

11.2.2.6/4.38.4.4 - 7 Upon resubmission of the completed deliverable, the State will follow the steps outlined in Section 5.37.3.2, Accepted, or Section 5.37.3.3, Comments/Revisions Requested by the State.

When Protech has completed the resubmission of the deliverable, the State will follow the steps outlined in Section 4.38.3.2, Accepted, or Section 4.38.3.3, Comments/Revisions Requested by the State.

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VI-4.39 Project Kick Off Meeting

Deliverable review process
Format and Protocol for Project Status Meetings
Format for Project Status Meetings
Scheduling Meetings
Lines of Communication and Reporting Relationships
Reviewing the Project Mission
Pinpointing High-risk or Problem Areas
Issue Resolution Process

REQUIREMENT:

11.2.2.6/4.39.1.1 A project kick off meeting will be held with representatives from the State and the Implementation Contractor after contract approval and prior to work performed. Items to be covered in the kick off meeting will include, but not be limited to:
A - Deliverable review process
B - Determining format and protocol for project status meetings
C - Determining format for project status reports
D - Setting the schedule for meetings between representatives from the State and the Implementation Contractor to develop the detailed project plan
E - Defining lines of communication and reporting relationships
F - Reviewing the project mission
G - Pinpointing high-risk or problem areas
5.38.8 Issue resolution process

Project Kick-off Meeting

Protech will conduct an abbreviated project kick-off meeting. The meeting's primary agenda is to review key project activities and processes. Using the goals of the governance project as a base agenda, Protech and State management present a shared vision for the NCSEAS project to the project teams, including project goals, objectives, work plan, timeframes, and communication methods. In this meeting, the project vision, goals, and overall schedule are reviewed and documented, along with potential risks, issues and processes to address them.

During project initiation activities, the Protech Team works closely with the State to refine the methodologies presented in these deliverables and how the strategies presented are used to manage the ongoing NCSEAS project. We validate the project objectives and build processes to achieve these objectives through a series of planning documents using our established methodology. A kickoff meeting is used to detail these validations, and the documentation required for confirming that these validations are mutually acceptable and complete.

The State and the Protech project manager work together to identify the participants for the kick-off meeting, brainstorm agenda items, identify materials necessary for the meeting, and discuss any necessary logistical items. We recommend a meeting duration of four (4) hours minimum involving key team members from DWSS management, Protech, IT, and user groups.

During the kick-off meeting, the State and Protech will discuss the key management-related items for the NCSEAS solution. Following the meeting we will issue a meeting summary that documents key discussion points, decisions, any action items from the leadership meeting, and next steps to be taken.

We recommend that the following items, at a minimum, be discussed:

- *Introduce State staff, Protech staff and any new team members involved with the project.*

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- *Review the project's scope of work, goals, and objectives to ensure all project participants have a shared understanding of the work and a common vision for the project approach and the resulting NCSEAS solution. (4.39.6)*
- *Review and discuss the proposed project schedule that is submitted with this proposal and identify changes as necessary. This includes a discussion of the major project deliverables. If additional time is required to finalize the project schedule, a separate meeting with DWSS and Protech staff will be scheduled. (4.39.4)*
- *Reaffirm the deliverable review, approval, and quality standards. (4.39.1)*
- *Confirm project management protocols, including communication methods (4.39.5)*
- *Determine protocol and format for project status meetings (4.39.2)*
- *Determine format for status reports (4.39.3)*
- *Confirm project management protocols and processes for issue resolution and risk management (including escalation), and project scope control. (4.39.8)*
- *Identify and discuss high risk or problem areas. (4.39.4)*
- *Review protocols for Protech's interaction with State staff, as well as with other State-contracted vendors. (4.39.5)*
- *Discuss additional items as agreed upon by the State and Protech.*

Site readiness review is an integral part of the project kickoff and we will present a site readiness review schedule/checklist to the State during the kickoff meeting for approval. Based on the approval, we will implement a site readiness checklist review process and present the results to the State.

The baseline Work Breakdown Structure (WBS) is reviewed and validated during the kickoff meeting and resource requirements are validated by the State and the Protech Team. Mobilization dates for resources are identified based on the validated WBS.

It is critical that the project members and key stakeholders understand what the NCSEAS project is and how the project will move from the initial requirements through the various phases of the project and into production. To accomplish this, the Protech Team will conduct a series of meetings and sessions to orient the project team and to collect information that will be used in planning and executing the project.

At the start of the project Protech will meet with the State's project management team to discuss the different orientation meetings that will need to be scheduled. While we have a specific set of information that we are looking for from these meetings it will be important to get the State's expectations, an understanding of team skill levels, and information about the program so that the project is prepared to start key activities.

The following are a list of the different types of meetings that Protech recommends for the NCSEAS project:

- *Project Kickoff – A single meeting conducted with project team members from both the State and Protech. Key stakeholders beyond the initial project team should also attend, such as partner agencies and people that will need to support the project. The goal of the meeting will to be to review the goals of the project, discuss the approach to develop NCSEAS, introduce key project members, review the project schedule, and discuss any important issues or changes to the project since the RFP was released. At the end of the meeting project members and key stakeholders should have a good understanding of the project, the key participants and milestones.*

- *State Program Overview – One or more meetings where the State will provide an overview of the child support program and its structure. Key issues and concerns will be discussed that the project*

will need to address. Major performance goals and measurements for the program will be identified with expectations for the NCSEAS system. The organizational structure of the program, including the location of where services are provided, will be reviewed.

- *State System(s) Overview – For the Protech Team to understand how the current child support program is enabled by technology an overview of the system(s) that support the program will be provided. This will include a demonstration of how the users interact with the current system(s) as well as the technology components and their deployment. Critical issues with the technology and data should be identified. External systems will be identified and any technology constraints that NCSEAS will need to operate under will be reviewed.*

- *Requirements/JAD – An overview of the requirements validation and gap analysis process will be provided to prepare project staff for the review and validation of functional, non-functional and technical requirements. The key deliverables to be produced, requirement standards, and the facilitation process will be discussed, as describe in our introductory response to this phase.*

The content of these meetings may change based on the initial planning meetings with the State. As Protech learns more about the project team and the Nevada child support environment we will tailor the meetings for the best project orientation results. Many of these meetings will be scheduled at the very beginning of the project, but some may be scheduled close to the start of activities related to the orientation information. They will also be scheduled to allow for the full participation of project participants that need the orientation.

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Section VII

Company Background

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SECTION VII

VII-5.0 Company Background and References

REQUIREMENT:

11.2.2.7/5. Vendors must place their written response(s) in bold/italics immediately following the applicable RFP question, statement, and/or section. This section must also include the requested information in Section 6.2, Subcontractor Information, if applicable.

Protech understands and will comply with this requirement.

VII-5.1 Vendor Information

5.1.1 Company Profile

REQUIREMENT:

11.2.2.7/5.1.1 Vendors must provide a company profile in the table format below.

Question	Response
Company name:	**Protech Solutions, Inc.**
Ownership (sole proprietor, partnership, etc.):	**Incorporated**
State of incorporation:	**Oklahoma 1995 transferred to Arkansas 2002**
Date of incorporation:	**February 11, 1995 (OK), June 17, 2002 (AR)**
# of years in business:	**22 years**
List of top officers:	**Satish Garimalla, CEO** **Shiva Duvvuru, CFO** **Nagaraj Garimalla, Director/Chief Architect**
Location of company headquarters:	**Little Rock, Arkansas**
Location(s) of the company offices:	**Little Rock, Arkansas** **New Castle, Delaware** **Concord, New Hampshire** **Augusta, Maine** **Hamilton, New Jersey** **Columbia, South Carolina**
Location(s) of the office that will provide the services described in this RFP:	**Carson City, Nevada** **Little Rock, Arkansas**
Number of employees locally with the expertise to support the requirements identified in this RFP:	**Approximately 30 to 40**
Number of employees nationally with the expertise to support the requirements in this RFP:	**Protech has approximately 200 employees nationally with the expertise to support the requirements in this RFP**
Location(s) from which employees will be assigned for this project:	**Carson City, Nevada** **Little Rock, Arkansas**

5.1.2 Registration with the State of Nevada

REQUIREMENT:

11.2.2.7/5.1.2 Please be advised, pursuant to NRS 80.010, a corporation organized pursuant to the laws of another state must register with the State of Nevada, Secretary of State's Office as a foreign corporation before a contract can be executed between the State of Nevada and the awarded vendor, unless specifically exempted by NRS 80.015.

Protech has been registered to do business in the State of Nevada since 2005.

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5.1.3 Licensed by the State of Nevada

REQUIREMENT:

11.2.2.7/5.1.3 The selected vendor, prior to doing business in the State of Nevada, must be appropriately licensed by the State of Nevada, Secretary of State's Office pursuant to NRS76. Information regarding the Nevada Business License can be located at http://nvsos.gov.

Question	Response
Nevada Business License Number:	**NV20051731208**
Legal Entity Name:	**Protech Solutions, Inc.**

Is "Legal Entity Name" the same name as vendor is doing business as?

Yes	✓	No	

5.1.4 Licensing Requirement(s)

REQUIREMENT:

11.2.2.7/5.1.4 Vendors are cautioned that some services may contain licensing requirement(s). Vendors shall be proactive in verification of these requirements prior to proposal submittal. Proposals that do not contain the requisite licensure may be deemed non-responsive.

Protech understands and will comply.

5.1.5 Prior contracts by any State of Nevada Agency

REQUIREMENT:

11.2.2.7/5.1.5 Has the vendor ever been engaged under contract by any State of Nevada agency?

Yes		No	✓

5.1.6 Employed by the State of Nevada

REQUIREMENT:

11.2.2.7/5.1.6 Are you now or have you been within the last two (2) years an employee of the State of Nevada, or any of its agencies, departments, or divisions?

If "Yes", please explain when the employee is planning to render services, while on annual leave, compensatory time, or on their own time?

If you employ (a) any person who is a current employee of an agency of the State of Nevada, or (b) any person who has been an employee of an agency of the State of Nevada within the past two (2) years, and if such person will be performing or producing the services which you will be contracted to provide under this contract, you must disclose the identity of each such person in your response to this RFP, and specify the services that each person will be expected to perform.

Yes		No	✓

5.1.7 Contract Failures, Contract Breaches, Civil or Criminal Litigations

REQUIREMENT:

11.2.2.7/5.1.7 Disclosure of any significant prior or ongoing contract failures, contract breaches, civil or criminal litigation in which the vendor has been alleged to be liable or held liable in a matter involving a contract with the State of Nevada or any other governmental entity. Any pending claim or litigation occurring within the past six (6) years which may adversely affect the vendor's ability to perform or fulfill its obligations if a contract is awarded as a result of this RFP must also be disclosed.

Does any of the above apply to your company?

Yes		No	✓

5.1.8 Insurance Requirements (Attachment D)

REQUIREMENT:

11.2.2.7/5.1.8 Vendors must review the insurance requirements specified in Attachment D, Insurance Schedule for RFP 3462. Does your organization currently have or will your organization be able to provide the insurance requirements as specified in Attachment E.

Yes	✓	No	

5.1.9 Company Background/History

REQUIREMENT:

11.2.2.7/5.1.9 Company background/history and why vendor is qualified to provide the services described in this RFP. Limit response to no more than five (5) pages.

Protech Solutions, Inc. (Protech) is a CMMI Level 3-certified developer of child support enforcement case management systems. We have built statewide programs for Arkansas, Massachusetts (Financial Module), Maine, Michigan, New Jersey, Delaware, New Hampshire and the International Child Support (iSupport, Netherlands). In addition to providing maintenance and support for the Arkansas and New Jersey systems, Protech is currently working on additional task orders requested by those states as well as building a PRWORA-compliant system for the State of South Carolina.

Protech, in collaboration with the State of New Hampshire crafted an expedited plan to migrate the original NECSES from a Legacy Mainframe environment where all of the technologies were outdated and no longer supported to a web based solution. This plan was finalized in the summer of 2011 and NECSES 2.0 was implemented State-wide in October of 2014 and has been successfully operational since. Protech is now assisting the State in the Federal Certification preparedness process. We believe this is one of our more successful implementations due the urgency of the functional and technical need of the State and in the expedited timeframe in which implementation was achieved.

Protech has partnered with several companies, certified developers and management staff in various skills and products to ultimately deliver the best solutions in the nation. These partnerships include Microsoft, Oracle, and SAS just to name the most commonly used. Most recently, Protech and one of our subcontracting partners Xerox, teamed to offer state child support enforcement agencies multiple Web-based and integration solutions that have proven to dramatically improve child support case management and operations.

Each of our systems has been unconditionally federally certified. Our Delaware system was unconditionally certified just last week. Furthermore, the New Jersey (NJKiDS) system received the "Innovative Technology" award from the Federal Office of Child Support Enforcement for 2009.

Protech also provided the architectural design, planning, and application development to make Wayne County (Michigan's largest county) PRWORA distribution compliant, providing the State with a system framework adopted as the core functionality for the statewide MiCSES system. A similar situation existed in Massachusetts, where the State was paying federal financial penalties for non-compliance. In each instance, Protech provided both a technical and business solution that met the critical needs of the state while providing it with a clear path for technological improvement for the future.

Protech's combination of child support experience, technical expertise, and trained professionals are unparalleled in the nation. We thoroughly understand our clients' business requirements and develop creative solutions. Our commitment to quality, extreme flexibility, creative solution architecting, going the extra mile, working closely with the client, ability to succeed where other larger vendors have failed, and our focused, successful approach in a highly complex political and organizational environment provide significant advantages to our clients while partnering to build complex systems.

Similar Projects of Like Size and Scope

Protech brings extensive experience working with state Child Support Enforcement (CSE) agencies to help them design, develop, and implement innovative solutions that are responsive to their business, technology, and program needs. The following table provides an overview of our Company's experience with projects of similar size, subject matter, complexity and duration:

Experience with State CSE Systems			
State	Target Technology	Enterprise Integration	Recognition/Award
New Hampshire (2011 – 2016)	Oracle-N Tier (Caseload 37,000)	• Daily interfaces with Mainframe and Oracle Server • Secure FTP • Cross System Workflow	• Completed and successfully implemented 60% of Federal and State requirements in late 2014.
Arkansas (1996-2016)	MS SQL-N Tier (Case Load 150,000)	• Transactional bridge with IBM S390 • Secure FTP • Cross system workflow	• First Web-enabled Child Support System • Unconditional PRWORA Certification • Selected as the Best Transfer System by Maine, Michigan, and Delaware
New Jersey (2006-2016)	J2EE-N Tier (Case Load 500,000)	• Web Services • Secure FTP • Cross System Workflow	• Award winner, Innovative Technology Award from Federal OCSE • Unconditional PRWORA Certification
Delaware (2010-2016)	MS SQL-N tier (Case Load 90,000)	• Secure FTP • Cross system workflow	• Completed and successfully implemented, Oct 2013. • Unconditional PRWORA Certification
Maine (2009-2016)	Oracle-N Tier (Case Load 120,000)	• Transactional bridge with IBM S390 and Oracle Server • Secure FTP • Cross System workflow	• Completed and successfully implemented early 2013.
Michigan (2004)	Oracle-N Tier (Case Load 900,000)	• Integration with IBM S36 at Wayne County, Michigan	• Unconditional PRWORA Certification • Selected as the Best Transfer Candidate by New Jersey
Massachusetts (2003)	Oracle-N Tier (Case Load 300,000)	• Transactional bridge with Unisys 2200 • Secure FTP • Cross system workflow	• Unconditional PRWORA Certification: Start to finish - 10 Months • Roadmap for Massachusetts assessed Protech's solution as the best and most maintainable implementation
Maine (2002)	Oracle-N Tier (Case Load 120,000)	• Transactional bridge between IBM S390 and Oracle • Secure FTP • Cross system workflow	• Unconditional PRWORA Certification • Selected as the Best Transfer candidate by Massachusetts

Protech has a strong reputation for providing states with innovative technology that addresses statewide implementations, and compliance with complex regulations. Our ability to provide technical solutions to meet pressing state needs has resulted in state customers saving millions of dollars in both operating costs and federal financial penalties. Protech's innovative technical solutions have demonstrated our expertise in the migration from legacy mainframe systems to new technology. This expertise has been nationally

recognized for the development and implementation of the nation's first statewide Web-enabled child support system (ARCSIS) certified by the federal government for FSA 88 and PRWORA certification.

Our team's expertise in migrating state systems to new technologies in order to provide technical and business solutions has been widely recognized. Protech has provided case management, financial, and data warehouse solutions in multiple states including Michigan, Maine, Massachusetts, New Jersey, Delaware, The Hague Conference in the Netherlands for iSupport, and the State of Arkansas. Each of these complex statewide system projects required migration to new technologies and required the development of multiple interfaces to other state, federal, and local agencies.

In addition to providing full service system development and implementation as a prime vendor to state governments, Protech maintains and operates statewide systems and provides case management and financial solutions. Our team has operated a statewide case management system in the State of Arkansas since 1998, providing full service deployment and support of the system infrastructure, system operations and maintenance, help desk services, enhancements, testing, and training. In addition, a financial payment processing solution developed for the State of Arkansas was modified and implemented for the Commonwealth of Virginia Department of Social Services, the State of Mississippi Division of Child Support Enforcement, and the State of Iowa Department of Human Services. Furthermore, Protech provides technical services to state finance agencies, providing accounting and budgeting solutions for the State of Arkansas, maintenance and operations, and staff augmentation. Protech is currently operating and maintaining child support solutions for Delaware, Maine, New Hampshire and New Jersey. Each of the Protech applications and their operations require interfaces and interoperability with multiple state and federal systems as well as with other stakeholder institutions such as employers, credit agencies, financial institutions, health insurance agencies, etc. Our experience with the design of these systems uniquely qualifies the Protech Team for this project.

Recent Similar Projects Successfully Completed

Recent Projects

Most recently, Protech successfully implemented a web-based application using the latest tools and technologies for New Hampshire's Department of Health and Human Services. This new system replaced the State's aging mainframe system and will be called the New England Child Support Enforcement System (NECSES 2.0).

In Delaware, Protech went live in 2013 with the new Delaware Child Support System (DECSS), designed and developed using the Arkansas and New Jersey systems as a foundation. This system was unconditionally certified in May 2016.

For the State of Maine Health and Human Services, Protech build and migrated their child support financial system in early 2000. In recent years, this system was subsequently redesigned and developed by Protech to include all child support functionality. The new Maine Child Support Enforcement System (CSEME) went live in 2012.

Project Success Details

Arkansas

- *SDU*
- *Electronic Document Management*
- *Federal e-IWO Implementation*
- *General Ledger Redesign*

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- *FCR*

New Hampshire

- *Modernizing the state's CSE Legacy system from Mainframe to an Oracle Platform*
- *Went live with NECSES 2.0 in October 2014 Successfully*

New Jersey

- *Successfully migrated the state's CSE Legacy system to a Java Enterprise Platform (2010)*
- *Currently building an integrated imaging solution for NJKiDS and several enhancements addressing new requirements, including Analytics*

Delaware

- *Successfully migrated the state's CSE Legacy system to a .NET platform (2013)*
- *Currently in Warranty and Maintenance*

Maine

- *Successfully migrated the state's Mainframe system to an Oracle Platform (2012)*
- *Currently maintaining and developing several enhancements, including Analytics*

5.1.10 Length of Time Providing Services Described in the RFP

REQUIREMENT:

11.2.2.7/5.1.10 Length of time vendor has been providing services described in this RFP to the public and/or private sector. Please provide a brief description.

Protech Solutions, Inc., founded in 1995, is a nationally recognized child support enforcement systems specialist with 21 years' experience designing, developing, and migrating CSE systems and subsystems. The company was originally incorporated in the State of Oklahoma, but in 2002, incorporation was transferred to Arkansas where the corporate headquarters and development center are located. From this location, Protech operates and maintains the Arkansas Child Support Information System (ARCSIS), as well as employs support and development resources for other projects nationwide.

Protech's principals have specialized in the design, development, implementation, migration, and maintenance of child support enforcement information systems since the mid 1990's. Our strong knowledge of CSE policy, processes, and best practices has been demonstrated in the success of our projects where we often have been faced with resolving difficult child support policy or procedural issues that required innovative technical solutions to meet our customers' business requirements.

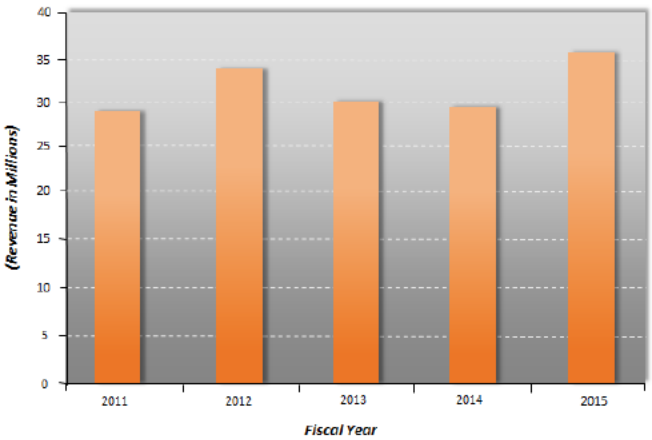
5.1.11 Financial Information and Documentation

REQUIREMENT:

11.2.2.7/5.1.11 Financial information and documentation to be included in Part III, Confidential Financial Information of vendor's response in accordance with Section 11.5, Part III – Confidential Financial Information.

Protech provides the public sector with new and improved technologies to better serve government constituencies. We have assembled a group of business and technical professionals who understand government processes and the demand for improved technical services in the Internet age. The combined experience and knowledge of business and technical professionals have made Protech highly successful and recognized as one of the nation's leading providers of IT services in CSE technology to state and local governments.

Research and development is an important component of Protech's strategic growth plan. Our customers benefit from ongoing analysis of products, tools, and methodologies to improve their architecture and applications. Virtually all of the federally certified state child support enforcement systems were initially planned and designed in the 1980s and 1990s. Though compliant with federal system certification requirements, many of these systems are cumbersome to use and have not benefited from current technological advances.



In the more than 21 years of our existence, Protech has grown from a $100,000 operation to just under $36 million in revenues for FY 2015. This growth has taken place without the need for outside capital and therefore Protech has no financial liabilities. We have successfully executed projects and provided services with a combined value of over $500 million, under budget and on time, resulting in a number of renewed contracts and repeat engagements.

Protech's financial statements as requested by the RFP can be found in PART III – CONFIDENTIAL FINANCIAL INFORMATION.

5.1.11.1 Dun and Bradstreet Number

REQUIREMENT:

11.2.2.7/5.1.11.1 Dun and Bradstreet Number

Protech's Dun and Bradstreet number is 11-398-5936.

5.1.11.2 Federal Tax Identification Number

REQUIREMENT:

11.2.2.7/5.1.11.2 Federal Tax Identification Number

Protech's Federal Tax Identification number is 73-1465867.

5.1.11.3 Two Years and Current Year Interim

A. Profit and Loss Statement

B. Balance Statement

REQUIREMENT:

11.2.2.7/5.1.11.3 Two Years and Current Year Interim:

A. Profit and Loss Statement
B. Balance Statement

Protech's 2013 and 2014 audited financial statements and current year interim report including profit/loss and balance sheet are provided in PART III – CONFIDENTIAL FINANCIAL INFORMATION.

VII-5.2 Subcontractor Information

5.2.1 Use of Subcontractors

REQUIREMENT:

11.2.2.7/5.2.1 Does this proposal include the use of subcontractors?

Yes	✓	No	

5.2.1.1 Subcontractors and Specific Requirements to be Performed

REQUIREMENT:

11.2.2.7/5.2.1.1 Identify specific subcontractors and the specific requirements of this RFP for which each proposed subcontractor will perform services.

Systems knowledge is only one half of the CSEP picture. The other half is the ability to truly manage a project of this size and complexity in a manner that not only benefits DWSS in the long run but is smooth and efficient throughout the process. One of Protech' core, proven strengths is our ability to put our clients' needs above our own. We never lose sight of the fact that our clients choose us to provide a service, not just a system. As the prime contractor, we direct and oversee the activities of the Protech Team and ensure all members collaborate and work within our defined project management structure. We manage the project and the subcontracting partners that make up the Protech Team with a common objective of ensuring the State's satisfaction with the process as well as the end result.

In choosing our subcontractors, we have selected companies whose specific experience and capabilities in the Child Support Enforcement Systems (CSES) field supplement our own. As a result, the Protech Team brings knowledge and specialties in CSES development, data conversion, and SOA-compliant architecture. We provide requirements definition, design, development, and testing services. As a specialist in CSES development, Protech's projects include complete system implementations for Arkansas, Delaware and New Jersey and financial modules for Maine, Massachusetts and Michigan.

Courtland Consulting

- ***Training (5.1.1.11)***
- ***Implementation (5.1.1.12)***
- ***On-Site Support (5.1.1.13, 5.1.1.14)***
- ***Helpdesk. (5.31.2.2, 5.31.2.3)***

Tech Mahindra

- ***Design, Development and Implementation (Partial, related to the areas below: 5.1.1.1 thru 5.1.1.8)***
- ***Electronic Document Management (Partial, related to this area: 5.1.1.1 thru 5.1.1.8)***
- ***Business Process Management***
- ***Configurable Business Process Rules***
- ***System Performance Management***
- ***Security Infrastructure***

Winning Strategies

- ***Customer Service Portal Architecture (Partial, related to this area: 5.1.1.1, 5.1.1.2)***

This carefully selected team represents an ongoing strategic alliance to streamline and revitalize modernization and enhancement for Nevada's NCSEAS program. The Protech Team reinforces each other's strengths and resources in project management, design and development, training, data conversion, and implementation. We back our approach with strong financial resources and stability as a further foundation for success. With the Protech Team, DWSS gains a collaborative partner, an efficient development approach, and minimal risk at every step of the NCSEAS Program.

5.2.1.2 Tasks to be Completed by Subcontractor(s)

REQUIREMENT:

11.2.2.7/5.2.1.2 If any tasks are to be completed by subcontractor(s), vendors shall:

Protech has Teaming Agreements with each subcontractor listed below. Contracts with each subcontractor outlining specific project tasks and expectations will be executed prior to project start if awarded.

Courtland Consulting

(a) *Protech's PMO will be responsible for the work of this subcontractor. We will use our CMMI Level-3 based subcontractor management plan to supervise this subcontractor and the channel of communication will be subject to the communication management plan that will be submitted and approved by the State during Project initiation.*

In addition to standard contract terms, Protech also includes the following in each contract:

- *Flow Down Terms and Conditions*
- *Statement of Work*
- *Subcontractor Employee Consent*

(b) *We have executed projects together in New Jersey, Delaware and South Carolina. We have reviewed the work of this subcontractor closely, and we have had several detailed walkthroughs of their work. We are convinced that they are the best team for the job.*

Tech Mahindra

(a) *Protech's PMO will be responsible for the work of this subcontractor. We will use our CMMI Level-3 based subcontractor management plan to supervise this subcontractor and the channel of communication will be subject to the communication management plan that will be submitted and approved by the State during Project initiation.*

In addition to standard contract terms, Protech also includes the following in each contract:

- *Flow Down Terms and Conditions*
- *Statement of Work*
- *Subcontractor Employee Consent*

(b) *We have executed R&D projects together for Child Support solutions for several years. We have reviewed the work of this subcontractor closely, and we have had several detailed walkthroughs of their work. We are convinced that they are the best team for the job.*

Winning Strategies

(a) *Protech's PMO will be responsible for the work of this subcontractor. We will use our CMMI Level-3 based subcontractor management plan to supervise this subcontractor and the channel of*

communication will be subject to the communication management plan that will be submitted and approved by the State during Project initiation.

In addition to standard contract terms, Protech also includes the following in each contract:

- *Flow Down Terms and Conditions*
- *Statement of Work*
- *Subcontractor Employee Consent*

(b) We have executed Customer Web Portals together for New Jersey's Child Support solutions for several years. We have reviewed the work of this subcontractor closely, and we have had several detailed walkthroughs of their work. We are convinced that they are the best team for the job.

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5.2.1.3 Subcontractor(s) Information

Company Profile

REQUIREMENT:

11.2.2.7/5.2.1.3 Provide the same information for any proposed subcontractors as requested in Section 6.1, Vendor Information.
5.1.1 Vendors must provide a company profile in the table format below.

Courtland Consulting

Question	Response
Company name:	**Courtland Consulting**
Ownership (sole proprietor, partnership, etc.):	**Corporation**
State of incorporation:	**Michigan**
Date of incorporation:	**4/1990**
# of years in business:	**27**
List of top officers:	**Steven Trudell - President**
Location of company headquarters:	**East Lansing, Michigan**
Location(s) of the company offices:	
Location(s) of the office that will provide the services described in this RFP:	**East Lansing, Michigan**
Number of employees locally with the expertise to support the requirements identified in this RFP:	**0**
Number of employees nationally with the expertise to support the requirements in this RFP:	**50**
Location(s) from which employees will be assigned for this project:	**Employees assigned to this project would relocate to Carson City, NV.**

Tech Mahindra

Question	Response
Company name:	**Tech Mahindra Limited**
Ownership (sole proprietor, partnership, etc.):	**Public Limited Company**
State of incorporation:	**Maharashtra, India**
Date of incorporation:	**24-Oct-1986**
# of years in business:	**30**
List of top officers:	**Board of Directors** **Mr. Anand G. Mahindra, Chairman** **Mr. Vineet Nayyar, Executive Vice Chairman** **Mr. C. P. Gurnani, Managing Director & CEO** **Mr. Anupam Puri** **Mr. Bharat N. Doshi** **Mr. M. Damodaran** **Mrs. M. Rajyalakshmi Rao** **Mr. Ravindra Kulkarni** **Mr. T. N. Manoharan** **Mr. Ulhas N. Yargop**

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Question	Response
	Chief Financial Officer Mr. Milind Kulkarni Business Leaders Brian Maloney, Chairman of America's Manoj Chugh, Global Sales Leader Arvind Malhotra, Cluster Leader, Public Sector, America's Detailed list of all top officials can be found in latest annual report at below link : http://www.techmahindra.com/investors/annual_reports.aspx
Location of company headquarters:	Gateway Building, Apollo Bunder, Mumbai – 400 001 Maharashtra India
Location(s) of the company offices:	Locations of company offices can be found in latest annual report at below link: http://www.techmahindra.com/investors/annual_reports.aspx
Location(s) of the office that will provide the services described in this RFP:	Tech Mahindra (Americas) Inc. 1735, Technology Drive, Suite No. 575, San Jose, CA 95110, United States Phone:+1 1 408 913 6144
Number of employees locally with the expertise to support the requirements identified in this RFP:	Tech Mahindra team has more than 500 employees locally with the expertise to support the requirements identified in this RFP
Number of employees nationally with the expertise to support the requirements in this RFP:	Tech Mahindra team has more than 4500 employees nationally with the expertise to support the requirements identified in this RFP
Location(s) from which employees will be assigned for this project:	Tech Mahindra (Americas) Inc. 1735, Technology Drive, Suite No. 575, San Jose, CA 95110, United States

Winning Strategies

Question	Response
Company name:	Somerset Technology Group d/b/a Winning Strategies ITS
Ownership (sole proprietor, partnership, etc.):	LLC
State of incorporation:	NJ
Date of incorporation:	1999
# of years in business:	17
List of top officers:	John Gayeski, Courtenay Higgins, James McQueeny
Location of company headquarters:	Newark, N.J.
Location(s) of the company offices:	Newark, N.J.
Location(s) of the office that will provide the services described in this RFP:	Newark, N.J.
Number of employees locally with the expertise to support the requirements identified in this RFP:	7
Number of employees nationally with the expertise to support the requirements in this RFP:	7
Location(s) from which employees will be assigned for this project:	Newark, N.J.

[redacted]

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Registration with the State of Nevada

REQUIREMENT:

11.2.2.7/5.1.2 Please be advised, pursuant to NRS 80.010, a corporation organized pursuant to the laws of another state must register with the State of Nevada, Secretary of State's Office as a foreign corporation before a contract can be executed between the State of Nevada and the awarded vendor, unless specifically exempted by NRS 80.015.

All subcontractors agree and will comply with all registration requirements.

Licensed by the State of Nevada

REQUIREMENT:

11.2.2.7/5.1.3 The selected vendor, prior to doing business in the State of Nevada, must be appropriately licensed by the State of Nevada, Secretary of State's Office pursuant to NRS76. Information regarding the Nevada Business License can be located at http://nvsos.gov.

As mentioned in Section 5.1.3, the prime contractor, Protech is registered in the State of Nevada. All subcontractors agree and will comply with all additional registration requirements.

Licensing Requirement(s)

REQUIREMENT:

11.2.2.7/5.1.4 Vendors are cautioned that some services may contain licensing requirement(s). Vendors shall be proactive in verification of these requirements prior to proposal submittal. Proposals that do not contain the requisite licensure may be deemed non-responsive.

All subcontractors agree and will comply with all registration requirements.

Prior contracts by any State of Nevada Agency

REQUIREMENT:

11.2.2.7/5.1.5 Has the vendor ever been engaged under contract by any State of Nevada agency?

Courtland Consulting

Yes		No	✓

Tech Mahindra

Yes	✓	No	

If "Yes", complete the following table for each State agency for whom the work was performed. Table can be duplicated for each contract being identified.

Question	Response
Name of State agency:	**State of Nevada Department of Administration**
State agency contact name:	**Berry, Shannon**
Dates when services were performed:	**April 2016 - 2021**
Type of duties performed:	**Motor Vehicle System Modernization**
Total dollar value of the contract:	**74 Million USD**

[redacted]

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Tech M and the State of Nevada ("Nevada") entered into agreement Contract #3158 on March 22nd 2016. This Agreement details the modernization of DMV systems, previously run by legacy systems which were hampering customer service. With the new Microsoft CRM based solution, the DMV will be customer centric and also flexible to adapt to emerging technologies to continue delivering best in class services to the State's citizens.

Winning Strategies

Yes		No	✓

Employed by the State of Nevada

REQUIREMENT:

11.2.2.7/5.1.6 Are you now or have you been within the last two (2) years an employee of the State of Nevada, or any of its agencies, departments, or divisions?

If "Yes", please explain when the employee is planning to render services, while on annual leave, compensatory time, or on their own time?

If you employ (a) any person who is a current employee of an agency of the State of Nevada, or (b) any person who has been an employee of an agency of the State of Nevada within the past two (2) years, and if such person will be performing or producing the services which you will be contracted to provide under this contract, you must disclose the identity of each such person in your response to this RFP, and specify the services that each person will be expected to perform.

Courtland Consulting

Yes		No	✓

Tech Mahindra

Yes		No	✓

Winning Strategies

Yes		No	✓

Contract Failures, Contract Breaches, Civil or Criminal Litigations

REQUIREMENT:

11.2.2.7/5.1.7 Disclosure of any significant prior or ongoing contract failures, contract breaches, civil or criminal litigation in which the vendor has been alleged to be liable or held liable in a matter involving a contract with the State of Nevada or any other governmental entity. Any pending claim or litigation occurring within the past six (6) years which may adversely affect the vendor's ability to perform or fulfill its obligations if a contract is awarded as a result of this RFP must also be disclosed.

Courtland Consulting

Yes		No	✓

Tech Mahindra

Yes		No	✓

Winning Strategies

Yes		No	✓

Insurance Requirements (Attachment D)

REQUIREMENT:

11.2.2.7/5.1.8 Vendors must review the insurance requirements specified in Attachment D, Insurance Schedule for RFP 3462. Does your organization currently have or will your organization be able to provide the insurance requirements as specified in Attachment E.

Any exceptions and/or assumptions to the insurance requirements must be identified on Attachment B, Technical Proposal Certification of Compliance with Terms and Conditions of RFP. Exceptions and/or assumptions will be taken into consideration as part of the evaluation process; however, vendors must be specific. If vendors do not specify any exceptions and/or assumptions at time of proposal submission, the State will not consider any additional exceptions and/or assumptions during negotiations.

Upon contract award, the successful vendor must provide the Certificate of Insurance identifying the coverages as specified in Attachment D, Insurance Schedule for RFP 3462.

Courtland Consulting

Yes	✓	No	

Tech Mahindra

Yes	✓	No	

Winning Strategies

Yes	✓	No	

Company Background/History

REQUIREMENT:

11.2.2.7/5.1.9 Company background/history and why vendor is qualified to provide the services described in this RFP. Limit response to no more than five (5) pages.

Courtland Consulting

Courtland Consulting is a social change leader and nationally recognized as the top system delivery vendor for child support projects. We are efficient and passionate about delivering consulting services that meet

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the needs of our clients and ultimately helps the well-being of children and their families. Courtland is comprised of a team of talented staff that knows child support. We have first-hand experience managing the impacts of system and policy changes that child support professionals face and we are proficient at knowing what is needed to successfully evaluate, train and support these changes.

Courtland is well known in the child support community and is recognized nationally. Courtland participates in and sponsors several national and state child support associations and events, such as NCSEA, ERICSA, WICSEC, Michigan Family Support Council, and the Indiana and New Jersey Child Support conferences.

Tech Mahindra

Tech Mahindra Ltd is part of the Mahindra Group, a USD 16.7 billion Industrial conglomerate, with a strong presence in IT, Automotive & Farm Equipment, Trade, Retail & Logistics, Infrastructure and Financial Services. The Mahindra Group employs more than 180,000 people in over 100 countries and operates in key industries that drive economic growth, enjoying a leadership position in tractors, utility vehicles, and information technology and vacation ownership.

Tech Mahindra represents the connected world, offering innovative and customer-centric information technology services and solutions, enabling Enterprise, Associates and the Society to Rise™. We are a USD 3.7 billion company with 103,000+ professionals across 51 countries, helping 700+ global customers including Fortune 500 companies. Our Consulting, Enterprise and Telecom solutions, platforms and reusable assets connect across a number of technologies to derive tangible business value. We are creating value in IT services for over 28 years across multiple verticals with special focus on Public Services.

Tech Mahindra has been recognized and awarded several accolades over the last few years. Our CEO was names the CEO of the year by the Forbes magazine. He is also the current Chairman of Nasscom.

Relevant Child Support Experience

Tech Mahindra's proprietary solution called FACES – Family and Children Enterprise Systems, a product which offers a variety of services like document management, mediation services, and business rules engine for Child Support enforcement agencies. Tech M is proud to have served the Oregon Child Support Enforcement program in their endeavor to provide justice.

The table below summarizes our depth and breadth of experience across various clients.

Tech M Breadth and Depth of Services

	RELATIONSHIP SINCE	PEAK TEAM SIZE	SERVICE OFFERINGS				Infrastructure	Americas	EMEA
			IT Consulting	App Deployment	App Maintenance	Testing			
Telecom Major	1985	15000+	✦	✦	✦	✦	✦	✦	✦
Large Auto	2003	1000+		✦	✦	✦	✦	✦	✦
Largest Global Food Company	2003	804	✦	✦	✦	✦	✦	✦	✦
Large Confectionary	2003	350	✦	✦	✦	✦	✦	✦	✦
Pharma Major	2004	900	✦	✦	✦	✦	✦	✦	✦
Abercrombie & Fitch	2007	147	✦	✦	✦	✦	✦	✦	
Global Auto Major	2003	122	✦	✦	✦	✦	✦	✦	
Global Consumer Health Care	2003	160		✦	✦	✦	✦	✦	
Confectionary Major	2003	386	✦	✦	✦	✦	✦	✦	✦
H-Tech mfg. major	2006	100	✦	✦	✦	✦	✦	✦	
Multi national consumer goods	2001	101		✦	✦	✦	✦	✦	✦

Winning Strategies

Winning Strategies ITS (WSITS) is a GSA-certified technology services agency powered by business analysts who specialize in strategic thinking, developers with deep programming skills, designers with rich creative capabilities, and network administrators who can determine system requirements and design and deploy networks with an eye toward protecting the primary business. They are supported by project managers who can channel the team's work into a highly functional, user-friendly end product.

Our capabilities include:

- *Programming Resources: WSITS has an internal team of senior engineers who can design and create customized solutions or can integrate software into existing systems to meet clients' needs.*

- *Design Expertise: WSITS specializes in responsive, accessible designs that help deliver a successful user experience.*

- *Communications Strategies: WSITS has conceived communications strategies across multiple platforms. All campaigns have differing goals and thus require different approaches. Some clients need a strong social media presence, some audiences respond best to podcasts and still others may prefer email marketing. WSITS has used these individual strategies – and sometimes all three -- to distribute product samples, engage customers to take action on an issue or otherwise support a campaign.*

- *Online Advertising: Tracking mechanisms for search and social advertising allow for immediate and effective monitoring and management of campaigns, which are executed at a fraction of the cost of traditional advertising efforts, yielding high profit margins and compelling results.*

- *State-of-the-art Data Center: WSITS boasts its own in-house SSAE 16 SOC 1 Type II (formerly SAS70) certified data center at its offices in Newark, N.J., where we host and manage hundreds of client sites and custom applications.*

- *Network Expertise: Our team can perform a variety of professional services including system design, network implementation, disaster recovery, performance testing, troubleshooting and management of client networks. WSITS is a Microsoft Certified Partner, and our network engineers have certifications from Checkpoint, Novell, Cisco and HP.*

Length of Time Providing Services Described in the RFP

REQUIREMENT:

11.2.2.7/5.1.10 Length of time vendor has been providing services described in this RFP to the public and/or private sector. Please provide a brief description.

Courtland Consulting

Courtland Consulting (Courtland) has served child support programs for more than 25 years and throughout that time has worked with several state and local child support agencies, courts, and partners in a wide range of areas and locations. Courtland's child support work has encompassed eight states including Arkansas, Delaware, Kentucky, Maine, Michigan, New Jersey, Oregon and South Carolina. Courtland has provided many services for multiple major child support system implementations, such as project management; implementation management; implementation support; implementation communication development, delivery and support; business analysis; business process re-engineering and application impact analysis; application help desk management; quality control; and Web and graphic design services. Courtland also works in legal, policy, and practice improvement efforts and has developed training material on all facets of child support functionality.

Tech Mahindra

TechM has more than 29 years of experience in providing services similar to described in this RFP to both public and private sector. As a leading IT service provider, Tech M has been helping more than 70 of fortune 500 companies, as strategic partner, in their transformation journey.

Winning Strategies

Winning Strategies ITS has been providing these services for 17 years.

Financial Information and Documentation

REQUIREMENT:

11.2.2.7/5.1.11 Financial information and documentation to be included in Part III, Confidential Financial Information of vendor's response in accordance with Section 12.5, Part III – Confidential Financial.
5.1.11.1 Dun and Bradstreet Number
5.1.11.2 Federal Tax Identification Number
5.1.11.3 Two Years and Current Year Interim:
(A) Profit and Loss Statement.
(B) Balance Statement.

All financial information requested is included for each subcontractor in PART III – CONFIDENTIAL FINANCIAL INFORMATION.

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5.2.1.4 Subcontractor(s) Business References

REQUIREMENT:

11.2.2.7/5.2.1.4 Business references as specified in Section 6.3, Business References must be provided for any proposed subcontractors.
5.2.1.4/5.3.1 Vendors should provide a minimum of three (3) business references from similar projects performed for private, state, and/or large local government clients within the last seven (7) years.

Our subcontractor business references are identified in the following reference tables as provided in Section 5.3.3 of the RFP.

Business References of Similar Projects

REQUIREMENT:

11.2.2.7/5.2.1.4/5.3.2 Business references must show a proven ability of:
5.2.1.4/5.3.2.1 Developing, designing, implementing and/or transferring a large scale application with public and/or private sectors;
5.2.1.4/5.3.2.2 Developing and executing a comprehensive application test plan;
5.2.1.4/5.3.2.3 Developing and implementing a comprehensive training plan;
5.2.1.4/5.3.2.4 Experience with comprehensive project management;
5.2.1.4/5.3.2.5 Experience with cultural change management;
5.2.1.4/5.3.2.6 Experience with managing subcontractors;
5.2.1.4/5.3.2.7 Development and execution of a comprehensive project management plan;

Although Protech as the prime vendor meets all of the abilities of this requirement, our subcontractors demonstrate most if not all of these abilities as well, detailed in the following tables.

Information for Every Business Reference

Courtland Consulting

Reference #:	**1**		
Company Name:	**Courtland Consulting**		
Identify role company will have for this RFP project (Check appropriate role below):			
	VENDOR	✓	**SUBCONTRACTOR**
Project Name:	**New Jersey Kids Deserve Support (NJKiDS)**		
Primary Contact Information			
Name:	**Patricia Risch, Assistant Director**		
Street Address:	**Quakerbridge Road, Building 5**		
City, State, Zip:	**Trenton, NJ 08625**		
Phone, including area code:	**609.631.2780**		
Facsimile, including area code:	**609.588.2064**		
Email address:	**Patricia.Risch@dhs.state.nj.us**		
Alternate Contact Information			
Name:	**Alisha Griffin Director - California Department of Child Support Services**		
Street Address:	**P.O. Box 419064**		
City, State, Zip:	**Rancho Cordova, CA 95741-9064**		
Phone, including area code:	**916-464-5300**		
Facsimile, including area code:	**N/A**		
Email address:	**Alisha.griffin@dcss.ca.gov**		
Project Information			
Brief description of the project/contract and description of services performed:	**Courtland was responsible for Implementation planning and support. Courtland performed change management activities to prepare users**		

Reference #:	**1**
Company Name:	**Courtland Consulting**
	for new system functionality and provided on-site support services before and after cutover process. Courtland also provided oversight support for all training development and delivery.
Original Project/Contract Start Date:	**May 2006**
Original Project/Contract End Date:	**Sep 2009**
Original Project/Contract Value:	**$4.4M**
Final Project/Contract Date:	**Sep 2009**
Was project/contract completed in time originally allotted, and if not, why not?	**Project was delivered on time**
Was project/contract completed within or under the original budget / cost proposal, and if not, why not?	**Project was delivered within budget.**

Reference #:	**2**		
Company Name:	**Courtland Consulting**		
Identify role company will have for this RFP project (Check appropriate role below):			
	VENDOR	✓	**SUBCONTRACTOR**
Project Name:	**State of South Carolina CFS Project**		
Primary Contact Information			
Name:	**Jimmy Early, CFS Project Chief**		
Street Address:	**1628 Browning Rd., Suite 100**		
City, State, Zip:	**Columbia, SC 29210**		
Phone, including area code:	**803-734-7933**		
Facsimile, including area code:	**803-724-5705**		
Email address:	**jimmy.earley@dss.sc.gov**		
Alternate Contact Information			
Name:	**Jake Brewbaker**		
Street Address:	**1628 Browning Rd., Suite 100**		
City, State, Zip:	**Columbia, SC 29210**		
Phone, including area code:	**803-724-5327**		
Facsimile, including area code:	**803-724-5705**		
Email address:	**jimmy.earley@dss.sc.gov**		
Project Information			
Brief description of the project/contract and description of services performed:	**Courtland is responsible for: Implementation planning and support; Training planning, development (ILT, WBT) and delivery; Helpdesk planning and delivery.**		
Original Project/Contract Start Date:	**Oct 2015**		
Original Project/Contract End Date:	**Oct 2020**		
Original Project/Contract Value:	**13.8 Million**		
Final Project/Contract Date:	**TBD**		
Was project/contract completed in time originally allotted, and if not, why not?	**TBD**		
Was project/contract completed within or under the original budget / cost proposal, and if not, why not?	**TBD**		

[redacted]

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Reference #:	**1**		
Company Name:	**Tech Mahindra**		
Identify role company will have for this RFP project (Check appropriate role below):			
	VENDOR	✓	**SUBCONTRACTOR**
Project Name:	**New Hampshire Department of Safety – Division of Motor Vehicles (NH DMV) Legacy transformation (VISION)- Statewide Citizen Centric solution implementation**		
Primary Contact Information			
Name:	**Richard C. Bailey Jr.**		
Street Address:	**NH Department of Safety Division of Motor Vehicles 23 Hazen Drive**		
City, State, Zip:	**Concord, NH 03305**		
Phone, including area code:	**603-227-4000**		
Facsimile, including area code:	**603-227-4000**		
Email address:	**Richard.BaileyJr@dos.nh.gov**		
Project Information			
Brief description of the project/contract and description of services performed:	**Background:** **NH DMV caters various services and manages its operation thru their legacy based application known as CA-IDMS. The division intends to procure the fully functional software suite that is based on existing software (Commercial of the shelves (COTS), Modifiable off the shelves (MOTS) etc.) to support the operations of the NH DMV. The primary focus of the effort will be to replace the functionality of the current legacy based NH DMV application and this initiative / project is known as VISION.** **The primary scope of the VISION project(Phase I) is to replace the following seven (7) subsystems of the legacy mainframe system and all their required interfaces:** • **Financial Processing,** • **Driver Licensing,** • **Hearings & Violations,** • **Inspection Station,** • **Dealer,** • **Inventory, and** • **Network** **Phase II of the project will include replacement of the Vehicle functionality – Titling and Registration.** **Business Challenges:** **DMV system modernization projects are lauded as "Non-Successful" hence NH DMV wanted a vendor who can position this project with the highest probability of success with the lowest risk possible for the State and successful vendor (TechM).** **As a first step, NH DMV wanted fully functional DMV software suite based on either COTS or MOTS during the procurement stage. The COTS based solution owner (TechM) is required to implement their software package to support all subsystems and integrations with required interfaces. Also the software suite should fully replace existing legacy functionality.**		

[redacted]

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Reference #:	1
Company Name:	Tech Mahindra

NH DMV has the current Title and Registration subsystems which are hosted in a Java, Oracle WebLogic and HP UNIX environment known as the MAAP system. The division also intended that TechM should follow phased approach to achieve the goal and TechM to propose either a unified implementation of the new software (COTS) and the MAAP interface or a sequential implementation.

Solution Approach:

- TechM proposed and used its Microsoft CRM based elegant and state-of-the-art COTS DMV Software Suite – Motor Vehicle Enterprise Solution (MOVES) as an Engagement accelerators. It has proved to be the engine for modern motor vehicle system meeting functional requirements of NH DMV.
- TechM's configuration over customization solution approach with inbuilt business rules engine has significantly reduced the risks.
- Solution approach built to provide customer-centricity and customer service delivery perspective
- Robust and high density compute platforms built around Microsoft's Dynamics CRM and BizTalk technologies
- Built-in analytics to ensure that the operation is proactively enhanced without compromising citizen's and DMV workers' operation experience
- Multisite disaster recovery solution

TechM Solution MOVES stack for the customer. The MOVES solution primarily encapsulates five (5) major application environments, as below, to provide its core benefits:

1. Microsoft BizTalk
2. Microsoft Dynamics CRM for Customer Relationship Management, Case Management, Definition and management of key Entities and relationship
3. Microsoft .Net based InRule – business rules engine for configuration centric approach
4. Microsoft SharePoint as the uniform presentation layer for service delivery
5. SQL Server Database, Analysis Services and SQL Service Reporting Services for Business Intelligence and reporting

These five (5) core pillars of our solution act as the software foundation in delivering the application needed to support the requirements of the NH DMV. These software packages will provide the basis to adapt all of the business and technical requirements required by the NH DMV jurisdiction. Each of the software packages has an individual role but combined using our domain and integration methodologies they form the ideal solution for the NH DMV to meet all of its defined technical visions.

Implementation Highlights:

- Project current on time and within budget, scheduled to go-live as planned in Dec 2015. This is one of the few DMV projects in the country that is projected to be on time and on budget. This has been possible because Tech M has been able to leverage the MOTS approach, has had experienced DMV professionals on the project and the management commitment to the projects.
- Joint Application Development Sessions to achieve the first time

Reference #:	**1**
Company Name:	**Tech Mahindra**
	right deliverables approach • **Coordinated efforts of a Project Team consisting of both TechM and State personnel** • **The partner approach significantly enhanced the probability of success by mitigating a number of risks** • **TechM uses best practices from its expertise and extensive experience in DMV Sector, large application development and turnkey CRM COTS system integration.** **The TechM team brought the "Thought Leadership" and proven experience and deep domain expertise and understanding to replace the functionality along with its product readiness, Implementation service experience, commitment to quality and quality assurance methods and standards.**
Original Project/Contract Start Date:	**Jan 2014**
Original Project/Contract End Date:	**Mar 2016**
Original Project/Contract Value:	**More than $8 Mn**
Final Project/Contract Date:	**Scheduled to go live in Nov 2016**
Was project/contract completed in time originally allotted, and if not, why not?	**No, project had delay in couple of modules, delaying the overall go-live date. Both State and Tech Mahindra are in agreement to go-live in Nov 2016.**
Was project/contract completed within or under the original budget / cost proposal, and if not, why not?	**Yes, project is within the budget and scheduled to go-love in Nov 2016**

Reference #:	**2**		
Company Name:	**Tech Mahindra**		
Identify role company will have for this RFP project (Check appropriate role below):			
	VENDOR	✓	**SUBCONTRACTOR**
Project Name:	**Nevada Department of Motor Vehicles (NV DMV)** **Legacy transformation SysMod**		
Primary Contact Information			
Name:	**Terri Albertson**		
Street Address:	**Nevada Department of Motor Vehicle**		
City, State, Zip:	**555 Wright Way, Carson City, NV 89711**		
Phone, including area code:	**775-684-4368**		
Facsimile, including area code:	**775-684-4368**		
Email address:	**talbertson@dmv.nv.gov**		
Project Information			
Brief description of the project/contract and description of services performed:	**The primary scope of the SysMod is to replace the following seven subsystems of the legacy system and all their required interfaces:** **Phase 1:** • **Customer –Business** • **Business Licensing** • **Revenue- POS for business licensing** • **IFTA, GL, GL Interface** • **Inventory** • **Self Help, Reports** • **Portal**		

[redacted]

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Reference #:	**2**
Company Name:	**Tech Mahindra**
	• Imaging/Scanning • Business Intelligence • Social media integration Phase 2: • Customer –Individual • Driver Licensing, Driver Control • Vehicle registration and titling • IRP, Motor carrier, Permits • Revenue- POS, Accounting • Self Help, Reports • Social media integration
Original Project/Contract Start Date:	**April 2016**
Original Project/Contract End Date:	**Mar 2021**
Original Project/Contract Value:	**Over $70 M**
Final Project/Contract Date:	**Scheduled to go live in Jan 2021**
Was project/contract completed in time originally allotted, and if not, why not?	**Project is ongoing**
Was project/contract completed within or under the original budget / cost proposal, and if not, why not?	**Project is ongoing**

Reference #:	**3**		
Company Name:	**Tech Mahindra**		
Identify role company will have for this RFP project (Check appropriate role below):			
	VENDOR	✓	**SUBCONTRACTOR**
Project Name:	**Fulton County Schools District (FCS)** **Public Budget Financing (PBF) implementation**		
Primary Contact Information			
Name:	**Marvin Dereef**		
Street Address:	**6201 Powers Ferry Rd NW**		
City, State, Zip:	**Atlanta, Georgia 30339**		
Phone, including area code:	**678-464-4673**		
Facsimile, including area code:	**678-464-4673**		
Email address:	**Dereef@fultonschools.org**		
Project Information			
Brief description of the project/contract and description of services performed:	Background: **Fulton County is the fourth largest school district in Georgia with 101 schools. There are 58 elementary schools, 19 middle schools, 17 high schools, and 7 start-up charter schools.** **TechM successfully implemented end to end Enterprise Budget Planning and Reporting system replacing the legacy system for Fulton County Schools Budget Office including 101 Schools. Solution was implemented in a phased manner in a period 3 years with multiple phases and rollouts. TechM provided the end to end project management and governance for this project including the business process re-engineering and business process mapping.** **This is a multiyear and multimillion dollar contract executed in a phased manner using phase gate approach.**		

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Reference #:	3
Company Name:	Tech Mahindra

Business Challenges:

- Difficult to maintain legacy budget planning system
- High operational cost due to manual budgeting processes
- Lack of Customer Centricity
- Lack of adaptability to legislative policies
- Poor user's experience
- Lack of budgeting insights for schools, which did not help schools to adjust to allocated budget

TechM Solution:
TechM replaced multiple legacy budgeting and financial systems by designing; implementing and integrating SAP based budgeting solution.

Project scope included:

- Conducting landscape assessment and install all necessary software
- Conducting workshops to assess the existing budget formulation processes and business requirements
- Determining the budget formulation process to be implemented using SAP Technology (PBF and others)
- Identifying the budget formulation related reporting requirements
- Preparing the business blueprint for the new budget formulation processes and reporting requirements
- Supporting FCS in building the infrastructure for implementing SAP PBF
- Implement reporting requirements using SAP Business Intelligence (BI) and SAP Business Objects

Technical Scope included:
SAP PBF 8.0,SAP BI 7.3, SAP CE7.3, SAP EP 7.3, SAP NWDI 7.3, SAP BO 4.0, SAP ECC 6.0, SAP Solution Manager 7.3

Implementation Highlights:
TechM implemented a new web based budget planning system that allows the school district to implement a more efficient budget development process by automating the key budget processes and to improve overall user experience. The system was aimed to provide the ability to dispersed district level allocations to schools and for the schools to be able to adjust allotted budgets.
As part of this engagement TechM:

- Provided consulting services to the FCS for the implementation of its SAP Public Budget
- Provided End to End Project management services
- The project was delivered in phases as given below:
  - Pre-planning and Project Preparation phase
  - Business Blueprint phase
  - Realization phase
  - Final Preparation phase
  - Go-Live and Support (30 days)
- Formulation and related business intelligence and reporting components
- Testing including integration testing
- Assisted the FCS team in user acceptance testing
- Managed an integrated training strategy and trained core users (Super-users & SMEs)
- Assisted the FCS team in end user training

[redacted]

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Reference #:	**3**
Company Name:	**Tech Mahindra**
	• **Provided production support (30 days) after the successful Go-Live and delivery of all scheduled training** **Benefits Delivered:** • **Legacy to Modern system transformation** • **New Financial system based on our accelerator or templatized solution,** • **Business Process Refinement** • **Lean Onsite – Remote site model** • **Consolidated Project Management and Application Tracking** • **Consolidated Source Management System** • **Integrated and Automated Testing System**
Original Project/Contract Start Date:	**April 2012**
Original Project/Contract End Date:	**Mar 2015**
Original Project/Contract Value:	**Over $3M**
Final Project/Contract Date:	**Mar 2015**
Was project/contract completed in time originally allotted, and if not, why not?	**Yes**
Was project/contract completed within or under the original budget / cost proposal, and if not, why not?	**Yes**

Winning Strategies

Reference #:	**1**		
Company Name:	**Winning Strategies**		
Identify role company will have for this RFP project (Check appropriate role below):			
	VENDOR	✓	**SUBCONTRACTOR**
Project Name:	**California DCSS – Website Assessment**		
Primary Contact Information			
Name:	**Alisha Griffin**		
Street Address:	**11150 International Drive**		
City, State, Zip:	**Rancho Cordova CA 95741**		
Phone, including area code:	**916-464-5300**		
Facsimile, including area code:	**N/A**		
Email address:	**Alisha.griffin@dcss.ca.gov**		
Alternate Contact Information			
Name:	**Kimberly Peng**		
Street Address:	**11150 International Drive**		
City, State, Zip:	**Rancho Cordova CA 95741**		
Phone, including area code:	**916-464-5300**		
Facsimile, including area code:	**N/A**		
Email address:	**Kimberly.Peng@dcss.ca.gov**		
Project Information			
Brief description of the project/contract and description of services performed:	**Assessment of existing internal and external websites and guidance on consolidating sites to improve customer service for all audiences.**		
Original Project/Contract Start Date:	**6/1/15**		
Original Project/Contract End Date:	**9/30/15**		

Reference #:	**1**
Company Name:	**Winning Strategies**
Original Project/Contract Value:	**$60,000**
Final Project/Contract Date:	**6/1/15 – 3/31/16**
Was project/contract completed in time originally allotted, and if not, why not?	**No. The scope of the project was expanded and a six-month extension was granted.**
Was project/contract completed within or under the original budget / cost proposal, and if not, why not?	**No. Due to the scope expansion, the project was re-estimated and the price increased.**

Reference #:	**2**		
Company Name:	**Winning Strategies**		
Identify role company will have for this RFP project (Check appropriate role below):			
	VENDOR	✓	**SUBCONTRACTOR**
Project Name:	**New Jersey Child Support - Website Hosting**		
Primary Contact Information			
Name:	**Patricia Risch**		
Street Address:	**5 Quakerbridge Plaza**		
City, State, Zip:	**Mercerville NJ 08619**		
Phone, including area code:	**609-631-2780**		
Facsimile, including area code:	**609-588-2064**		
Email address:	**Patricia.risch@dhs.state.nj.us**		
Alternate Contact Information			
Name:	**Alisha Griffin**		
Street Address:	**11150 International Drive**		
City, State, Zip:	**Rancho Cordova CA 95741**		
Phone, including area code:	**916-464-5300**		
Facsimile, including area code:	**N/A**		
Email address:	**Alisha.griffin@dcss.ca.gov**		
Project Information			
Brief description of the project/contract and description of services performed:	**Support and development for all public-facing and staff-facing web-based applications.**		
Original Project/Contract Start Date:	**7/1/12**		
Original Project/Contract End Date:	**6/30/17**		
Original Project/Contract Value:	**Approx. $400,000/year**		
Final Project/Contract Date:			
Was project/contract completed in time originally allotted, and if not, why not?	**The project is ongoing.**		
Was project/contract completed within or under the original budget / cost proposal, and if not, why not?	**The project is ongoing.**		

Reference Questionnaire (Attachment E)

REQUIREMENT:

11.2.2.7/5.2.1.4/5.3.3 Vendors shall submit Attachment E, Reference Questionnaire to their business references.

Courtland Consulting

[redacted]

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Reference Questionnaire (Attachment E) from Courtland Consulting were sent to the following:

- *Patricia Risch, IV-D Director of New Jersey*
- *Jeff Williams, CEO, Public Sector Consultants*

Tech Mahindra

Reference Questionnaire (Attachment E) from Tech Mahindra were sent to the following:

- *Izzy Hernandez, Nevada Department of Motor Vehicle*
- *Marvin Dereef, Deputy CFO, Fulton County Schools, Georgia*

Winning Strategies

Reference Questionnaire (Attachment E) from Winning Strategies were sent to the following:

- *Patricia Risch, IV-D Director, New Jersey*
- *Alisha Griffin, IV-D Director, California*

Questionnaire Submitted to the Purchasing Division

REQUIREMENT:

11.2.2.7/5.2.1.4/5.3.4 It is the vendor's responsibility to ensure that completed forms are received by the Purchasing Division on or before the deadline as specified in Section 9, RFP Timeline for inclusion in the evaluation process. Reference Questionnaires not received, or not complete, may adversely affect the vendor's score in the evaluation process

Protech agrees and will comply.

Quality and Degree of Satisfaction for Performance

REQUIREMENT:

11.2.2.7/5.2.1.4/5.3.7 The State reserves the right to contact and verify any and all references listed regarding the quality and degree of satisfaction for such performance.

Protech agrees and understands.

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5.2.1.5 Subcontractor(s) Staff Skills and Experience Required

REQUIREMENT:

11.2.2.7/5.2.1.5 Provide the same information for any proposed subcontractor staff as specified in Section 5.4, Vendor Staff Skills and Experience Required.

All staffing skills and experience are met and presented together in Protech's response to Section 5.4.

5.2.1.6 Subcontractor(s) Staff Resumes

REQUIREMENT:

11.2.2.7/5.2.1.6 Staff resumes for any proposed subcontractors as specified in Section 5.5, Vendor Staff Resumes.

Protech has provided all resumes in the format requested in SECTION VII of our response.

5.2.1.7 Subcontractor(s) Insurance Requirements

REQUIREMENT:

11.2.2.7/5.2.1.7 Vendor shall not allow any subcontractor to commence work until all insurance required of the subcontractor is provided to the vendor.

Protech understands this requirement and will comply.

5.2.1.8 Intended use of any Subcontractor(s)

REQUIREMENT:

11.2.2.7/5.2.1.8 Vendor must notify the using agency of the intended use of any subcontractors not identified within their original proposal and provide the information originally requested in the RFP in Section 6.2, Subcontractor Information. The vendor must receive agency approval prior to subcontractor commencing work.

Protech understands this requirement and will comply.

5.2.1.9 Subcontractor(s) Employees Authorized to Work

REQUIREMENT:

11.2.2.7/5.2.1.9 All subcontractor employees assigned to the project must be authorized to work in this country.

Protech understands this requirement and will comply.

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VII-5.3 Business References

5.3.1 Business References of Similar Projects

REQUIREMENT:

11.2.2.7/5.3.1 Vendors should provide a minimum of three (3) business references from similar projects performed for private, state, and/or large local government clients within the last seven (7) years.

As shown in our response to Company Experience, but also relevant here, Protech brings extensive experience working with state Child Support Enforcement (CSE) agencies to help them design, develop, and implement innovative solutions that are responsive to their business, technology, and program needs. The following table provides an overview of our Company's experience with projects of similar size, subject matter, complexity, and duration.

Experience with State CSE Systems			
State	Target Technology	Enterprise Integration	Recognition/Award
New Hampshire (2011 – 2016)	Oracle-N Tier (Caseload 37,000)	• Daily interfaces with Mainframe and Oracle Server • Secure FTP • Cross System Workflow	• Completed and successfully implemented 60% of Federal and State requirements in late 2014.
Arkansas (1996-2016)	MS SQL-N Tier (Case Load 150,000)	• Transactional bridge with IBM S390 • Secure FTP • Cross system workflow	• First web-enabled Child Support System • Unconditional PRWORA Certification • Selected as the Best Transfer System by Maine, Michigan, and Delaware
New Jersey (2006-2016)	J2EE-N Tier (Case Load 500,000)	• Web Services • Secure FTP • Cross System Workflow	• Award winner, Innovative Technology Award from Federal OCSE • Unconditional PRWORA Certification
Delaware (2010-2016)	MS SQL-N tier (Case Load 90,000)	• Secure FTP • Cross system workflow	• Completed and successfully implemented, Oct 2013. • Unconditional PRWORA Certification
Maine (2009-2016)	Oracle-N Tier (Case Load 120,000)	• Transactional bridge with IBM S390 and Oracle Server • Secure FTP • Cross System workflow	• Completed and successfully implemented early 2013.
Michigan (2004)	Oracle-N Tier (Case Load 900,000)	• Integration with IBM S36 at Wayne County, Michigan	• Unconditional PRWORA Certification • Selected as the Best Transfer Candidate by New Jersey
Massachusetts (2003)	Oracle-N Tier (Case Load 300,000)	• Transactional bridge with Unisys 2200 • Secure FTP • Cross system workflow	• Unconditional PRWORA Certification: Start to finish - 10 Months • Roadmap for Massachusetts assessed Protech's solution as the best and most maintainable implementation
Maine (2002)	Oracle-N Tier (Case Load 120,000)	• Transactional bridge between IBM S390 and Oracle • Secure FTP • Cross system workflow	• Unconditional PRWORA Certification • Selected as the Best Transfer candidate by Massachusetts

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5.3.2 Business References Showing:

5.3.2.1 Developing, Designing, Implementing and/or Transferring a Large Scale Application

5.3.2.2 Developing and Executing a Comprehensive Application Test Plan

5.3.2.3 Developing and Implementing a Comprehensive Training Plan

5.3.2.4 Experience with Comprehensive Project Management

5.3.2.5 Experience with Cultural Change Management

5.3.2.6 Managing Subcontractors

5.3.2.7 Development and Execution of a Comprehensive Project Management Plan

REQUIREMENT:

11.2.2.7/5.3.2 Business references must show a proven ability of:
5.3.2.1 Developing, designing, implementing and/or transferring a large scale application with public and/or private sectors;
5.3.2.2 Developing and executing a comprehensive application test plan;
5.3.2.3 Developing and implementing a comprehensive training plan;
5.3.2.4 Experience with comprehensive project management;
5.3.2.5 Experience with cultural change management;
5.3.2.6 Experience with managing subcontractors;
5.3.2.7 Development and execution of a comprehensive project management plan;

The combined experience and knowledge of Protech's business and technical professionals and successful relations with subcontractors has made Protech highly successful and recognized as one of the nation's leading providers of Child Support Enforcement (CSE) information technology services to state and local governments, with a primary focus on development, maintenance, and enhancement of automated systems. Founded in 1995, we are now a global organization with over 400 resources and growing. Protech, a proud Minority and Women-Owned Business Enterprise, is a professionally managed global provider of innovative technology and consulting services to both the public and private sector. With our technological focus and expertise, we have established quality systems along with global alliances and technology partnerships with market leaders.

We provide our clients with new and improved technologies to better serve them and have assembled a group of business and technical professionals that understand processes specific to our clients' domains and the demand for improved technical service. Our products and solutions are built based on an in-depth understanding of the industry, a thorough understanding of the clients' business and their business objectives. We pride ourselves on providing solutions that reduce cost, improve margins, and create capacity for future growth.

Why Protech

- *Risk managed approach to migrating large legacy systems*
- *Certified multiple, highly regarded and awarded child support enforcement systems across the country.*
- *Proven enterprise architecture design and implementation track record*
- *SLA based application maintenance and monitoring*
- *History of successfully executing large child support systems for state governments across the nation*

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What We Offer

- ***Business intelligence enhanced CSE Systems***
- ***Locate and people-finder portals***
- ***Collaborative social networking applications***
- ***Secure mobile applications and responsive web design***

Reference #:	**1**		
Company Name:	**California Department of Child Support Services**		
Identify role company will have for this RFP project (Check appropriate role below):			
X	**VENDOR**		**SUBCONTRACTOR**
Project Name:	**New Jersey Kids Deserve Support (NJKiDS)**		

Primary Contact Information	
Name:	**Alisha Griffin, Director - California Department of Child Support Services**
Street Address:	**11150 International Drive**
City, State, Zip:	**Rancho Cordova CA 95741**
Phone, including area code:	**916-464-5300**
Facsimile, including area code:	**N/A**
Email address:	**Alisha.Griffin@dcss.ca.gov**
Alternate Contact Information	
Name:	**Patricia Risch, Assistant Director**
Street Address:	**Quakerbridge Road, Building 5**
City, State, Zip:	**Trenton, NJ 08625**
Phone, including area code:	**609-631-2780**
Facsimile, including area code:	**609.588.2064**
Email address:	**Patricia.risch@dhs.state.nj.us**
Project Information	
Brief description of the project/contract and description of services performed:	Protech Solutions successfully responded to the New Jersey Department of Human Services RFP for a new, web based system. The NJKiDS project was a large and very complex child support development and implementation project of five years, including a two-year warranty and maintenance period. Protech staff worked with various user groups and stakeholders during the Design phase to validate requirements and to accommodate the divergent business processes. The NJKiDS system requires online real-time interfaces as well as batch processing with the external interface applications. In New Jersey, there are a number of stakeholders providing services, local county computer systems, and separate Administrative Office of the Courts (AOC) automated system that made achieving a satisfactory level of automation difficult. Protech resources entered the project with professionalism and eagerness to work alongside the wide variety of stakeholders to bring the state a system that could be used by everyone. Talented staff patiently worked to understand business needs and document system requirements while ensuring stakeholders were comfortable with the design. New Jersey expected to have state of the art technology that would provide the stakeholders of the program a central enterprise-wide

Reference #:	1
Company Name:	California Department of Child Support Services
	automated system that all parties and stakeholders could utilize effectively with greater ease of use to provide the children and families of New Jersey with improved child support enforcement services. To that end, NJKiDS achieved and exceeded this expectation. This was affirmed in November of 2009 as NJKiDS received the OCSE Commissioner's Award for Innovative Technology, with full unconditional Federal Certification of NJKiDS given in July of 2010. This was a testament to the great leadership and expertise Protech staff offered. As part of maintenance, Protech continues to staff the project with an average of 50 individuals with a variety of functional and technical skills. We provide assistance with issue resolution, training, and management. Additionally, we have and continue to enhance the system by providing expertise in new technologies where the state requires increased functionality. **Applications Software:** NJKiDS is a web-based application developed using J2EE technology with a Model View Controller (MVC) architecture. Frameworks used include HTML, XML, CSS while user interfaces were developed using JavaScript, AJAX, JQuery and JSON. The Application software runs on AIX on IBM P-series using WebSphere and uses ORACLE 11g RAC.
Original Project/Contract Start Date:	**May 2006**
Original Project/Contract End Date:	**Sep 2009**
Original Project/Contract Value:	**$89M**
Final Project/Contract Date:	**Sep 2009 – Present (Maintenance and operations)**
Was project/contract completed in time originally allotted, and if not, why not?	**Original Project was delivered on time**
Was project/contract completed within or under the original budget / cost proposal, and if not, why not?	**Original Project was delivered within budget.** **Current contract value: $113M (Additional change orders were requested and approved by the State)**

[redacted]

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Reference #:	**2**		
Company Name:	**New Jersey Department of Human Services Office of Child Support Services (OCSS)**		
Identify role company will have for this RFP project (Check appropriate role below):			
X	**VENDOR**		**SUBCONTRACTOR**
Project Name:	**New Jersey Kids Deserve Support (NJKiDS)**		

Primary Contact Information	
Name:	**Patricia Risch, Assistant Director**
Street Address:	**Quakerbridge Road, Building 5**
City, State, Zip:	**Trenton, NJ 08625**
Phone, including area code:	**609-631-2780**
Facsimile, including area code:	**609.588.2064**
Email address:	**Patricia.risch@dhs.state.nj.us**
Alternate Contact Information	
Name:	**Alisha Griffin, Director - California Department of Child Support Services**
Street Address:	**11150 International Drive**
City, State, Zip:	**Rancho Cordova CA 95741**
Phone, including area code:	**916-464-5300**
Facsimile, including area code:	**N/A**
Email address:	**Alisha.Griffin@dcss.ca.gov**
Project Information	
Brief description of the project/contract and description of services performed:	Protech Solutions successfully responded to the New Jersey Department of Human Services RFP for a new, web based system. The NJKiDS project was a large and very complex child support development and implementation project of five years, including a two-year warranty and maintenance period. Protech staff worked with various user groups and stakeholders during the Design phase to validate requirements and to accommodate the divergent business processes. The NJKiDS system requires online real-time interfaces as well as batch processing with the external interface applications. In New Jersey, there are a number of stakeholders providing services, local county computer systems, and separate Administrative Office of the Courts (AOC) automated system that made achieving a satisfactory level of automation difficult. Protech resources entered the project with professionalism and eagerness to work alongside the wide variety of stakeholders to bring the state a system that could be used by everyone. Talented staff patiently worked to understand business needs and document system requirements while ensuring stakeholders were comfortable with the design. New Jersey expected to have state of the art technology that would provide the stakeholders of the program a central enterprise-wide automated system that all parties and stakeholders could utilize effectively with greater ease of use to provide the children and families of New Jersey with improved child support enforcement services. To that end, NJKiDS achieved and exceeded this expectation. This was affirmed in November of 2009 as NJKiDS received the OCSE Commissioner's Award for Innovative Technology, with full unconditional Federal Certification of NJKiDS given in July of 2010. This was a testament to the great leadership and expertise Protech staff offered.

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Reference #:	2
Company Name:	New Jersey Department of Human Services Office of Child Support Services (OCSS)
	As part of maintenance, Protech continues to staff the project with an average of 50 individuals with a variety of functional and technical skills. We provide assistance with issue resolution, training, and management. Additionally, we have and continue to enhance the system by providing expertise in new technologies where the state requires increased functionality. **Applications Software:** NJKiDS is a web-based application developed using J2EE technology with a Model View Controller (MVC) architecture. Frameworks used include HTML, XML, CSS while user interfaces were developed using JavaScript, AJAX, JQuery and JSON. The Application software runs on AIX on IBM P-series using WebSphere and uses ORACLE 11g RAC.
Original Project/Contract Start Date:	**May 2006**
Original Project/Contract End Date:	**Sep 2009**
Original Project/Contract Value:	**$89M**
Final Project/Contract Date:	**Sep 2009 – Present (Maintenance and operations)**
Was project/contract completed in time originally allotted, and if not, why not?	**Original Project was delivered on time**
Was project/contract completed within or under the original budget / cost proposal, and if not, why not?	**Original Project was delivered within budget.** **Current contract value: $113M (Additional change orders were requested and approved by the State)**

Reference #:	3		
Company Name:	Maine Department of Health and Human Services, Division Support Enforcement and Recovery		
Identify role company will have for this RFP project (Check appropriate role below):			
X	VENDOR		SUBCONTRACTOR
Project Name:	Maine Child Support Enforcement (CSEME)		
Primary Contact Information			
Name:	Jerry Joy - Director, Division of Child Support Enforcement & Recovery		
Street Address:	268 Whitten Road		
City, State, Zip:	Augusta, ME 04333		
Phone, including area code:	207-287-2843		
Facsimile, including area code:	N/A		
Email address:	Jerry.Joy@maine.gov		
Alternate Contact Information			
Name:	Jeffrey P. Young, Assistant Director Division of Child Support Enforcement & Recovery		
Street Address:	19 Union St.		
City, State, Zip:	Augusta, ME 04330		
Phone, including area code:	207-624-6987		
Facsimile, including area code:	N/A		
Email address:	Jeffrey.P.Young@maine.gov		
Project Information			
Brief description of the project/contract and description of services performed:	In May of 2009 Protech was awarded a contract to provide migration services to the State of Maine's Child Support Enforcement computer system (NECSES - New England Child Support Enforcement System). The system currently resides in three platforms; part of the core Child		

Reference #:	3
Company Name:	Maine Department of Health and Human Services, Division Support Enforcement and Recovery
	Support functionality resides on the State's IBM mainframe, the customer service functionality resides in a standalone application developed in .NET, and the remainder of the core Child Support functionality, including Financials was migrated to Oracle in 2000. The Protech Team has already redesigned and developed the customer service functionality in Oracle and this module is currently undergoing User Acceptance Testing. In addition to the unconditional federally certified system Protech provided in the last 90's, the development team built the Case Initiation, IV-A / IV-D Interface, Federal Case Registry (FCR) and Locate modules. These modules were moved to production on September 1, 2010 and were developed in the latest Oracle technology, Fusion Middleware 11g with WebLogic. Subsequently all the remaining core Child Support functionality was migrated from the IBM mainframe, providing the State of Maine with a state of the art child support application that resides on a single platform. The Oracle based application resulted in major financial savings for the State of Maine child support agency as well as simplification in the ease of use for all caseworkers. **Applications Software:** Protech worked with the State and identified integration points between the NECSES mainframe system and the new Oracle 11g system. Database and data integration points between NECSES2 (the financial subsystem in Oracle 9i) and CSEME (the new Oracle 11g system that would ultimately house all functionality in NECSES and in NECSES2) were identified and detailed design sessions were conducted to specify, design and build the interfaces between these systems. **Training:** Developed user-friendly, online training documentation, user documentation broadcasts, and face-to-face user training for the new system.
Original Project/Contract Start Date:	**Aug 2009**
Original Project/Contract End Date:	**Jun 2016**
Original Project/Contract Value:	**$5M**
Final Project/Contract Date:	**Jun 2016 – Present (Maintenance and operations)**
Was project/contract completed in time originally allotted, and if not, why not?	**Original Project was delivered on time**
Was project/contract completed within or under the original budget / cost proposal, and if not, why not?	**Original Project was delivered within budget.** **Current contract value: $18.4M (Contract Extension for additional enhancements ($8.8M) and New Contract for additional enhancements ($9.6))**

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Reference #:	**4**		
Company Name:	**State of Arkansas DF&A-Revenue Division Office of Child Support Enforcement (OCSE)**		
Identify role company will have for this RFP project (Check appropriate role below):			
X	**VENDOR**		**SUBCONTRACTOR**
Project Name:	**Arkansas Child Support Information System (ARCSIS)**		
Primary Contact Information			
Name:	**Jeff Moritz, Chief Information Officer**		
Street Address:	**1515 W 7th St**		
City, State, Zip:	**Little Rock, AR 72201**		
Phone, including area code:	**(501) 324-8537**		
Facsimile, including area code:	**N/A**		
Email address:	**Jeff.Moritz@ocse.state.ar.us**		
Alternate Contact Information			
Name:	**Ashish Misra, ARCSIS IT Coordinator**		
Street Address:	**105 W Capitol Ave., Suite 100**		
City, State, Zip:	**Little Rock, AR 72201**		
Phone, including area code:	**(501) 324-8518**		
Facsimile, including area code:	**N/A**		
Email address:	**Ashish.Misra@ocse.arkansas.gov**		
Project Information			
Brief description of the project/contract and description of services performed:	Protech's initial contract with the State of Arkansas began in March 1996 and continues today as we provide the State with new technologies that save the taxpayers of Arkansas millions of dollars through more efficient processing of payments and integration of child support processes into one system. The current project grew out of requirements for system changes necessary for the State to successfully implement the welfare reform Initiatives as required under the federal PRWORA requirements. Faced with quickly changing technology, the decision was made to move to a client server environment, implementing these changes in two phases. The first phase, the financial module, successfully implemented in 2001. Protech completed the second and final stage of the two-phased migration in the summer of 2003, providing Arkansas OCSE with the only third generation, fully Web-enabled, federally certified system in the country.		
Original Project/Contract Start Date:	**Mar 1996**		
Original Project/Contract End Date:	**Jul 2003**		
Original Project/Contract Value:	**$60.7M**		
Final Project/Contract Date:	**Jun 2016 – Present (Maintenance and operations)**		
Was project/contract completed in time originally allotted, and if not, why not?	**Original Project was delivered on time**		
Was project/contract completed within or under the original budget / cost proposal, and if not, why not?	**Original Project was delivered within budget.** **Current contract value: $9.8M**		

5.3.3 Reference Questionnaire (Attachment E)

REQUIREMENT:

11.2.2.7/5.3.3 Vendors shall submit Attachment E, Reference Questionnaire to their business references.

[redacted]

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Reference Questionnaires (Attachment E) were sent to the following:

- *Alisha Griffin, IV-D Director, California*
- *Patricia Risch, IV-D Director, New Jersey*
- *Richard Ward, IT Manager, New Hampshire*
- *Jerry Joy, Division, Director, Maine*
- *Jeff Moritz, Chief Information Officer, DFA-OCSE, Arkansas*

5.3.4 Questionnaire Submitted to the Purchasing Division

REQUIREMENT:

11.2.2.7/5.3.4 It is the vendor's responsibility to ensure that completed forms are received by the Purchasing Division on or before the deadline as specified in Section 10, RFP Timeline for inclusion in the evaluation process. Reference Questionnaires not received, or not complete, may adversely affect the vendor's score in the evaluation process.

Protech understands this requirement.

5.3.5 Quality and Degree of Satisfaction for Performance

REQUIREMENT:

11.2.2.7/5.3.5 The State reserves the right to contact and verify any and all references listed regarding the quality and degree of satisfaction for such performance.

Protech understands this requirement.

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VII-5.4 Vendor Staff Skills and Experience Required

REQUIREMENT:

11.2.2.7/5.4 The vendor shall provide qualified personnel to perform the work necessary to accomplish the tasks defined in Section 4, Scope of Work. The State must approve all awarded vendor resources. The State reserves the right to require the removal of any member of the awarded vendor's staff from the project.

Perhaps the single most important element of a successful project is the people involved. Protech understands that an experienced, highly committed, and senior project team is critical to the success of the NCSEAS project. Our team provides that value and brings a comprehensive understanding of child support including organizational and business processes, system development, implementation, technology installation, operations, and maintenance.

Protech has a highly skilled staff that is qualified to offer the services required to successfully plan and implement all the required phases of the NCSEAS project. In this section, we introduce our proposed project team who were specifically chosen for their prior CSE system knowledge and have placed each candidate in a position where his/her skills will be most beneficial to the project.

5.4.1 Project Manager Qualifications

REQUIREMENT:

11.2.2.7/5.4.1 The Project Manager assigned by the awarded vendor to the engagement must have:

All project manager qualifications are met and shown in the following table.

5.4.2 Technical Lead Qualifications

REQUIREMENT:

11.2.2.7/5.4.2 The technical lead assigned by the awarded vendor must have:

All technical lead qualifications are met and shown in the following table.

5.4.3 Implementation Lead Qualifications

REQUIREMENT:

11.2.2.7/5.4.3 The implementation lead assigned by the awarded vendor must have:

All implementation lead qualifications are met and shown in the following table.

5.4.4 Individual Team Member Qualifications

REQUIREMENT:

11.2.2.7/5.4.4 Each member of the Implementation Contractor's project team must meet at least one (1) of the qualifications below. All team members must bring

All other individual team members are identified and their qualifications are shown in the following table.

Vendor Staff Skills and Experience			
Required Staff	Experience Requirements	Resource Proposed	Requirement Met
Project Director *5.4.1 Project Manager*	5.4.1.1 A minimum of four (4) years of project management experience, within the last ten (10) years, in government or the private sector of which two (2) years' experience has been in the	**Tom Kelliher**	✓

[redacted]

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Vendor Staff Skills and Experience			
Required Staff	Experience Requirements	Resource Proposed	Requirement Met
Qualifications	Child Support Enforcement environment		
	5.4.1.2 A minimum of three (3) years of experience, within the last ten (10) years, managing systems architecture and development projects		✓
	5.4.1.3 A minimum of two (2) years of experience with systems analysis and design		✓
	5.4.1.4 A minimum of two (2) years of experience with systems development and implementation in a Service Oriented Architecture (SOA) environment		✓
	5.4.1.5 Completed at least two (2) projects within the past five (5) years that involved designing business processes and procedures and developing new systems to support the new business processes;		✓
	5.4.1.6 Completed at least one (1) project within the past three (3) years that involved communication and coordination of activities with external stakeholders;		✓
	5.4.1.7 A minimum of two (2) years of experience using Microsoft Project or similar software;		✓
	5.4.1.8 Demonstrated knowledge of Title IV, Part D of the Social Security Act		✓
	5.4.1.9 Detailed knowledge of the Automated Systems for Child Support Enforcement: A Guide for States 2009.		✓
Project Manager *5.4.1 Project Manager Qualifications*	5.4.1.1 A minimum of four (4) years of project management experience, within the last ten (10) years, in government or the private sector of which two (2) years' experience has been in the Child Support Enforcement environment	**LeAnn Rollans**	✓
	5.4.1.2 A minimum of three (3) years of experience, within the last ten (10) years, managing systems architecture and development projects		✓
	5.4.1.3 A minimum of two (2) years of experience with systems analysis and design		✓
	5.4.1.4 A minimum of two (2) years of experience with systems development and implementation in a Service Oriented Architecture (SOA) environment		✓
	5.4.1.5 Completed at least two (2) projects within the past five (5) years that involved designing business processes and procedures and developing new systems to support the new business processes;		✓
	5.4.1.6 Completed at least one (1) project within the past three (3) years that involved communication and coordination of activities with external stakeholders;		✓
	5.4.1.7 A minimum of two (2) years of experience using Microsoft Project or similar software;		✓
	5.4.1.8 Demonstrated knowledge of Title IV, Part D of the Social Security Act		✓
	5.4.1.9 Detailed knowledge of the Automated Systems for Child Support Enforcement: A Guide for States 2009.		✓

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Vendor Staff Skills and Experience			
Required Staff	Experience Requirements	Resource Proposed	Requirement Met
Chief Architect / Project Advisor *5.4.2 Technical Lead Qualifications*	5.4.2.1 A minimum of four (4) years of project management experience, within the last ten (10) years, in government or the private sector of which two (2) years of experience within the last five (5) years in the Child Support Enforcement environment	**Nagaraj Garimalla**	✓
	5.4.2.2 A minimum of three (3) years of experience, within the last ten (10) years, managing systems architecture and development projects		✓
	5.4.2.3 A minimum of two (2) years of experience with systems analysis and design		✓
	5.4.2.4 A minimum of two (2) years of experience with systems development and implementation in a Service Oriented Architecture (SOA) environment		✓
	5.4.2.5 Lead at least two (2) projects within the past five (5) years that involved designing business processes and procedures and developing new systems to support the new business processes		✓
	5.4.2.6 Lead at least one (1) project within the past three (3) years that involved communication and coordination of activities with external stakeholders		✓
	5.4.2.7 A minimum of two (2) years of experience using Microsoft Project or similar software		✓
	5.4.2.8 Demonstrated knowledge of Title IV, Part D of the Social Security Act		✓
	5.4.2.9 Detailed knowledge of the Automated Systems for Child Support Enforcement: A Guide for States 2009		✓
Technical Manager *5.4.2 Technical Lead Qualifications*	5.4.2.1 A minimum of four (4) years of project management experience, within the last ten (10) years, in government or the private sector of which two (2) years of experience within the last five (5) years in the Child Support Enforcement environment	**Jayakumar Masamsetty**	✓
	5.4.2.2 A minimum of three (3) years of experience, within the last ten (10) years, managing systems architecture and development projects		✓
	5.4.2.3 A minimum of two (2) years of experience with systems analysis and design		✓
	5.4.2.4 A minimum of two (2) years of experience with systems development and implementation in a Service Oriented Architecture (SOA) environment		✓
	5.4.2.5 Lead at least two (2) projects within the past five (5) years that involved designing business processes and procedures and developing new systems to support the new business processes		✓
	5.4.2.6 Lead at least one (1) project within the past three (3) years that involved communication and coordination of activities with external stakeholders		✓
	5.4.2.7 A minimum of two (2) years of experience using Microsoft Project or similar software		✓
	5.4.2.8 Demonstrated knowledge of Title IV, Part D of the Social Security Act		✓

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Vendor Staff Skills and Experience			
Required Staff	Experience Requirements	Resource Proposed	Requirement Met
	5.4.2.9 Detailed knowledge of the Automated Systems for Child Support Enforcement: A Guide for States 2009		✓
Development Manager *5.4.2 Technical Lead Qualifications*	5.4.2.1 A minimum of four (4) years of project management experience, within the last ten (10) years, in government or the private sector of which two (2) years of experience within the last five (5) years in the Child Support Enforcement environment	**Dinesh Kumar Shanmugam**	✓
	5.4.2.2 A minimum of three (3) years of experience, within the last ten (10) years, managing systems architecture and development projects		✓
	5.4.2.3 A minimum of two (2) years of experience with systems analysis and design		✓
	5.4.2.4 A minimum of two (2) years of experience with systems development and implementation in a Service Oriented Architecture (SOA) environment		✓
	5.4.2.5 Lead at least two (2) projects within the past five (5) years that involved designing business processes and procedures and developing new systems to support the new business processes		✓
	5.4.2.6 Lead at least one (1) project within the past three (3) years that involved communication and coordination of activities with external stakeholders		✓
	5.4.2.7 A minimum of two (2) years of experience using Microsoft Project or similar software		✓
	5.4.2.8 Demonstrated knowledge of Title IV, Part D of the Social Security Act		✓
	5.4.2.9 Detailed knowledge of the Automated Systems for Child Support Enforcement: A Guide for States 2009		✓
Implementation Lead *5.4.3 Implementation Lead Qualifications*	5.4.3.1 A minimum of two (2) years of Child Support Enforcement IT system implementation experience. Experience must involve project management of an enterprise-wide architecture, networking, multiple systems integration, hardware and software and managing a technical team and its activities from inception through post implementation on a minimum of one (1) project of similar size and complexity to this project;	**Anthony Sessions**	✓
	5.4.3.2 A minimum of three (3) years of experience leading the implementation of new business processes and procedures and new automated systems to support the new business processes;		✓
	5.4.3.3 A minimum of two (2) years of experience leading the implementation of applications in a SOA environment;		✓
	5.4.3.4 A minimum of three (3) years of experience performing data cleansing, conversion, and implementation activities for a similar sized project;		✓
	5.4.3.5 Completed at least one (1) project within the past three (3) years that involved the procurement, receipt and make ready of computer equipment and software;		✓
	5.4.3.6 Completed at least one (1) project within the past three (3) years that involved a phased implementation where systems activities were coordinated between the old and new system environments;		✓

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Vendor Staff Skills and Experience			
Required Staff	Experience Requirements	Resource Proposed	Requirement Met
	5.4.3.7 Demonstrated knowledge of Title IV, Part D of the Social Security Act		✓
	5.4.3.8 Detailed knowledge of the Automated Systems for Child Support Enforcement: A Guide for States 2009		✓
	5.4.3.9 A minimum of five (5) years of experience developing software using object-oriented programming languages		✓
Conversion Manager *5.4.2 Technical Lead Qualifications*	5.4.2.1 A minimum of four (4) years of project management experience, within the last ten (10) years, in government or the private sector of which two (2) years of experience within the last five (5) years in the Child Support Enforcement environment	**Barrett Greene**	✓
	5.4.2.2 A minimum of three (3) years of experience, within the last ten (10) years, managing systems architecture and development projects		✓
	5.4.2.3 A minimum of two (2) years of experience with systems analysis and design		✓
	5.4.2.4 A minimum of two (2) years of experience with systems development and implementation in a Service Oriented Architecture (SOA) environment		✓
	5.4.2.5 Lead at least two (2) projects within the past five (5) years that involved designing business processes and procedures and developing new systems to support the new business processes		✓
	5.4.2.6 Lead at least one (1) project within the past three (3) years that involved communication and coordination of activities with external stakeholders		✓
	5.4.2.7 A minimum of two (2) years of experience using Microsoft Project or similar software		✓
	5.4.2.8 Demonstrated knowledge of Title IV, Part D of the Social Security Act		✓
	5.4.2.9 Detailed knowledge of the Automated Systems for Child Support Enforcement: A Guide for States 2009		✓
Application Architect *5.4.2 Technical Lead Qualifications*	5.4.2.1 A minimum of four (4) years of project management experience, within the last ten (10) years, in government or the private sector of which two (2) years of experience within the last five (5) years in the Child Support Enforcement environment	**Senthil Kumar Balasubramanian**	✓
	5.4.2.2 A minimum of three (3) years of experience, within the last ten (10) years, managing systems architecture and development projects		✓
	5.4.2.3 A minimum of two (2) years of experience with systems analysis and design		✓
	5.4.2.4 A minimum of two (2) years of experience with systems development and implementation in a Service Oriented Architecture (SOA) environment		✓
	5.4.2.5 Lead at least two (2) projects within the past five (5) years that involved designing business processes and procedures and developing new systems to support the new business processes		✓
	5.4.2.6 Lead at least one (1) project within the past three (3) years that involved communication and coordination of activities with		✓

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Vendor Staff Skills and Experience			
Required Staff	Experience Requirements	Resource Proposed	Requirement Met
	external stakeholders		
	5.4.2.7 A minimum of two (2) years of experience using Microsoft Project or similar software		✓
	5.4.2.8 Demonstrated knowledge of Title IV, Part D of the Social Security Act		✓
	5.4.2.9 Detailed knowledge of the Automated Systems for Child Support Enforcement: A Guide for States 2009		✓
BI / Data warehouse Lead *5.4.2 Technical Lead Qualifications*	5.4.2.1 A minimum of four (4) years of project management experience, within the last ten (10) years, in government or the private sector of which two (2) years of experience within the last five (5) years in the Child Support Enforcement environment	**Bala Krishnamurthy**	✓
	5.4.2.2 A minimum of three (3) years of experience, within the last ten (10) years, managing systems architecture and development projects		✓
	5.4.2.3 A minimum of two (2) years of experience with systems analysis and design		✓
	5.4.2.4 A minimum of two (2) years of experience with systems development and implementation in a Service Oriented Architecture (SOA) environment		✓
	5.4.2.5 Lead at least two (2) projects within the past five (5) years that involved designing business processes and procedures and developing new systems to support the new business processes		✓
	5.4.2.6 Lead at least one (1) project within the past three (3) years that involved communication and coordination of activities with external stakeholders		✓
	5.4.2.7 A minimum of two (2) years of experience using Microsoft Project or similar software		✓
	5.4.2.8 Demonstrated knowledge of Title IV, Part D of the Social Security Act		✓
	5.4.2.9 Detailed knowledge of the Automated Systems for Child Support Enforcement: A Guide for States 2009		✓
Project Advisor 5.4.4 Individual Team Member Qualifications	5.4.4.1 Two (2) years of experience within the last five (5) years analyzing and modeling business processes;	**Katie Morgan**	✓
	5.4.4.2 Two (2) years of experience within the last five (5) years designing online interfaces using the tools proposed for this project		✓
	5.4.4.3 Three (3) years of experience within the last five (5) years developing systems in a SOA environment		✓
	5.4.4.4 Three (3) years of experience within the last five (5) years developing system interfaces		✓
	5.4.4.5 Completed at least one (1) project within the past three (3) years that involved development of course outlines and materials and organizing and conducting classes to support the implementation of new business processes and systems using the State's e-learning software Articulate and Camtasia or similar software		✓

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Vendor Staff Skills and Experience			
Required Staff	Experience Requirements	Resource Proposed	Requirement Met
	5.4.4.6 Completed at least one (1) project in the past three (3) years that involved the development of Tier 1 and Tier 2 Help Desk support processes including the development and implementation of user manuals, scripts, and training using the State's e-learning software Articulate and Camtasia or similar software		✓
	5.4.4.7 A minimum of five (5) years of experience developing software using Java programming language		
Functional Manager 5.4.4 Individual Team Member Qualifications	5.4.4.1 Two (2) years of experience within the last five (5) years analyzing and modeling business processes;	**Annette Mansfield**	✓
	5.4.4.2 Two (2) years of experience within the last five (5) years designing online interfaces using the tools proposed for this project		✓
	5.4.4.3 Three (3) years of experience within the last five (5) years developing systems in a SOA environment		✓
	5.4.4.4 Three (3) years of experience within the last five (5) years developing system interfaces		✓
	5.4.4.5 Completed at least one (1) project within the past three (3) years that involved development of course outlines and materials and organizing and conducting classes to support the implementation of new business processes and systems using the State's e-learning software Articulate and Camtasia or similar software		✓
	5.4.4.6 Completed at least one (1) project in the past three (3) years that involved the development of Tier 1 and Tier 2 Help Desk support processes including the development and implementation of user manuals, scripts, and training using the State's e-learning software Articulate and Camtasia or similar software		✓
	5.4.4.7 A minimum of five (5) years of experience developing software using Java programming language		
Quality Assurance Manager *5.4.4 Individual Team Member Qualifications*	5.4.4.1 Two (2) years of experience within the last five (5) years analyzing and modeling business processes;	**Anantha Kadur**	✓
	5.4.4.2 Two (2) years of experience within the last five (5) years designing online interfaces using the tools proposed for this project		✓
	5.4.4.3 Three (3) years of experience within the last five (5) years developing systems in a SOA environment		✓
	5.4.4.4 Three (3) years of experience within the last five (5) years developing system interfaces		✓
	5.4.4.5 Completed at least one (1) project within the past three (3) years that involved development of course outlines and materials and organizing and conducting classes to support the implementation of new business processes and systems using the State's e-learning software Articulate and Camtasia or similar software		✓
	5.4.4.6 Completed at least one (1) project in the past three (3) years that involved the development of Tier 1 and Tier 2 Help Desk support processes including the development and implementation of user manuals, scripts, and training using the State's e-learning software Articulate and Camtasia or similar software		
	5.4.4.7 A minimum of five (5) years of experience developing software using Java programming language		✓

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Vendor Staff Skills and Experience			
Required Staff	Experience Requirements	Resource Proposed	Requirement Met
Testing Manager 5.4.4 Individual Team Member Qualifications	5.4.4.1 Two (2) years of experience within the last five (5) years analyzing and modeling business processes;	**Michael Brown**	✓
	5.4.4.2 Two (2) years of experience within the last five (5) years designing online interfaces using the tools proposed for this project		✓
	5.4.4.3 Three (3) years of experience within the last five (5) years developing systems in a SOA environment		✓
	5.4.4.4 Three (3) years of experience within the last five (5) years developing system interfaces		✓
	5.4.4.5 Completed at least one (1) project within the past three (3) years that involved development of course outlines and materials and organizing and conducting classes to support the implementation of new business processes and systems using the State's e-learning software Articulate and Camtasia or similar software		✓
	5.4.4.6 Completed at least one (1) project in the past three (3) years that involved the development of Tier 1 and Tier 2 Help Desk support processes including the development and implementation of user manuals, scripts, and training using the State's e-learning software Articulate and Camtasia or similar software		✓
	5.4.4.7 A minimum of five (5) years of experience developing software using Java programming language		✓
PMO Manager *5.4.4 Individual Team Member Qualifications*	5.4.4.1 Two (2) years of experience within the last five (5) years analyzing and modeling business processes;	**David Lal**	✓
	5.4.4.2 Two (2) years of experience within the last five (5) years designing online interfaces using the tools proposed for this project		✓
	5.4.4.3 Three (3) years of experience within the last five (5) years developing systems in a SOA environment		✓
	5.4.4.4 Three (3) years of experience within the last five (5) years developing system interfaces		✓
	5.4.4.5 Completed at least one (1) project within the past three (3) years that involved development of course outlines and materials and organizing and conducting classes to support the implementation of new business processes and systems using the State's e-learning software Articulate and Camtasia or similar software		✓
	5.4.4.6 Completed at least one (1) project in the past three (3) years that involved the development of Tier 1 and Tier 2 Help Desk support processes including the development and implementation of user manuals, scripts, and training using the State's e-learning software Articulate and Camtasia or similar software		
	5.4.4.7 A minimum of five (5) years of experience developing software using Java programming language		✓
Training Lead *5.4.4 Individual Team Member Qualifications*	5.4.4.1 Two (2) years of experience within the last five (5) years analyzing and modeling business processes;	**Michelle Le Feve**	✓
	5.4.4.2 Two (2) years of experience within the last five (5) years designing online interfaces using the tools proposed for this project		✓

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Vendor Staff Skills and Experience			
Required Staff	Experience Requirements	Resource Proposed	Requirement Met
	5.4.4.3 Three (3) years of experience within the last five (5) years developing systems in a SOA environment		✓
	5.4.4.4 Three (3) years of experience within the last five (5) years developing system interfaces		✓
	5.4.4.5 Completed at least one (1) project within the past three (3) years that involved development of course outlines and materials and organizing and conducting classes to support the implementation of new business processes and systems using the State's e-learning software Articulate and Camtasia or similar software		✓
	5.4.4.6 Completed at least one (1) project in the past three (3) years that involved the development of Tier 1 and Tier 2 Help Desk support processes including the development and implementation of user manuals, scripts, and training using the State's e-learning software Articulate and Camtasia or similar software		✓
	5.4.4.7 A minimum of five (5) years of experience developing software using Java programming language		
Interface Lead *5.4.4 Individual Team Member Qualifications*	5.4.4.1 Two (2) years of experience within the last five (5) years analyzing and modeling business processes;	**Ambarish Guntupalli**	✓
	5.4.4.2 Two (2) years of experience within the last five (5) years designing online interfaces using the tools proposed for this project		✓
	5.4.4.3 Three (3) years of experience within the last five (5) years developing systems in a SOA environment		✓
	5.4.4.4 Three (3) years of experience within the last five (5) years developing system interfaces		✓
	5.4.4.5 Completed at least one (1) project within the past three (3) years that involved development of course outlines and materials and organizing and conducting classes to support the implementation of new business processes and systems using the State's e-learning software Articulate and Camtasia or similar software		✓
	5.4.4.6 Completed at least one (1) project in the past three (3) years that involved the development of Tier 1 and Tier 2 Help Desk support processes including the development and implementation of user manuals, scripts, and training using the State's e-learning software Articulate and Camtasia or similar software		
	5.4.4.7 A minimum of five (5) years of experience developing software using Java programming language		✓
Reporting Lead *5.4.4 Individual Team Member Qualifications*	5.4.4.1 Two (2) years of experience within the last five (5) years analyzing and modeling business processes;	**Udaynath Subramani**	✓
	5.4.4.2 Two (2) years of experience within the last five (5) years designing online interfaces using the tools proposed for this project		✓
	5.4.4.3 Three (3) years of experience within the last five (5) years developing systems in a SOA environment		✓
	5.4.4.4 Three (3) years of experience within the last five (5) years developing system interfaces		✓

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Vendor Staff Skills and Experience			
Required Staff	Experience Requirements	Resource Proposed	Requirement Met
	5.4.4.5 Completed at least one (1) project within the past three (3) years that involved development of course outlines and materials and organizing and conducting classes to support the implementation of new business processes and systems using the State's e-learning software Articulate and Camtasia or similar software		✓
	5.4.4.6 Completed at least one (1) project in the past three (3) years that involved the development of Tier 1 and Tier 2 Help Desk support processes including the development and implementation of user manuals, scripts, and training using the State's e-learning software Articulate and Camtasia or similar software		
	5.4.4.7 A minimum of five (5) years of experience developing software using Java programming language		✓
Senior Functional SME / Lead *5.4.4 Individual Team Member Qualifications*	5.4.4.1 Two (2) years of experience within the last five (5) years analyzing and modeling business processes;	**Cindy Fisher**	✓
	5.4.4.2 Two (2) years of experience within the last five (5) years designing online interfaces using the tools proposed for this project		✓
	5.4.4.3 Three (3) years of experience within the last five (5) years developing systems in a SOA environment		✓
	5.4.4.4 Three (3) years of experience within the last five (5) years developing system interfaces		✓
	5.4.4.5 Completed at least one (1) project within the past three (3) years that involved development of course outlines and materials and organizing and conducting classes to support the implementation of new business processes and systems using the State's e-learning software Articulate and Camtasia or similar software		✓
	5.4.4.6 Completed at least one (1) project in the past three (3) years that involved the development of Tier 1 and Tier 2 Help Desk support processes including the development and implementation of user manuals, scripts, and training using the State's e-learning software Articulate and Camtasia or similar software		✓
	5.4.4.7 A minimum of five (5) years of experience developing software using Java programming language		

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Section VIII

Attachment H
Proposed Staff Resume

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2. Project Director, Tom Kelliher VIII-5.5-10
3. Project Manager, LeAnn Rollans VIII-5.5-16
4. Technical Manager, Jayakumar Masamsetty VIII-5.5-22
5. Development Manager, Dinesh Kumar Shanmugam VIII-5.5-29
6. Functional Manager, Annette Mansfield VIII-5.5-35
7. Data Conversion Lead, Barrett Greene VIII-5.5-37
8. Implementation Lead, Anthony Sessions VIII-5.5-39
9. Application Architect, Senthil Kumar Balasubramanian VIII-5.5-44
10. BI/Data Warehouse Lead, Bala Krishnamurty VIII-5.5-50
11. Quality Assurance Manager, Anantha Kadur VIII-5.5-53
12. Project Advisor, Katie C. Morgan VIII-5.5-61
13. PMO Manager, David Lal VIII-5.5-66
14. Testing Manager, Michael J. Brown VIII-5.5-71
15. Interface Architect, Ambarish Guntupalli VIII-5.5-75
16. Reporting Lead, Udaynath Subramani VIII-5.5-79
17. BPM Lead/Architect, Arup Biswas VIII-5.5-82
18. Functional SME/Lead, Cynthia Fisher VIII-5.5-92
19. Training Lead, Michelle Le Feve VIII-5.5-95

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SECTION VIII

VIII-5.5 Vendor Staff Resumes

REQUIREMENT:

11.2.2.8 – A. Vendors shall include all proposed staff resumes per ***Section 5.5, Vendor Staff Resumes*** in this section:
11.2.2.8 – B. This section shall also include any subcontractor proposed staff resumes, if applicable.
11.2.2.8/5.5: VENDOR STAFF RESUMES - A resume shall be completed for each proposed individual on the State format provided in ***Attachment H, Proposed Staff Resume***, including identification of key personnel per ***Section 13.3.19, Key Personnel***.

The following pages present the required Proposed Staff Resumes.

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1. Chief Architect/Project Advisor, Nagaraj Garimalla

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Nagaraj Garimalla	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Chief Architect/Project Advisor		
# of Years in Classification:	21	**# of Years with Firm:**	21

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE ***Information should include a brief summary of the proposed individual's professional experience.***
Nagaraj Garimalla has over 27 years of professional experience in the strategic application of information technology to creative and practical solutions for businesses and governmental entities. He has in depth project management experience in developing and establishing comprehensive program and system solutions in complex organizational and operational environments. Project experience spans the full life cycle of system development and implementation from strategic planning and concept development through program and system design, development, and testing to full rollout and establishment in the operational environment.

RELEVANT EXPERIENCE ***Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.***	
Project Name:	NECSES Replacement – NECSES 2.0
MMYYYY to present:	10/2011 - Present
Vendor Name:	Protech Solutions
Client Name:	New Hampshire Department of Health and Human Services
Client Contact Name:	Richard Ward
Client Address, Phone #, Email:	115 Pleasant St., Annex Bldg. Concord, NH 03301 603 223-4809, Richard.B.Ward@dhhs.state.nh.us
Role in Project:	Project Director/Chief Architect
Responsibilities:	• Work with others to determine the scope of the project • Schedule the project. This is a collaborative process requiring consultation with all the people who might be involved at some point in the process • Provide direction to the project resources on managing day-to-day activities

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	and adhering to project deliverable due dates • Participate actively in all phases of the project, including planning and analysis, design, development, testing and implementation, related to personal area of expertise • Act as point of contact (liaison) between the affected business area and the project team • Maintain project status, tracking, issues, or other items which might affect the project outcome, including delivery date and budget impacts • Provide final approval for testing, documentation, and migration of same to VSS, etc. • Determine who the project players are and what their roles will be on the project • Provide expertise on the overall business processes around which the project is focused and provide needed business expertise in those areas • Participate actively in the development of the Project Scope Statement (in conjunction with the Senior and Technical Project Managers and Business Process Coordinator). To include 1) why project was requested, 2) project requirements, 3) risks, 4) costs, and 5) time • Help identify change barriers within the business areas • Assist in creating work plans • Execute and adjust work plans as necessary • Involved in batch/online analysis design and development • Performed online screens design and unit and system testing • Provided technical guidance for developers • Involved in estimation of development efforts and assignment and follow-up of development work • Participated in issue analysis, meetings and discussion • Involved in design, development and implementation of the Project
Details and Duration of Project:	Protech is in the design and develop phase of the new NECSES 2.0. This new version will reflect new federal requirements as well as the requirements defined by the NECSES User Team. The initial delivery of NECSES 2.0 will include 60% of those federal and state requirements, current NECSES supports only about 18% of those same requirements. The NEW NECSES or NECSES 2.0 will replace the existing mainframe system and can be accessed through a secure web browser by DCSS workers. In addition to all of the new state and federal requirements, NECSES 2.0 is a web-based application being developed using the latest Oracle tools and technologies. The new system will use graphical user interfaces and will have a completely different look and feel as compared to the existing text and keyboard oriented mainframe system.
Software/hardware Used in Engagement:	Redhat Linux, Oracle Web Logic Server and Oracle Forms and Reports 11g, Oracle Linux OS 6 and Oracle Database 11g

Project Name:	ACSES Replacement – NJKIDS
MMYYYY to present:	01/2006 - Present
Vendor Name:	Protech Solutions
Client Name:	New Jersey Department of Human Services

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Client Contact Name:	Patricia Risch
Client Address, Phone #, Email:	200 American Metro Blvd. Suite# 124 Hamilton, NJ 08619 609-631-2780, patricia.risch@dhs.state.nj.us
Role in Project:	Project Director/Chief Architect
Responsibilities:	• Enhanced navigation that improves productivity and effectiveness • Ease of use based on intuitive feature that increase efficiencies and lower operational costs • Integrated notice generation, online scheduling and collaborative notes • Document imaging for online inquiry and reproduction • Automatic workflows that are clearly indicated and tied to federal timeframes • Internal and external enterprise-wide data sharing and reporting for performance monitoring, resource planning and process change management
Details and Duration of Project:	Protech Solutions successfully responded to the New Jersey Department of Human Services RFP for a new, web based system. The NJKiDS project was a large and very complex child support development and implementation project of five years, including a two-year warranty and maintenance period. Protech staff worked with various user groups and stakeholders during the Design phase to validate requirements and to accommodate the divergent business processes. The NJKiDS system requires online real-time interfaces as well as batch processing with the external interface applications. In New Jersey, there are a number of stakeholders providing services, local county computer systems, and separate Administrative Office of the Courts (AOC) automated system that made achieving a satisfactory level of automation difficult. As part of maintenance, Protech continues to staff the project with an average of 50 individuals with a variety of functional and technical skills. We provide assistance with issue resolution, training, and management. Additionally, we have and continue to enhance the system by providing expertise in new technologies where the state requires increased functionality.
Software/hardware Used in Engagement:	AIX, JDK 1.4, J2EE, JSP (Custom Tags), Struts, Servlets, XML, PL/SQL, Ant, Java Script, XML, CSS, HTML, Java Script, JAX-RPC, AJAX, Crystal Reports, Jasper Report, iReport, JProfiler 4.2, PVCS, Oracle 10g, Websphere 6.1, C#.

Project Name:	Arkansas Child Support Information System (ARCSIS)
MMYYYY to present:	07/1998 - present
Vendor Name:	Protech Solutions
Client Name:	State of Arkansas Child, Office of Child Support Enforcement Support
Client Contact Name:	Jeff Moritz
Client Address, Phone #, Email:	105 W. Capitol Ave Suite #100, Little Rock, AR 72201, Jeff.Moritz@ocse.arkansas.gov
Role in Project:	Project Director/Chief Architect
Responsibilities:	• Involved in batch/online analysis design and development

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	• Performed online screens design and unit and system testing • Provided technical guidance for developers • Involved in estimation of development efforts and assignment and follow-up of development work • Participated in issue analysis, meetings and discussion • Involved in design, development and implementation of the Project • Work with others to determine the scope of the project • Schedule the project. This is a collaborative process requiring consultation with all the people who might be involved at some point in the process • Provide direction to the project resources on managing day-to-day activities and adhering to project deliverable due dates • Participate actively in all phases of the project, including planning and analysis, design, development, testing and implementation, related to personal area of expertise • Act as point of contact (liaison) between the affected business area and the project team • Maintain project status, tracking, issues, or other items which might affect the project outcome, including delivery date and budget impacts • Provide final approval for testing, documentation, and migration of same to VSS, etc. • Determine who the project players are and what their roles will be on the project • Provide expertise on the overall business processes around which the project is focused and provide needed business expertise in those areas • Participate actively in the development of the Project Scope Statement (in conjunction with the Senior and Technical Project Managers and Business Process Coordinator). To include 1) why project was requested, 2) project requirements, 3) risks, 4) costs, and 5) time • Help identify change barriers within the business areas • Assist in creating work plans • Execute and adjust work plans as necessary
Details and Duration of Project:	This Child Support Information System developed for the state of Arkansas is a web based application system using multi-tier architecture. This project was a two-phase project with the first phase requiring implementation of the redesigned financial components that allowed the state program to meet the federal requirements of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA). The technologies used include VB, ASP, HTML and XML with SQL stored procedures on IIS web server. Project development originated in Windows NT platform and deployed in Windows 2000 when it became available. Microsoft SQL server 7.0 is the database used.
Software/hardware Used in Engagement:	O/S: Windows NT S/W: ASP, VB Script, XML, Server, Java Script, FTP, MTS, COM/DCOM, Active X DLL, MSMQ, MS Word, MS Excel, Active X Report, ADO, CDO, IIS Server, SQL Server, HTML, DHTML Tools: ErWin, Basic, Front Page, Visual Source Safe, Enterprise Manager
Project Name:	New England Child Support Enforcement System (NECSES)
MMYYYY to present:	06/1997 - Present

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Vendor Name:	Protech Solutions
Client Name:	State of Maine, Department of Human Services
Client Contact Name:	Jerry Joy
Client Address, Phone #, Email:	51 Commerce Dr. Augusta, ME 04330 207-287-2843, Jerry.Joy@maine.gov
Role in Project:	Project Director/Chief Architect
Responsibilities:	• Monitor adherence to the user requirements, documentation, and process standards • Develop alternative models/prototypes for review • Document design requirements • Keep track of needs across all projects to assign tasks to resources that are available • Serve as interface between functional, development, network and DBA teams • Participate in developing standards for projects • Escalate issues regarding project requirements (hardware, software, resources) to the relevant Project Manager • Assist in the gathering of technical and functional requirements • Assist in development of flow charts depicting business processes where needed • Help define the solution that best encompasses all detailed requirements prescribed by the user • Assist/provide oversight in designing the screens with project team resources. • Assist and perform front end coding • Help minimize scope creep in design of screens • Help develop documentation with sufficient level of information for customer approval of the process • Contribute to the development of processes and methodologies • Help develop project plans and schedules • Help perform impact analysis when needed • Furnish technical expertise and address customer questions • Provide resolution to issues regarding design throughout the life cycle of the project • Review and approve all Design Documents • Be available to provide consultative support to any developer or development team on questions of standards, procedures, techniques, etc.
Details and Duration of Project:	Protech began working with the State of Maine in June 1997 and was instrumental in the full and unconditional federal certification of Maine's Child Support Enforcement System - NECSES (New England Child Support Enforcement System). Processes and programs were modified and enhanced to meet certification requirements.

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Software/hardware Used in Engagement:	Oracle level G, Oracle Web Logic Server and Oracle Forms and Reports 11g, Oracle Linux OS 6 and Oracle Database 11g, PL/SQL, Java Script, JSON, JQuery, ASP.NET, ADO.NET, TFS, Visual Sources, SVN, SQL Server, XML, XSLT, AJAX, HTML, CSS, WEB API and/or Web Services

EDUCATION ***Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.***	
Institution Name:	Indian Statistical Institute
Cities:	New Delhi & Chennai
Country:	India
Degree:	Master's degree in Statistics & post graduate degree in Operations Research

CERTIFICATIONS ***Information required should include: type of certification and date completed/received.***
N/A

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) ***Information required should include: environments, hardware, software, tools and databases.***	
Languages:	XML, PL/SQL, Ant, Java Script, CSS, DHTML, HTML, Java Script, JAX-RPC, AJAX, VB Script, C#, ADO, CDO, Basic, XSLT, SVN
Databases:	DB2, Oracle, SQL Server
Web/Application Servers:	IBM WebSphere, IBM MQ, IBM Process Server, Modeller, Oracle Web Logic Server, WEB API and/or Web Services, JSON, JQuery, ASP.NET, ADO.NET, SQL Server, TFS, Oracle level G, SQL Server, IIS Server
Tools:	Oracle Forms and Reports 11g, Crystal Reports, Jasper Report, iReport, JProfiler 4. PVCS, Active X Report, Enterprise Manager, COM/DCOM, Active X DLL, MSM JDK 1.4, J2EE, JSP (Custom Tags), Visual Sources, Front Page, Visual Source Safe, ErWin,
Hardware:	IBM P-series, Oracle Linux OS 6, Redhat Linux,
O/S:	IBM-AIX, Windows, Linux

REFERENCES ***A minimum of three (3) references are required, including name, phone number, fax number and email address.***
Alicia Griffin – IVD Director in CA State of CA Dept of Child Support Services Phone: (916) 464-5300 Fax: NA Alisha.griffin@dss.ca.gov

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Patricia – Assistant Director in NJ
State of NJ
Phone: 609-631-2780
Fax: 609-588-2064
Patricia.risch@dhs.state.nj.us

Jerry Joy - Director, Division of Child Support Enforcement & Recovery
Phone: 207-287-2843
Fax: 207-287-6883
Jerry.Joy@maine.gov

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2. Project Director, Tom Kelliher

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Tom Kelliher	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Project Director		
# of Years in Classification:	30+	**# of Years with Firm:**	10

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE ***Information should include a brief summary of the proposed individual's professional experience.***
Mr. Kelliher is a seasoned Manager with extensive project management, IV&V, QM, large scale systems implementation, and Child Support Experience that spans 20+ years across 12 Child Support Projects. He is currently serving as our Project Director for the New Hampshire CSES Upgrade and Enhancement Project. He has over thirty (30) years of experience in the information technology field. He has performed as a senior IT solutions executive with strong record of accomplishment in consulting services executive management, delivery, and operations. His career includes experience as a Vice President for Oracle, Senior Vice President with GovConnect, eight years with Deloitte Consulting practicing in the HHS marketplace with focus on Child Support and five years as the Deputy Associate Commissioner for Systems Development for the Commonwealth of Massachusetts Department of Public Welfare where he was responsible for Child Support Systems prior to its move to the Department of Revenue.

RELEVANT EXPERIENCE ***Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.***	
Project Name:	NECSES 2.0 Upgrade Project GCR Ltd. – IV&V Oversight Project MA EEC System ACS – BEACON 3 - System Integration Project – Eligibility System Project Commonwealth of Massachusetts - EOHHS – Information Systems Commonwealth of Massachusetts - Dept. of Medical Assistance – Legacy MMIS
MMYYYY to present:	2007 - present
Vendor Name:	Protech Solutions
Client Name:	Multiple
Client Contact Name:	NA – contact vendor

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Client Address, Phone #, Email:	NA – contact vendor
Role in Project:	Project Director
Responsibilities:	Mr. Kelliher is currently serving as the Protech's Project Director on the NECSES 2.0 Upgrade/Enhancement Project. The project is to modernize the current application from a mainframe based solution to a web-based architecture utilizing Oracle Forms and Oracle Technologies as the core of this N-Tier solution. In this role he is responsible for overseeing the business aspects of the project, coordinating the development of deliverables, managing a team of developers, managing all implementation activities, facilitating client communication, and issue resolution. The project is currently on schedule for a May 2014 implementation.
Details and Duration of Project:	Multiple projects steaming over multiple years.
Software/hardware Used in Engagement:	Microsoft Word, Excel, Visio, Project, SharePoint, Redhat Linux, Oracle Web Logic Server and Oracle Forms and Reports 11g, Oracle Linux OS 6 and Oracle Database 11g
Project Name:	Oracle Corporation
MMYYYY to present:	2003 – 2007
Vendor Name:	Oracle's Public Sector Technology Consulting Practice
Client Name:	S&L, Higher Education Fed/Civ, DOD, and the Health Care technology businesses
Client Contact Name:	Multiple
Client Address, Phone #, Email:	NA – contact vendor
Role in Project:	Senior Solutions Director/VP
Responsibilities:	• Mr. Kelliher served as the Senior Solutions Director for Oracle's Public Sector Technology Consulting Practice, which includes: S&L, Higher Education Fed/Civ, DOD, and the Health Care technology businesses. The role was specifically created to increase the technology footprint of Oracle Consulting though the definition and development of key technology solutions. His additional duties included pre-sales support, proposal development, development of marketing materials for technology solutions, partner relationships and staff development. In this role, Mr. Kelliher was responsible for increased sales closure rates; solutions-related pipeline increases of over $50 million, and an overall pipeline increase of an additional 25 percent. Specific solutions he developed crossed several vertical markets including: Justice & Public Safety, HHS, Labor, Public Health, DOD, K-12, Transportation, Health Care, and Higher Education. While managing the internal development efforts he was responsible for quality assurance, budget management and adherence to functional requirements and standards. • As Vice President of State and Local Technology, Mr. Kelliher's role in this national practice included marketing, client management, engagement management, and partner relationships and staff development. He had P&L responsibility for the country, which was $35 million annually and a pipeline of over $110 million. He was also responsible for significant revenue and

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	pipeline growth, margin performance, as well as transforming the business to a more solution focused leveraged business. Specific projects within in the region crossed several vertical markets including: JPS, HHS (Eligibility, CSES, CWS & MMIS), Labor, Public Health, K-12 and Transportation. Mr. Kelliher implemented key performance metrics for the practice and quality assurance and risk mitigation procedures. • Mr. Kelliher served as Vice President for Oracle's Public Sector Technology Consulting Practice, which included: S&L, Higher Education and the Health Care technology businesses. His duties included marketing, client management, engagement management, and partner relationships and staff development. He had P&L responsibility for the country, which was more than $40 million annually in revenue and a pipeline of over $160 million. He was responsible for significant revenue and pipeline growth, margin performance, as well as transforming the business to a more leveraged business. Specific projects within in the region crossed several vertical markets including: JPS, HHS (Eligibility, CSES, CWS & MMIS), Labor, Public Health, K-12, Transportation, Health Care and Higher Education.
Details and Duration of Project:	Multiple projects steaming over multiple years.
Software/hardware Used in Engagement:	Microsoft Word, Excel, Visio, Project, Sharepoint
Project Name:	State of New Hampshire - MMIS Acuity and Mid-Level Services State of Maine - Statewide HIPAA Assessment State of Maine BMS State of New Hampshire - Department of Safety State of Connecticut - Department of Labor State of Vermont - Department of Employment and Training
MMYYYY to present:	2000 – 2003
Vendor Name:	GovConnect, Inc. (previously Renaissance Worldwide Inc.)
Client Name:	Multiple
Client Contact Name:	NA – contact vendor
Client Address, Phone #, Email:	NA – contact vendor
Role in Project:	Senior Vice President/Project Director/Executive Oversight
Responsibilities:	• Mr. Kelliher served in the Executive Oversight role on the project for the Office of MMIS to define functional/technical requirements, conduct alternatives analysis, prepare a Cost Benefits Analysis, develop a GSD and to prepare an IAPD for an Acuity System. • Mr. Kelliher served in the Executive Oversight role on a Statewide HIPAA Assessment project for the State of Maine. The objectives of the project were to determine the applicability of state agencies in regard to the HIPAA regulations, conduct a detailed S&P and Transaction and Code Set Assessment and to develop a remediation strategy for each of the applicable agencies. Mr. Kelliher was also responsible for giving interpretations, guidance and direction to the GovConnect HIPAA assessment team and managing client relationships and project budgets.

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	• Mr. Kelliher served in the Executive Oversight capacity on our CM Project Management and HIPAA Assessment project. Our role on this project is to assist BMS with the selection of its MMIS Implementation Vendor, Contract Negotiations, Project Management and Oversight Services and to do a detailed HIPAA Assessment of the compliance of the Bureau of Medical Services. Mr. Kelliher was responsible for giving interpretations, guidance and direction to the GovConnect team and managing client relationships and project budgets. • Mr. Kelliher served in the Executive Oversight/Project Manager capacity for our project with NH DOS to assist in developing their Strategic Business Technology Plan for the Municipal Agent Automation Project. In this role, he was responsible for the overall approach, timeliness, quality of deliverables, client relationship and resource allocation. The project recently completed included development of a project based business plan. The collection of current IT information and the determination of the appropriate technical architecture for the system, as well as a Logical Design and Physical Design Plan for the MAAP solution. • Mr. Kelliher served as the Project Director for the Telephone Initial Claims (TICS). TICS is a client/server project to implement a comprehensive initial claims processing system for unemployment insurance using a PowerBuilder front end, Host Access products, with a DB2 Central Repository. The GovConnect components must seamlessly interact with other vendors' products that are providing the IVR, ACD and CTI components of the application. His role included overseeing the business aspects of the project, coordinating the development of deliverable templates, coordinating all implementation activities, facilitating client communication, and issue resolution. • Mr. Kelliher served as the Project Director on the Telephone Initial Claims (TICS). TICS is a client/server project to implement a comprehensive initial claims processing system for unemployment insurance using a Visual Basic front end, screen scraping, with a SQL Server repository. His role included overseeing the business aspects of the project, coordinating the development of deliverable templates, coordinating all implementation activities, facilitating client communication, and issue resolution.
Details and Duration of Project:	Multiple projects streaming over multiple years.
Software/hardware Used in Engagement:	Microsoft Word, Excel, Visio, Project, Sharepoint

Project Name:	Multiple Public Sector projects
MMYYYY to present:	1990 – 1998
Vendor Name:	Deloitte Consulting
Client Name:	Multiple
Client Contact Name:	NA – contact vendor
Client Address, Phone #, Email:	NA – contact vendor
Role in Project:	Senior Manager, Public Sector Practice

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Responsibilities:	As Senior Manager in the Public Sector Practice, Mr. Kelliher had national responsibility for two key practice areas for Deloitte's Public Sector business these areas were Quality Assurance/Project Management and the Lottery Industry. His role included business development, client management, and service delivery. He was also responsible for the expansion of their Northeast Public Sector Practice in the Health and Human Services area. Some of his specific project experiences are described in an attachment to this resume. Project values ranged from $500,000 to $70 million for projects directly under his leadership
Details and Duration of Project:	Multiple projects steaming over multiple years.
Software/hardware Used in Engagement:	Microsoft Word, Excel, Visio, Project, Sharepoint

EDUCATION ***Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.***	
Institution Name:	American International College
City:	Springfield
State:	Massachusetts
Degree/Achievement:	Business Administration

CERTIFICATIONS ***Information required should include: type of certification and date completed/received.***
N/A

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) ***Information required should include: environments, hardware, software, tools and databases.***	
Environments:	IBM Mainframes, UNISYS, Windows, DOS, AIX 5.3, Windows XP
Hardware:	N/A
Software:	Redhat Linux, Oracle Web Logic Server and Oracle Forms and Reports 11g, Oracle Linux OS 6 and Oracle Database 11g, COBOL-74, COBOL-85, SQL, LOUISII, SSG, J2EE, HTML, XML, JAVAScript, TCP/IP, LAN, WAN, FTP, Secure FTP, JCL, TSO/SPF, TIP, FORMGEN, Microsoft Project, Microsoft Suite, Easytrieve, File-Aid, Rational Teting Tools, JBoss, TomCat, Apache
Tools:	MS Word, MS Excel, MS Outlook, MS Project, MS Visio, MS Sharepoint
Databases:	Hierarchical DB, DMS-1100, DMS-2200, DB2, VSAM, Oracle, MySQL

REFERENCES ***A minimum of three (3) references are required, including name, phone number, fax number and email address.***

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Richard Ward
Information Technology Manager – State of NH
Phone: (603) 223-4809
Fax: (603) 271-7336
Richard.B.Ward@dhhs.state.nh.us

Frank Carchedi
Principal – Advocate Solutions
Phone: (614) 444-5144
fcarchedi@teamadvocate.com

Jeff Valentine
Executive Account Mgr. – ACS/Xerox Govt. Solutions
Phone: (617) 407-7705
Jeff.valentine@xerox.com\

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3. Project Manager, LeAnn Rollans

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	LeAnn Rollans	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Project Manager		
# of Years in Classification:	18	**# of Years with Firm:**	15

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Results-oriented Project Manager and Senior Business Analyst with extensive experience in system development, program administration, quality assurance, staff development, and training during the course of her more than 20 years within the area of Health and Human Services, IV-D Child Support Enforcement (CSE) for the State of Arkansas and for several other state's CSE projects as a private sector employee. Additional project management work in the area of implementation of the Affordable Care Act Health Insurance Exchange program in the state of Arkansas. Instrumental in achieving short and long-term goals and developing extremely concise and accurate course curriculum and materials. Worked in all stages of CSE system design, testing, documentation, issue analysis and resolution and experienced in IV-D federal regulations, federal system certification, workflow analysis, and modeling of functions and processes. Possesses exceptional analytical ability, excellent communication and interpersonal skills as well as the outstanding ability to adjust techniques and approaches to facilitate varied customer needs.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

1.		
	Project Name:	PACSS – South Carolina
	MMYYYY to present:	08/2015 - Present
	Vendor Name:	Protech Solutions
	Client Name:	Xerox - South Carolina CFS Project (Child Support Project)
	Client Contact Name:	John Knych Program Director
	Client Address, Phone #, Email:	570-793-9365 John.knych@xeox.com
	Role in Project:	Project Manager

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	Responsibilities:	Responsible for the management of all resources and activities related to is the data conversion of legacy data from 46 county clerks using 11 different systems as well as data from the State's IV-D program statewide system. Includes participation in all management meetings and regular interaction with the client's data conversion team as well as the collaboration with the development and implementation project teams.
	Details and Duration of Project:	Protech began work on the new Palmetto Automated Child Support System (PACSS) for the state of South Carolina in August 2015. The project includes Protech responsibility for the design and development of South Carolina's adaption of Protech's federally certified Delaware IV-D system. An additional key responsibility is the data conversion of legacy data from 46 county clerks using 11 different systems as well as data from the State's IV-D program statewide system. The initial implementation of this solution will include 100% of the functionality required to obtain federal certification of the system. The initial implementation phase is scheduled to be followed by the addition of additional features and functionality that will further enhance the automation of business processes and the user's interaction with the system. PACSS will replace the systems currently in use by the 46 county clerks for child support business in addition to replacing the State's IV-D program's AS400 mainframe system resulting in a single centralized system for child support operations across the state. PACSS is a web-based application developed in ASP.NET using C# running on Microsoft SQL.
	Software/hardware Used in Engagement:	MS Office 2013– Outlook, Word, Excel, PowerPoint, Access MS Visio, SharePoint, TFS, MS SQL 2014
2.	**Project Name:**	MMIS / CSE Replacement PMO
	MMYYYY to present:	06/2015 – 09/2015
	Vendor Name:	First Data Government Services
	Client Name:	State of New Mexico, Human Services Department Information Technology Division
	Client Contact Name:	Mario Gonzalez, Procurement Manager
	Client Address, Phone #, Email:	505-476-3948 Mario.Gonzalez@state.nm.us
	Role in Project:	Sr. Government Consultant
	Responsibilities:	Provide Subject Matter Expertise in the development of the State's IV-D Program Feasibility Study for the implementation of enhancements to their existing IV-D system, a new IV-D system and integration with the department Enterprise efforts.
	Details and Duration of Project:	This was a feasibility study to get a new child support system. The project was for 1 ½ years.
	Software/hardware Used in Engagement:	MS Office – Outlook, Word, Excel, PowerPoint MS Visio, SharePoint
3.	**Project Name:**	Child Support Business Development
	MMYYYY to present:	04/2014 – 05/2015
	Vendor Name:	Xerox Services

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	Client Name:	N/A
	Client Contact Name:	Hal Carl, VP Chief Technology Officer
	Client Address, Phone #, Email:	614-991-5804 614-570-7054 Hal.carl@xerox.com
	Role in Project:	Subject Matter Expert
	Responsibilities:	Provided lead functional expertise for the development of new service offerings developed for Child Support Enforcement and other Health and Human Services lines of business served by the company.
	Details and Duration of Project:	Development of new service offerings developed for Child Support Enforcement and other Health and Human Services lines of business served by the company.
	Software/hardware Used in Engagement:	MS Office – Word, Excel, PowerPoint, MS Visio, SharePoint
4.	**Project Name:**	State of Tennessee Arkansas Health Exchange Partnership
	MMYYYY to present:	04/2011 – 04/2014
	Vendor Name:	First Data
	Client Name:	Arkansas Insurance Department
	Client Contact Name:	Client Contact #1: Jason Scott Johnson Client Contact #2: Cynthia Crone
	Client Address, Phone #, Email:	Client Contact #1: (615) 419-2172 Client Contact #2: 501-786-9793, cynthiacrone@gmail.com
	Role in Project:	Project Management
	Responsibilities:	• Served as Project Manager for the Tennessee Child Support Enforcement System (CSES) Modernization Project. Successfully completed project for the development of IV-D system requirements at the time had plans to potentially pursue a new IV-D automated system. • Project Manager for the State of Arkansas Insurance Department during the planning, implementation and the operations of the Arkansas Health Exchange Partnership according to the requirements of the Affordable Care Act. Included the oversight of multiple vendors participating in the project as well as federal grant application preparation and submittal and regular federal reporting.
	Details and Duration of Project:	The planning, implementation and the operations of the Arkansas Health Exchange Partnership according to the requirements of the Affordable Care Act.
	Software/hardware Used in Engagement:	MS Office – Outlook, Word, Excel, Access, MS Project, MS Visio, SharePoint
5.	**Project Name:**	DECSS (DElaware Child Support System) NJKiDS Collections Service Center Payment/Processing System - Iowa Central Receipting and Disbursement Unit - State of Mississippi

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	MMYYYY to present:	07/2004 – 11/2010
	Vendor Name:	Protech Solutions
	Client Name:	Multiple
	Client Contact Name:	NA – contact vendor
	Client Address, Phone #, Email:	NA – contact vendor
	Role in Project:	Project Manager
	Responsibilities:	• Initially led the offsite Project Management Office (PMO) for the technology vendor responsible for the development of the Delaware IV-D child support system before leaving the company for other opportunities • Served as Deputy Project Manager and Interim Project Manager for the NJKids IV-D child support enforcement automated system project in New Jersey from mid-development phase through testing and implementation phases. System successfully implemented and federally certified for use by 3,000+ users • Performed Project Management start up for the customization and implementation of IV-D payment processing solution for the state of Iowa • Project Manager of the full software development lifecycle and business process reengineering for customized payment processing solution in Mississippi including high speed mail opening and sorting equipment, imaging, archival and the utilization of web based technology for image retrieval. Implementation of solution allowed customer to meet their goal of 40-50% staff reduction for the payment processing • Management of business opportunity proposal assignments, preparation and submittal. Coordination and preparation of oral presentation resources
	Details and Duration of Project:	Multiple projects steaming over multiple years.
	Software/hardware Used in Engagement:	MS Office – Outlook, Word, Excel, Access, MS Project, MS Visio, SharePoint
6.	**Project Name:**	N/A
	MMYYYY to present:	09/2003-06/2004
	Vendor Name:	State of Arkansas, Office of Child Support Enforcement
	Client Name:	State of Arkansas, Office of Child Support Enforcement
	Client Contact Name:	Dan McDonald (Now Retired)
	Client Address, Phone #, Email:	N/A
	Role in Project:	Field Operations Manager
	Responsibilities:	• Responsible for oversight and approval of operations within 28 field offices around the state including purchase requests and building lease actions • Review and approval of all personnel actions for approximately 450

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		positions within Field Operations. Actions ranged from position justifications, hiring approval, disciplinary actions and performance evaluations • Participated in formal employee Grievance Hearings and issued resolution findings • Furnished recommendations in development of agency methods, policies, and procedures
	Details and Duration of Project:	N/A
	Software/hardware Used in Engagement:	MS Office – Outlook, Word, Excel, Access, MS Project
7.	**Project Name:**	Arkansas Child Support Information System (ARCSIS)
	MMYYYY to present:	06/1998 – 06/2003
	Vendor Name:	Protech Solutions
	Client Name:	State of Arkansas Child, Office of Child Support Enforcement Support
	Client Contact Name:	Jeff Moritz
	Client Address, Phone #, Email:	105 W. Capitol Ave Suite #100, Little Rock, AR 72201, Jeff.Moritz@ocse.arkansas.gov
	Role in Project:	Project Manager
	Responsibilities:	• Successfully managed the first phase of two-phase IV-D system project, ARCSIS, in the state of Arkansas with the first phase requiring implementation of the redesigned financial components functioning with the existing mainframe system thus allowing the state program to meet the federal requirements of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) • Facilitated IV-D Federal Audit activities including the PRWORA Financial Test Deck and Data Reliability audits • Key participant on the state's teams responsible for both FSA88 and PRWORA system certification • Oversight of the integration of the ARCSIS application with the revised State Disbursement Unit application created by Protech at the State's request and which subsequently evolved in to Protech's Pro-Pay application
	Details and Duration of Project:	This Child Support Information System developed for the state of Arkansas is a web based application system using multi-tier architecture. This project was a two-phase project with the first phase requiring implementation of the redesigned financial components that allowed the state program to meet the federal requirements of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA). The technologies used include VB, ASP, HTML and XML with SQL stored procedures on IIS web server. Project development originated in Windows NT platform and deployed in Windows 2000 when it became available. Microsoft SQL server 7.0 is the database used.
	Software/hardware Used in Engagement:	MS Office – Outlook, Word, Excel, Access, MS Project, MS Visio, SQL

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EDUCATION *Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.*			
Institution:	University of Arkansas at Little Rock	**Degree/Achievement:**	Bachelor of Arts – Criminal Justice
City:	Little Rock	**State:**	Arkansas

CERTIFICATIONS *Information required should include: type of certification and date completed/received.*		
Certifications:	Project Management Professional	Certification #1391067 - February 21, 2011

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) *Information required should include: environments, hardware, software, tools and databases.*	
Languages:	SQL
Databases:	Access, SQL Server
Web/Application Servers:	SQL Server
Tools:	MS Word, MS Excel, MS Outlook, MS Project, MS Visio, MS Sharepoint

REFERENCES *A minimum of three (3) references are required, including name, phone number, fax number and email address.*
Alicia Griffin – IVD Director in CA State of CA Dept. of Child Support Services Phone: (916) 464-5300 Email: Alisha.griffin@dss.ca.gov Eileen Coughlin Project Manager Conduent Phone: (732)-642-7239 Email: Eileen.coughlin@xerox.com Tom Wallace Senior Manager SLI Global Solutions Phone: (512)-775-7041 Email: tmarconsulting@gmail.com

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4. Technical Manager, Jayakumar Masamsetty

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Jayakumar Masamsetty	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Technical Manager		
# of Years in Classification:	12	**# of Years with Firm:**	17

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

- Jayakumar Masamsetty is a Management Professional with over seventeen years of experience in design, development and implementation of large scale system replacement projects for Child Support Systems using transfer solutions as a base. He has strong experience in systems integration using JAVA J2EE, Oracle, Microsoft, and IBM Technologies and successfully delivered Child Support Enforcement Systems using these technologies for the Status of Maine, Michigan, Massachusetts and New Jersey.

- He is an expert in all child support functionality with specialization in the Financials sub-system. He is well versed in PRWORA and DRA compliance and Federal OCSE system and operational requirements. Jay's expertise extends to an in-depth knowledge and experience in the establishment of interfaces with Federal, State and inter-agency partners for effective electronic data exchange to improve automation and productivity. He has also led data conversion efforts in Massachusetts and orchestrated the conversion and development teams in New Jersey.

- He possesses a strong technical background and experience in Waterfall, RUP and Agile project SDLC methodologies and project management tools leading to successful large scale implementations. Jay has strong communications skills and is skilled at developing and finalizing management deliverable documents, work plans and technical architecture documents.

- Jay also possess excellent Project Management, Leadership, problem solving, team building and mentoring skills with a proven track record of working with executive, functional, and technical client resources.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

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Project Name:	NJKiDS – New Jersey Child Support System
MMYYYY to present:	06/2006 - Present
Vendor Name:	Protech Solutions
Client Name:	Office of Child Support, Dept. of Human Services (DHS), State of New Jersey
Client Contact Name:	Patricia Risch
Client Address, Phone #, Email:	Quakerbridge Plaza Bldg 5, Quakerbridge Rd., Hamilton, New Jersey 08619 (609) 637-2755 patricia.risch@dhs.state.nj.us
Role in Project:	Technical Manager
Responsibilities:	• Managed a team of 30 project staffs • Involved in recruiting key technical resources including Leads, Architects and Administrators. • During the initiation phase of the project, he was actively engaged in the assessment, selection and procurement of various tools needed for supporting the System Development Life Cycle. • Authored the following key plan deliverables during the initial phase of the project. • Managed in developing the following key plan document deliverables • Responsible for implementing the system as outlined in the plan documents. • Lead the configuration management team in implementing ClearCase (version repository tool) and ClearQuest (Defect management) tools establish process and procedure controls to use the tool effectively by the project staff and development team. • Lead the Architecture and Design teams to perform the System Capacity assessment efforts for NJKiDS system environments including Production. • Managed the design and development team in developing technical design artifacts, conducting technical design sessions and led various brainstorming and key Technical design sessions for the completion of the design phase of the project. • Lead the automation effort for code build and deployments of code modules to various environments. • Coordinated with Development, Functional and Implementation leads for overall development / test in successful implementation of the system. • Responsible for managing the requirements scope during the Design and Development phase of the project. • Played an active role in several project committees including the Project Management Group (PMG), Risk Management group(RMG), Change Control Review Board(CCRB); jointly led and coordinated the Technical Workgroup meeting (TWG) along with the State Technical lead that comprised the entire project Stake holders. • Monitored the progress and provided Status reports to the upper Management. • Identified and managed Risks / Issues proactively to ensure the project stayed on schedule.

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Details and Duration of Project:	The NJKiDS (New Jersey Kids Deserve Support) project is an ongoing multiple year project for the development and implementation of an automated Child Support System that makes the maximum use of the capabilities available in the most current J2EE information technology using N-tier Architecture for the State of New Jersey, a federally funded program under the amendments to the Social Security Act that created Part D of Title IV (i.e., IV-D). It is a total re-engineering of the existing Automated Child Support Enforcement System (ACSES). NJKiDS is an online, real-time system with an expanded relational database that is essential to support the complex business processing needs of the child support program. Achievement of this goal will position the Office of Child Support Services (OCSS) to realize operational and regulatory objectives.
Software/hardware Used in Engagement:	IBM p-series servers running on IBM-AIX v4.3, IBM WebSphere 6.2, IBM MQ series 4.0, Oracle 10g RAC, Java / J2EE, HTML, XML, XSL, JavaScript, SQL/PLSQL, iReports, ERWIN, Rational Application Developer Suite toolsets, Rational ClearCase, ClearQuest, SAS reporting tool, AutoSys, Wily CA, Mercury Load Runner

Project Name:	Child Support Enforcement Automated System Migration Project (CSEAS 2.0)
MMYYYY to present:	08/2015 – 03/2016
Vendor Name:	Deloitte
Client Name:	State of Oregon
Client Contact Name:	Karen Coleman
Client Address, Phone #, Email:	1215 State St. Salem, OR 97301 (503) 947-4388
Role in Project:	Conversion Manager
Responsibilities:	He was the Conversion Manager responsible for converting the legacy data to the target system baselined using California Child Support Automation System (CSSAS) datamodel. As a technologist, involved in evaluating the CCSAS system to complete gap analysis as part of the transfer system implementation to the State of Oregon.
Details and Duration of Project:	Implementation of a project for the design, development, implementation, testing, training, operations and maintenance, certification and transition services for the State's Child Support Enforcement Automated System Modernization Project ("CSEAS 2.0") using the California Child Support Automation System (CSASS) as the donor system and convert it to the requirements set forth by the State of Oregon.
Software/hardware Used in Engagement:	J2EE DB2 WebSphere, Windows

Project Name:	Commonwealth of Massachusetts Child Support Enforcement Tracking System
MMYYYY to present:	05/2003 – 04/2006
Vendor Name:	Protech Solutions
Client Name:	Department of Revenue, Commonwealth of Massachusetts, USA
Client Contact Name:	Michele Cristello
Client Address, Phone #, Email:	100 Cambridge Street, Boston, MA (617) 889-9293 CristelloM@dor.state.ma.us

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Role in Project:	Development Lead
Responsibilities:	• As the Development Lead, managed a team of 15 resources including technical leads and key development staff. • Managed and led the overall design, development and Implementation efforts of the UDC management project, a significant enhancement project for the COMETS-FM application. • Coordinate with the Project Management team to assist in managing the Project schedule and allocating resources based on the needs of the project. • Work closely with the Client Management to provide Status updates and progress. • Project Co-ordination and mentoring. • Responsible for developing and maintain the Technical Design Document of the System • Managed a team of developers for developing all financial batch programs for the initial Implementation. • Administered a team of developers in establishing Code standards and Guidelines for the development of code during the initial phase of the project. • Led a team of senior developers in code review process and Database administrators in performance optimization of the online application for the better response time. • Involved in the Coordination effort of both the technical and Functional team in executing the Distribution Federal Test Deck for Certification. • Coordinated the Design and Development of the Online Distribution Screen, a key module of the financial system. • After Initial Implementation, actively involved in managing Key Data Cleanup activities that included issues raised out of Financial data conversion.
Details and Duration of Project:	The COMETS-FM Financial System developed for State of Massachusetts is a conversion project from Legacy system to Web based automated Child Support System using Oracle based technologies. The Financial System for child support is developed to a federally compliant system using PRWORA distribution rules. This project underwent two major releases after the initial implementation of the system.
Software/hardware Used in Engagement:	Unix, Oracle 9i, Oracle Forms
Project Name:	Child Support System for the State of Michigan (MiCSES 2.1, 2.2, 2.3, 2.4)
MMYYYY to present:	06/2001 – 04/2003
Vendor Name:	Protech Solutions
Client Name:	N/A – contact vendor
Client Contact Name:	N/A – contact vendor
Client Address, Phone #, Email:	N/A – contact vendor
Role in Project:	Technical Lead (Financials)
Responsibilities:	• As a Technical Lead (Financials), was involved in reviewing the Technical

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	design for the projects involved and managing a team of 4 developers. • Responsible to give Time Estimation for each Functional Requirement in the financial module for a Statewide Rollout. • Supervised the Design and development team of the Online Distribution Wizard for the financial module in the 2.2 release. • Responsible for the Development and the Coordination effort on the statewide Reconciliation Process in the 2.3 release and the Management Reporting in the 2.4 release. • Assigned the role of reviewing the code for the development tasks of the financial module.
Details and Duration of Project:	This is an enhancement of the earlier release. The Goal of this release is to rollout a Federally compliant Statewide Web Application System using Oracle Database and Application Technologies. Child Support Enforcement Program is a federal/state effort to collect child support from non-custodial parents. This release was implemented in Wayne County, Michigan. The next phase will be released to all counties.
Software/hardware Used in Engagement:	Windows NT 4.0, Unix S/w: Toad, PL/SQL, Developer 6i Server, (Forms 6i, Reports 6i, Procedure builder) on Windows NT Environment, Internet Application Server (IAS 8.1.0) on Unix Environment, Oracle Database Server 8.1.7 for Unix, Oracle Designer.
Project Name:	PHASE I PRWORA AND ITSB PROJECTS
MMYYYY to present:	04/2001 – 05/2001
Vendor Name:	Protech Solutions
Client Name:	Third Circuit Court, Wayne County, Michigan
Client Contact Name:	N/A – contact vendor
Client Address, Phone #, Email:	N/A – contact vendor
Role in Project:	Team Lead
Responsibilities:	• Analyzed system requirements with focus on analysis and representation of business processes • Gathered and documented production and ad hoc reporting requirements • Supervised overall user interface design of the application • Ensured that database meets system requirements to achieve effective data testing. • Responsible in designing the Database and the Coding standards. • Responsible for Designing, Data Processing and Project Coordination. • Mentoring and management of Financial Development Team.
Details and Duration of Project:	This is a welfare reform project for Wayne County, MI FOC (Friend of Court) Child Support System. The goal of the Third Circuit Court was to meet the federal requirements of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA).
Software/hardware Used in Engagement:	Windows S/w: COBOL, Oracle, Oracle Designer, Oracle Procedure Builder, Oracle developer, PL/SQL
Project Name:	New England Child Support Enforcement System (NECSES)
MMYYYY to present:	08/1999 – 03/2001

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Vendor Name:	Protech Solutions
Client Name:	State of Maine
Client Contact Name:	N/A – contact vendor
Client Address, Phone #, Email:	N/A – contact vendor
Role in Project:	Project Analyst
Responsibilities:	• As a Project Analyst, was responsible for Design, develop and implement the Financial Module of the Child Support System and integrated the data from its existing Legacy (Mainframe) System. • Responsible for designing and developing the screens for the user interface using FORMS 6i Application Tool. • Also, responsible in designing and implementing the standards and the coding architecture of the front-end application. • Developed various Batch Programs for the effective functioning of the System. • Analyzed and consulted regarding distribution and disbursement subsystems. • Assigned the role of ensuring the standards to be met by the fellow developers. • Also, Analyzed, designed and developed modules required generating quarterly reports. • Involved in training the users.
Details and Duration of Project:	This Child Support Information System developed for the state of Maine is a web based application system three-tier Architecture running on an Oracle Application Server and Oracle Database. This project required design and implementation of a Review and Modification section in addition to implementation and redesign of financial components, which allow the state program to meet the federal requirements of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA).
Software/hardware Used in Engagement:	Windows NT, Unix S/w: CICS, COBOL, Oracle Reports, VSAM, Toad, PL/SQL, Developer 6i Server, (Forms 6i, Reports 6i, Procedure builder), Oracle Application Server (OAS 4.0) Oracle Database Server 8.1.6 on Windows NT Environment, Source Safe, ERWIN, SQL Loader.

EDUCATION ***Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.***			
Institution Name:	Annamalai University	**Degree/Achievement:**	Bachelor of Science - Engineering
City:	Chennai	**Year:**	1997
Country:	India		

CERTIFICATIONS ***Information required should include: type of certification and date completed/received.***

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Oracle Certified Professional, 1999

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) *Information required should include: environments, hardware, software, tools and databases.*	
Languages:	Java / J2EE, HTML, XML, XSL, JavaScript, SQL/PLSQL
Databases:	DB2, Oracle, SQL Server
Tools:	ERWIN, Rational Application Developer Suite toolsets, Rational ClearCase, ClearQuest, SAS reporting tool, AutoSys, Wily CA, Mercury Load Runner, IBM WebSphere 6.2, IBM MQ series 4.0, IBM Process Server, BPMN Modelling
Hardware:	IBM p-series servers running on IBM-AIX v4.3, Windows, Linux

REFERENCES *A minimum of three (3) references are required, including name, phone number, fax number and email address.*
Alicia Griffin – IV-D Director in CA State of CA Dept. of Child Support Services Phone: (916) 464-5300 Fax: NA Alisha.griffin@dss.ca.gov Allison Davis Chief Security Officer Department of Human Services State of New Jersey Allison.davis@dhs.state.nj.us Phone: (609)-292-1840 Larry Braasch Asst. Division Director Division of Family Development State of New Jersey Phone: (609) 588-2405 Larry.Braasch@dhs.state.nj.us

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5. Development Manager, Dinesh Kumar Shanmugam

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Dinesh Kumar Shanmugam	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Development Manager		
# of Years in Classification:	16	**# of Years with Firm:**	20

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

- More than 13 years of experience as a Project Development Manager, with 22 total years in this industry.
- As a Process and Technical Team Lead in the analysis and design of automated child support enforcement systems for several states, he has acquired in-depth knowledge and understanding of Child Support Enforcement Policies, Procedures, Rules and Regulations. Mr. Shanmugam specializes in the analysis, design and coding of complex child support distribution, financial and reporting systems. He is intimately familiar with state and federal child support policy, system certification regulations and the Personal Responsibility and Work Opportunities Reconciliation Act (PRWORA) distribution requirements. He has successfully written child support distribution and financials for the certified system in Arkansas and New Jersey; and developed PRWORA compliant distribution programs for the Massachusetts and Michigan. Prior to his child support experience, Dinesh worked on the Los Angles Eligibility, Automated Determination, Evaluation and Reporting System (LEADER). He has over 20 years of programming experience working with large and complex systems with emphasis on financials and reporting.
- Communication and reporting to Senior Management • Engagement Management • Team Management • Expertise in Electronic Content Management and Workflow • Child Support Enforcement Program and Policy • Child Support Enforcement Financials • Child Support System Design and Development • Child Support System Certification under PRWORA and DRA • Commercial Financial Systems • Business Process Analysis • Federal Reporting

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

Job/Project:	**State of Delaware Child Support DECSS Project**	Position:	**Project Development Manager**

[redacted]

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From Date: **Jun 2010** To Date: **Present**

Project Description:
The DACSES Replacement System Project is the development and implementation of a statewide Automated Child Support Enforcement System meeting the requirements of the Federal Office of Child Support Enforcement (OCSE) and the State of Delaware. This system is based upon the transfer of the federally-certified Arkansas Child Support Information System (ARCSIS) leveraging all the features, functionalities and components of the ARCSIS system. The project is currently in the Maintenance and Operations phase.

Responsibilities:
- Leading teams and facilitating meetings including Project Management, SMEs
- Development of processes for tracking project schedules
- Creating and development of Management Plans
- Creation and maintenance of all functional design documents
- Providing leadership for design and development planning
- Leading development of the test plan for data conversion
- Leading the System Integration Test for the entire application

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Job/Project: **Arkansas Child Support Information System (ARCSIS) Office of Child Support Enforcement, State of Arkansas** Position: **Sr. Software Engineer/Technical Manager**

From Date: **Nov 2009** To Date: **May 2010**

Project Description:
This phase of the ARCSIS project involves the integration of EMC2 ApplicationXtender into a custom-built web based application. This will allow users to load, retrieve and edit electronic documents from within a web based application.

Responsibilities:
As a technical manager providing the technical and functional guidance to the team leads and the developers
Prepared technical requirements specifications and design documents

---

Job/Project: **State of New Jersey Office of Child Support Services (OCSS) New Jersey Kids Deserve Support (NJKiDS)** Position: **Application Development Manager**

From Date: **Apr 2006** To Date: **May 2007**

Project Description:
NJKiDS is a state-of-the-art child support system that provides the stakeholders of the program a central enterprise-wide automated system that all parties and stakeholders can utilize effectively with greater ease of use to provide the children and families of New Jersey with improved child support enforcement services.

Responsibilities:
- As a development manager providing the Technical and Functional guidance to the team leads and the developers
- Participated in meetings and discussions to analyze and understand the current legacy system
- Created and followed a Code Migration Plan as approved by the project team
- Created and followed an Application Development Plan as approved by the project team

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- Participated in designing the data modeling
- Involved in the development of NJKiDS Technical Architecture Design
- Participated in JAD and JSD sessions
- Involved in the design of NJKIDS – FACTS (Court) Interface
- Reviewed and approved the functional and technical designs
- Direct Business Analysts toward an optimal functional and technical solution, estimated effort involved and distributed the work to programmers
- Review/Approve the Financial and Case Management Screen DSD's
- Review/Approve the Unit Test Scripts for the Financial and Case Management Screens
- Source Code reviewing, to check optimal coding techniques, logical flow of control and adherence to project coding standard
- Performance Tuning
- Interaction with the Project Management, Functional, Quality Analysis, Integration Testing and the state counterpart teams throughout the project period to ensure integrity of the project

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Job/Project:	**Commonwealth of Massachusetts Enforcement Tracking System (COMETS) Department of Revenue,**	Position:	**Technical Manager**
From Date:	**Dec 2003**	To Date:	**Apr 2006**

Project Description:
The COMETS FM Information System developed for State of Massachusetts, involved the development and maintenance of the State's aging Legacy financial subsystem. The new subsystem was converted to an Oracle web based automated system. The Financial System for child support distribution was then converted to a federally compliant system using PRWORA distribution rules.

Responsibilities:
- Reviewed and approved all functional and technical designs
- Direct Business Analysts toward an optimal functional and technical solution, estimated effort involved and distributed work to programmers
- Reviewed Source Code to check optimal coding techniques, logical flow of control and adherence to project coding standard
- Verified unit-testing plans and the results
- Performance Tuning
- Interaction with the Program Team, Integration Testing Team and Users throughout the project period to ensure integrity of the project

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Job/Project:	**State of Michigan Family Independence Agency, Michigan Child Support Enforcement System (MiCSES) 2.2, 2.3, and 2.4 Statewide Rollout**	Position:	**Technical Lead – Financials, Member and Case Merge**
From Date:	**Nov 2001**	To Date:	**Dec 2003**

Project Description:
MiCSES (2.2, 2.3, and 2.4 Statewide Rollout) was designed, developed and implemented to meet PRWORA compliance. This was a Client/Server, Thin Client web-based architecture project.

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Responsibilities:

- Reviewed and approved functional and technical designs
- Directed Business Analysts toward an optimal functional and technical solution, estimated effort involved and distributed work to programmers
- Reviewed Source Code, to check optimal coding techniques, logical flow of control and adherence to project coding standards
- Verified unit-testing plans and the results
- Performance Tuning
- Involved in the design of an automated solution for deleting duplicate case information in various processing stages
- Interacted with Program Team, Integration Testing Team and Users to ensure project integrity

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Job/Project:	**Michigan Child Support Enforcement System (MICSES) 2.1 Third District Court, Wayne County**	Position:	**Conversion Lead**
From Date:	**Feb 2001**	To Date:	**Oct 2001**

Project Description:
The Michigan Child Support Enforcement System (MiCSES2.1) was designed, developed and implemented in Wayne County, Michigan as a pilot county for the project.

Responsibilities:

- Analyzed the current legacy system
- Designed Conversion algorithm and mapping logic
- Executed mock conversions and delivered converted data per go-live schedule
- Pioneered the design and implementation core data model
- Analyzed system requirements with the focus being representation of business processes
- Worked on Logical Data Model and was responsible for the complete ERD analysis
- Worked on complex database and application level triggers
- Analyzed, coordinated and ensured the data migration from legacy system was consistent and correct
- Interacted with Program Team, Integration Testing Team and Users to ensure project integrity

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Job/Project:	**Michigan Child Support Enforcement System (MICSES) Phase I PRWORA and ITSB Projects Third District Court, Wayne County**	Position:	**System Architect and Business Process Analyst**
From Date:	**Nov 1999**	To Date:	**Jan 2001**

Project Description:
This was a welfare reform project for Wayne County, MI child support system (Friend of the Court). Protech redesigned Friend of the Court business practices to conform to Title IV-D program regulations, ultimately designing and implementing an automated child support system that was compliant with federal requirements and provided automation for high volume case processing.

Responsibilities:

- Coordinated application and underlying data
- Analyzed system requirements focusing on business processes
- Logical Data Modeling and ERD analysis

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- Implemented project in Oracle Designer
- Ensured that the application met system requirements
- Worked on Logical Data Model and was responsible for the complete ERD analysis
- Worked on complex database and application level triggers
- Application development
- Analyzed, coordinated and ensured data migration was consistent and correct
- Interacted with Users throughout the project period to ensure integrity of the project

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Job/Project:	**Arkansas Child Support Information System (ARCSIS) Office of Child Support Enforcement**	Position:	**System Architect and Business Process Analyst**
From Date:	**Dec 1998**	To Date:	**Nov 1999**

Project Description:
The Child Support Information System developed for the State of Arkansas is a web-based application using Multi-tier Architecture. Part of this project required implementation of redesigned financial components, which met the requirements of PRWORA.

Responsibilities:
- Analysis, design and development of Federal Reports
- Analysis design and development of Stored Procedures
- Design and maintenance of Logical and Physical Data Models

Job/Project:	**Arkansas Child Support Tracking System (ACTS) Office of Child Support Enforcement**	Position:	**Senior Technical Analyst**
From Date:	**Oct 1997**	To Date:	**Dec 1998**

Project Description:
ACTS was the automated system designed and developed in compliance with the Family Support Act of 1988 (FSA88) system certification requirements.

Responsibilities:
- Analysis and design
- Coded batch and online programs
- Implemented assigned modules
- Generated reports for assigned modules

EDUCATION *Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.*	
Degree/Certificate:	Bachelor's degree in Computer Science and Engineering
University of Madras, India:	May 1995

CERTIFICATIONS

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Information required should include: type of certification and date completed/received.	
PMP Certification	April 2013

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) *Information required should include: environments, hardware, software, tools and databases.*	
Languages/Tools:	MS SQL Server 2014, C#, Microsoft Office 2016, Microsoft Project 2016, Visio 2016, SQL Management Studio 17.0, Visual Studio 2015, Team Foundation Server 2015, FileNet, Skype for Business, SharePoint, WinScp, IPSwitch, ApplicationXtender 6.5, Input Accel 6.0, Dispatcher 6.0, Oracle Developer 6.0, Designer 6.0, Erwin, TSO/ISPF, Xpeditor, MF, GTA, GTB, MF, Workbench, File-AID, LCM, IPF, Oracle PL/SQL, Toad, VS COBOL II, Pascal, C, Power Builder, VB6, DB2, CICS, JCL, VSAM, QMF
Databases:	Microsoft SQL Server 2014, Oracle 11g, DB2, RDMS
Operating Systems:	Microsoft Windows 10 and all previous versions, Microsoft Windows Server 2010, Microsoft Windows NT, Unix, Ubuntu Linux, MVS/ESA, MVS/XA, OS/2200, Novell Netware
Hardware:	DELL M700 and M600 series blade servers, ACE load balancers, Intel core i7 desktops and laptops, IBM ES9000, IBM 30XX Series, PC ranges, Unisys 2200

REFERENCES *A minimum of three (3) references are required, including name, phone number, fax number and email address.*	
1. DECSS	Tom Gillen, Service Delivery Manager, DMSIRM, 302-255-9983, Tom.Gillen@State.De.us
2. DECSS	Heather Morton, Chief of Administration, DCSS, 302-395-6698, Heather.Morton@State.De.Us
3. ARCSIS ECM	Jeff Moritz, IT Coordinator, AR Dpt. of Fin. & Admin., 301-327-8537, Jeff.Moritz@dfa.arkansas.gov
4. NJKiDS	Eileen Coughlin – State Project Manager, 732-642-7239 (now with Conduent), Eileen.Coughlin@dss.sc.gov

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6. Functional Manager, Annette Mansfield

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Annette Mansfield	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Functional Manager		
# of Years in Classification:	10	**# of Years with Firm:**	2

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

24 years of hands on experience with Child Support Enforcement with the Family Support Division of Washoe County, Nevada and 30 years of overall experience with state and county government and the attendant business practices and systems utilized therein.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

Employer: Washoe County

Project: Washoe County Family Support Division
Position: Assistant Manager
Time Period: 1992-2016

Responsibilities:

- Responsible for the coordination, development and enforcement of the daily operations for the Washoe County Family Support Division.
- Review of staff work methods and procedures; develop and implement changes to ensure compliance with state and federal policies and legislation.
- Essential participant in Joint Agency Development sessions (JAD'S) to improve NOMADS from 1999 through 2016.
- Was liaison between county and state
- Intricate part of creating and developing the requirements for software applications

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

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High School:	Edward Reed High School Sparks, Nevada	**Certificate Conferred:**	Diploma, 1979

CERTIFICATIONS ***Information required should include: type of certification and date completed/received.***
N/A

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) ***Information required should include: environments, hardware, software, tools and databases.***	
Languages:	JAVA, NOMADS, SQL, VISUAL BASIC
Databases:	NOMADS and the Microsoft Office Suite Products.

REFERENCES ***A minimum of three (3) references are required, including name, phone number, fax number and email address.***
Susan Hallahan Chief Deputy District Attorney Washoe County District Attorney 775-789-7111; 775-789-7150 shallahan@da.washoecounty.us Lori Garcia Administrator Washoe County District Attorney 775-789-7127; 775-789-7150 lgarcia@da.washoecounty.us Louella Mansfield Chief Citation Clerk Reno Justice Court 775-325-6503 lmansfield@washoecounty.us

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7. Data Conversion Lead, Barrett Greene

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Barrett Greene	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Data Conversion Lead		
# of Years in Classification:	16	**# of Years with Firm:**	0

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

- Professional services leader possessing an established record of delivering high quality solutions for complex business functions. Skilled in motivating and leading teams and exceptional performance in project management, communication and critical thinking.
- More than 21 years of experience years in this industry, with a diversified background covering most of the key resource positions needed for the development and implementation of large-scale, statewide computer systems including Project Manager, Data Conversion Manager, Senior Software Engineer, and Programmer/Analyst.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

Employer:	**Thomson Reuters**		
Project:	Appellate Courts of LA, NH and TN	Position:	Engagement Manager
		Time Period:	2016 – Present
Project:	Louisiana Supreme Court	Position:	Project Manager
		Time Period:	2015 – 2016
Employer:	**Ciber, Inc**		
Project:	Delaware Child Support & Foster Care Agency	Position:	Senior Consultant
		Time Period:	2014 – 2015
Employer:	**Northrop Grumman**		
Project:	Delaware Automated Child Support Enforcement System (DACSES)	Position:	Program Manager
		Time Period:	2001 – 2013
Project:	DACSES Replacement	Position:	State Conversion Mgr.

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		Time Period:	2013
Project:	DACSES Replacement	Position:	Project Manager
		Time Period:	2005 – 2006
Project:	DACSES	Position:	Sr. Software Engineer
		Time Period:	1998 – 2001
Project:	Alabama Location and Enforcement System	Position:	Programmer/Analyst
		Time Period:	1996 – 1998

EDUCATION *Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.*			
Degree:	Master of Business Administration	**University:**	Auburn University of Montgomery
		Conferred:	May 1998
Degree:	Bachelor of Science, Computer Info. Systems Suma Cum Laude	**University:**	Alabama State University
		Conferred:	May 1996
Degree:	Associates of Arts, Data Processing	**University:**	University of the Virgin Islands
		Conferred:	May 1993

CERTIFICATIONS
Information required should include: type of certification and date completed/received.

Northrop Grumman

1. Six Sigma Green Belt, 2003
2. Essential Management Skills, 2001
3. PMP Boot Camp, 2006

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) *Information required should include: environments, hardware, software, tools and databases.*	
Languages:	COBOL, ADS +
Software:	Microsoft Office Suite, Microsoft Project, VISIO, Dreamweaver
Databases:	DB2, IMS, SQL
Tools:	Changeman, JIRA, TFS

REFERENCES
A minimum of three (3) references are required, including name, phone number, fax number and email address.

Kevin Gratz: 302.229.5947; kgratz@gmail.com

Carmella Brown: 302.465.4473; cocomel@hotmail.com

Mathew Janicki: 302.229.7188; Mathew.janicki@state.de.us

[redacted]

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8. Implementation Lead, Anthony Sessions

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Anthony Sessions	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Implementation Lead		
# of Years in Classification:	12	**# of Years with Firm:**	4.5

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

- Anthony Sessions has 5 years of military, 3 years of adjunct faculty and over 16 years of state government IT experience; 13 years of which has been implementing solutions for IV-A, IV-E and IV-D federal programs. Anthony has earned State of Michigan project management and PMI-PMP Certification.

- Anthony is an experienced program, project and implementation manager. He has developed, managed and executed project plans and portfolios for the States of Michigan, Delaware and South Carolina. He has held a variety of roles and responsibilities in supporting, managing and leading multiple projects; ranging from less than $1 million to over $200 million and having between 10 and 10,000 end-users.

- Anthony's experiences have provided him with a diverse and complementary background. He attained a bachelor degree in Systems Analysis and Application Development and is well versed in the Systems Development Life Cycle. He has managed a number of teams and successfully implemented, managed, and supported a myriad of systems and projects during his career. Notably he has led efforts on a 2nd Generation IV-A Implementation, a 1st Generation IV-E Implementation, a 2nd Generation IV-D implementation, and is currently working on a 1st Generation IV-D implementation. In addition, he has managed many smaller projects supporting DHHS, local municipalities, non-profit organizations, and for-profit businesses involving quality control, HR, finance and accounting, MIS reporting, LMS and content management.

- Anthony is customer focused. As an implementation project manager, his main focus is on the production release of the product, preparing and supporting the appropriate stakeholders to receive and effectively use the new application. Good communication is key to that success and Anthony is an effective communicator. He understands the importance of conveying appropriate information to a specific audience utilizing multiple types of media. He has experience with a wide variety of audiences, from peers to executives, and is dedicated to

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providing services that will support the client in achieving their goals.

RELEVANT EXPERIENCE *Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.*	
Project Name:	**South Carolina CFS Project (Child Support Project)**
MMYYYY to present:	08/2015 to Present
Vendor Name:	Courtland Consulting (Prime Contractor- Xerox)
Client Name:	Katie Morgan – SC DSS CSSD Director
Client Contact Name:	Jimmy Early – Project Chief
Client Address, Phone #, Email:	1628 Browning Rd. Columbia, SC 29012, 803-734-7933, jimmy.earley@dss.sc.gov
Role in Project:	Implementation Project Manager
Responsibilities:	Anthony is responsible of managing the Implementation, Help Desk and Training Teams.
Details and Duration of Project:	The CFS Project is a 5 year, multifaceted project with the goal of implementing a 1st generation IV-D system, a SDU, and a family Court Case Management System for the State of South Carolina.
Software/hardware Used in Engagement:	Software: MS Professional, , MS Project, MS Visio, MS SQL Server, MS .Net, IIS, Visual Studio, TFS, Postalsoft, Cornerstone LMS, JitBit, Load Runner, Test Manager, and SharePoint Hardware: Dell Work Stations and HP Servers
Project Name:	**Delaware DCSS (Child Support Project)**
MMYYYY to present:	04/2012 to 09/2014
Vendor Name:	Courtland Consulting (Prime Contractor - Xerox)
Client Name:	Theodore Mermigos – DE DCSS Director
Client Contact Name:	Theodore Mermigos – DE DCSS Director
Client Address, Phone #, Email:	84A Christiana Road New Castle, DE 19720, (302) 395-6500, theodore.mermigos@state.de.us
Role in Project:	Implementation Project Manager
Responsibilities:	Managed the Implementation and Help Desk Teams and supported the

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	training team.
Details and Duration of Project:	The DACSES Replacement Project was a 5 year project to implement a 2nd generation IV-D system replacement for the State of Delaware. The system is used by 768 IV-D, IV-A, IV-E, Attorney General, and Family Court users. The system was converted with approximately 125,000 open and closed cases.
Software/hardware Used in Engagement:	MS Professional, MS Project, MS Visio, MS SQL Server, MS .Net, IIS, Visual Studio, TFS, Postalsoft, Solarwinds, Load Runner, Test Manager, and SharePoint
Project Name:	**State of Michigan – DHS (Multiple Projects)**
MMYYYY to present:	04/2010 to 03/2012
Vendor Name:	State of Michigan – DTMB
Client Name:	State of Michigan – DHS
Client Contact Name:	No Single Point of Contact
Client Address, Phone #, Email:	No Single Point of Contact
Role in Project:	State Employee – State Administrator (SAM-15)
Responsibilities:	Anthony managed several portfolios, systems, and contracts in support of DHS' Adult and Children's Services division to include IV-E, Adult Foster Care, and Juvenile Justice.
Details and Duration of Project:	The area included two mission critical systems and several support systems with a staff of 35 FTEs and 7 contract staff. Together the systems serve approximately 5500 users with approximately 1.2 million open and closed cases. Anthony worked for the State of Michigan as a State employee, State Administrator-15 for 2 years.
Software/hardware Used in Engagement:	Various Software and Hardware were employed (See Hardware/Software Summary below) Core: VB6, ASP, .Net, and Java with Oracle back end and Teradata Data Warehousing
Project Name:	**State of Michigan – DHS (Multiple Projects)**
MMYYYY to present:	04/1999 to 03/2010
Vendor Name:	State of Michigan – DTMB
Client Name:	State of Michigan – DHS
Client Contact Name:	No Single Point of Contact

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Client Address, Phone #, Email:	No Single Point of Contact
Role in Project:	Information Technology Specialist – 14 & Information Technology Programmer/Analyst
Responsibilities:	Anthony managed and supported several systems and projects while serving as a technologist in the Assistance and Services (IV-A) area of DHS. Together the systems served approximately 5000 users with approximately 2.4 million recipients with billions of dollars being processed each year. He participated on the State Enterprise Architecture board to review and develop technical roadmaps for the State. In addition, Anthony served the Accounting, Finance, HR, OIA, and OIG departments of DHS as a programmer/analyst providing support to approximately 300 users over 12 different systems as well as implemented two systems.
Details and Duration of Project:	Anthony worked for the State of Michigan as a State employee, Information Technology Specialist -14 for 11 years.
Software/hardware Used in Engagement:	Various Software and Hardware were employed (See Hardware/Software Summary below) Core: VB6, ASP, .Net, and Java with Oracle back end and Teradata Data Warehousing

EDUCATION ***Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.***	
Institution Name:	Davenport University (Lansing, MI)
Degree/Achievement:	Bachelors of Science, Systems Analysis and Application Development

CERTIFICATIONS ***Information required should include: type of certification and date completed/received.***
PMP Certification (#1491110), 2012

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) ***Information required should include: environments, hardware, software, tools and databases.***	
Languages/Software:	VB/VBA; C/C++; COBOL 85; HTML; Java, Java Script, Servlets, EJB, JSP; .Net; Teradata SQL; Business Objects Intelligence; Powerbuilder; Data Modeling; Project Management; Oracle SQL & PL/SQL; ESQL; IBM WTx; XML/XSD/XSLT; MS SQL Server; Unix Script; MS SharePoint
Databases:	SQL Server 2008 & 2012, Oracle 8.1 – 10i, Teradata

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REFERENCES *A minimum of three (3) references are required, including name, phone number, fax number and email address.*
Richard DeMello DMTB - Center For Shared Solutions Enterprise Service Manager Demellor@michigan.gov 517-930-6301 Jimmy Early State of South Carolina CFS Project Chief 803-734-7933 jimmy.earley@dss.sc.gov Cole Jacobson Delta Dental IT Project Manager 810-714-1668 colejacobson@charter.net Nancy Palmateer, PMP, DTMB Business Relationship Manager Work: (517) 335-5779 Cell: (517) 282-7593 PalmateerN@michigan.gov

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9. Application Architect, Senthil Kumar Balasubramanian

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Senthil Kumar Balasubramanian	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.6	Application Architect		
# of Years in Classification:	6	**# of Years with Firm:**	6

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Senthil brings 17 years of experience as a developer and system architect for large scale health and human services systems. He was essential in the design and architecture of California's CCSAS CSE system, on which NCSEAS will be based. He is a highly skilled leader with many years of experience managing teams of developers, providing them with both technical and functional guidance. He has a proven track record of working with all facets of technology during the lifecycle of system planning, creation, testing, and implementation.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

Project Name:	**California Child Support Automation System (CCSAS)**
MMYYYY to present:	06/2011-07/2015
Vendor Name:	Deloitte Consulting LLP
Client Name:	Department of Child Support Services, State of California
Client Contact Name:	Melissa Jones – Application Development Manager
Client Address, Phone #, Email:	11120 International Dr. Rancho Cordoba, CA (916) 464-6790 Melissa.jones@dcss.ca.gov
Role in Project:	Team Lead
Responsibilities:	• Designed and developed the class diagrams and sequence diagrams from use cases using Rational Rose. • Developed system using J2EE, JMS, MQ Series, STRUTS, EJB, Java, JSP, Web Sphere, DB2, AIX, Clear Case, Clear Quest, Rational Suite, and Hibernate.

[redacted]

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	• As a team lead provided technical and functional guidance to the developers. • Developed JSP's as interaction layers, service objects (stateless session beans), and message handlers in the service layer; activity objects and business objects as a business layer DAO's in the persistence layer; DTO's and utility classes in the common layer. • Involved in design and development of the application architecture and data model. • Provided technical and functional guidance to the team. • Design and development of Struts Action classes, DAO, views using Struts custom tags Struts-configuration files for actions (controller). • Developed XSLT's to transform responses from application schema to system understandable schema and vice versa. • Written Hibernate queries and HBM configuration files • Involved in data modeling, system data analysis, design and implemented on DB2. • For interlayer communication, XML Messages are used. These messages are composed and parsed on the Java based business components using XML Beans. • Involved in developing scheduled batch jobs to process inbound, outbound files converted to XML Objects and XML Objects to flat files using XML Bean Objects. • Closely worked with team members in assembling, binding, and deploying J2EE components on the WebSphere Application Server. • Tested the application using Mock objects, JUnits, DBUnits and JCoverage. • Involved in unit testing and regression testing the application. • Involved in code reviews and peer reviews.
Details and Duration of Project:	California's Child Support Program works with parents and guardians to ensure children and families receive court-ordered financial and medical support. Some of the services provided include locating a parent; establishing paternity; establishing, modifying, and enforcing a court order for child support; and establishing, modifying, and enforcing an order for health coverage. California's child support program is using new technology, expanding the ability of child support staff to assist child support customers. Working collaboratively with local child support agencies, the courts, county health and human services entities, employers and various state and federal agencies, the Department of Child Support Services is using technology to make it easier and faster to locate individuals and collect child support – reducing delays for families. Involved in the development and implementation of CCSAS from initial use case through final testing
Software/hardware Used in Engagement:	Java/J2EE, UML, XML, HTML, Java Script, Bootstrap Framework, Servlets, JSP, JSF, SOAP, Struts, Hibernate, Spring, EJB, JMS, JDBC, JUnit, DBUnit, JCoverage, Universal DB2, AIX, Rational clear case, Rational Clear Quest, Rational Rose, TWS (Tivoli Workload Scheduler), IBM Web sphere 7, IBM Rational Application Developer for WebSphere 8
Project Name:	**Child Support Enforcement System – Maine (CSEME)**

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MMYYYY to present:	03/2005-06/2011
Vendor Name:	Protech Solutions, Inc.
Client Name:	Department of Child Support, State of Maine
Client Contact Name:	Walter Brown
Client Address, Phone #, Email:	26 Priest Hill Rd. Vassalboro, ME 04989; (207) 446-1772; walter.brown@protechsolutions.com
Role in Project:	Design Development Lead
Responsibilities:	• As a team lead provided Technical and Functional guidance to the developers. • Analysis done for the case initiation, case management, locate, establishment and enforcement subsystems to migrate the existing functionality from Mainframe and Oracle Forms. • Created several designs for each subsystem using Rational tools and MS Visio. • Involved in design and development of the application architecture and data model. • Participated in estimation of development efforts, assignment and follow-up of development work, issue analysis and team/client meetings. • Created and maintained the project schedule which includes developing, allocating, monitoring, and reviewing the project tasks. • Provided technical and functional guidance to the project on Design, Development and Testing of software modules developed in Java/J2EE, Servlets, JSP, AJAX, Java Beans, Oracle Fusion Middleware, Oracle Business Intelligence Publisher (BI Publisher), Pluggable Java Components (PJC), XML, HTML, Java Script, Oracle 11g Database, PL/SQL for stored procedures. • Conducted meetings and discussions to analyze and understand the legacy mainframe system. • Participated in JAD and JSD sessions. • Involved in code walk and internal reviews. • Participated in designing the data model for the CSEME system. •
Details and Duration of Project:	The CSEME project includes the design, development and implementation of a child support system for the state of Maine. The initial phase of the project involves conversion of the legacy data in the State's Main Frame system to Oracle 11g database. This automated child support system is comprised of various sub-systems including; case initiation, establishment, IV-A/IV-E interfaces, financials, collections, distribution, disbursement, enforcement, financial reporting and security. The conversion of the legacy data and the successful integration of all components subsequent to the JADs and discussions will make the State of Maine to implement a federally compliant system using PRWORA distribution rules and avoid the assessment of federal penalties for a non-compliant system. Involved in the development and implementation of CSEME from initial use case through final testing.
Software/hardware Used in	Java/J2EE, Servlets, JSP, AJAX, Java Beans, XML, HTML, Java Script, Oracle Fusion

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Engagement:	Middleware 11g, Oracle Business Intelligence Publisher (BI Publisher), Pluggable Java Components (PJC), Oracle 11g Database, PL/SQL for stored procedures, TOAD 9.x., Windows XP, Oracle Weblogic 11g Application Server, Oracle Enterprise Pack for Eclipse, Melissa Data Address Verification Web Service
Project Name:	**New Jersey Kids Deserve Support (NJKiDS)**
MMYYYY to present:	04/2006-11/2009
Vendor Name:	Protech Solutions, Inc.
Client Name:	Department of Child Support, State of New Jersey
Client Contact Name:	Paul Segarra
Client Address, Phone #, Email:	200 American Metro Blvd. Suite# 124 Hamilton, NJ 08619 (609) 249-8781, pauls@protechsolutions.com
Role in Project:	Team lead/ Application Architect
Responsibilities:	• As a team lead provided Technical and Functional guidance to the developers. • Involved in the development of NJKiDS technical architecture design. Also involved in design and development of the application architecture and data model. • Participated in estimation of development efforts, assignment and follow-up of development work, issue analysis and team/client meetings. • Created and maintained the project schedule which includes developing, allocating, monitoring and reviewing the project tasks. • Provided technical and functional guidance to the project on design, development and testing of software modules developed in Java/J2EE, Servlets, JSP, AJAX, Java Beans, EJB, Struts and Spring Framework, Log4j, XML, HTML, Java Script, Oracle 10g Database, PL/SQL. • Involved in code migration from Oracle Forms to J2EE technology using JDAPI. • Conducted meetings and discussions to analyze and understand the legacy mainframe system. • Participated in JAD and JSD sessions. • Involved in code walk and internal reviews. • Participated in designing the data model for the NJKiDS system.
Details and Duration of Project:	The NJKiDS project includes the design, development and implementation of a statewide child support system to the State of New Jersey. The design of this statewide system was based on the solution provided by Protech Solutions to various other statewide system including Massachusetts and Michigan. The initial phase of the project involves conversion of the legacy data in the State's Main Frame system to Oracle database. This automated child support system is comprised of various sub-systems including; case initiation, establishment, IV-A interfaces, financials, collections, distribution, disbursement, enforcement, financial reporting and security. The conversion of the legacy data and the successful integration of all components subsequent to the JADs made the State of New Jersey's implementation a federally compliant system using PRWORA distribution rules. Involved in the development and implementation of NJKiDS from initial use case through final testing.

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Software/hardware Used in Engagement:	Java/J2EE, Servlets, JSP, AJAX, Java Beans, Struts and Spring Framework, Log4j, XML, HTML, Java Script, Oracle Forms 10g, Oracle 10g Database, PL/SQL for stored procedures, TOAD 8.x., Windows XP, IBM WebSphere Application Server 6.1 in AIX 5.3. , RAD IDE 7.0, IBM Rational ClearCase, USPS Web Service, Apache FOP (Advanced Function Printing)

EDUCATION ***Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.***	
Institution Name:	Bharathidasan University
City:	Tamil Nadu
Country:	India
Degree/Achievement:	Master of Computer Applications; and Bachelor Degree - Physics

CERTIFICATIONS ***Information required should include: type of certification and date completed/received.***
Sun Certified Programmer for the Java 2 Platform 1.4 (March, 2004)

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) ***Information required should include: environments, hardware, software, tools and databases.***	
Environments:	Windows (98, 2000, XP and NT), UNIX (Solaris 9, AIX 5.3) and Linux (Red Hat 9, SUSE Linux)
Hardware:	JBoss Application Server, Oracle Weblogic 11g Application Server, IBM Websphere Application Server 6.1, IBM MQ Server, Sun One Application Server 7, Oracle 9iAS Application Server, Apache Tomcat and iPlanet Server 6.0
Software:	JDBC, Servlet, JSP, EJB, Java Beans, Web Services, RMI, JMS, AJAX, XML, XSLT, HTML and Java Script Java, C, C++, SQL and PL/SQL, Oracle Technologies
Tools:	Grails, Struts, JSF, Twitter Bootstrap, Spring, Drools, Hibernate and JBoss JBPM, Oracle JDeveloper 11g, RAD 8.0, GGTS, NetBeans and Eclipse, Perforce, Bugzilla, IBM Rational ClearCase, PVCS and Visual Source Safe (VSS)
Databases:	IBM DB2, Oracle 11g, MS SQL Server

REFERENCES ***A minimum of three (3) references are required, including name, phone number, fax number and email address.***
Vikram Akkagi Manager at Deliotte (916) 365-3636 vakkagi@deliotti.com

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Paul Segarra
Project Manager – Protech Solutions Inc.
(609) 638-0179
pauls@protechsolutions.com

Walter Brown
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10. BI/Data Warehouse Lead, Bala Krishnamurty

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Bala Krishnamurthy	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	BI/Data Warehouse Lead		
# of Years in Classification:	23	**# of Years with Firm:**	0

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

- More than 15 years of experience as a Senior Analyst / Data Modeler / Process Architect
- Expertise in designing and executing a full-scale Data warehouse in a multi-tier architecture
- Expertise in designing several warehouse databases/data marts, star schema…etc.
- Experience working with various vendors and stake holders in finalizing the hardware/software needs for the State of Indiana Child Support Warehouse
- Excellent track record in providing creative reporting and analytics solutions to Child Support team at the State of Indiana
- Expertise in understanding and addressing various security requirements as prescribed by IRS 1075 guidelines
- Experience and expertise in understanding various Federal and State reporting regulatory rules
- Certified Project Management Professional (PMP) from Project Management Institute (PMI)
- Well versed with PMI's Project Management Methodology (PMBOK).
- Skills and experience in IT Operations, process improvements, metrics definition and collection and change management
- Demonstrated success in Planning, Organizing, Budgeting, Scheduling and tracking projects as well as facilitating team organization and leadership.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

May 2006 – Current
State of Indiana – Department of Child Support – Child Support Bureau Data warehouse (Indianapolis, IN)
Various Roles - Senior Analyst / Data Modeler / Warehouse Architect

[redacted]

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Projects – Indiana Support Enforcement Tracking System

1. Federal OCSE 157 Reporting - Federal form displaying case, service, paternity and financial information on the state's Child Support Enforcement program using the federal case logic.
2. Federal OCSE 34A Collections Reporting - Federal form OSCE 34A, Quarterly Report of Collections
3. Paternity Establishment Work Reports - Reports Detailing Paternity Cases and Case Type Changes
4. Reports On Demand - Provides the ability to create custom reports by selecting fields to display on the report and by specifying the desired case, participant, order, and financial criteria.
5. County Performance Dashboard – Support Order, Paternity Establishment & Collections. Historical and current maps of county performance on key metrics
6. Metrics Reporting for Governor's Office - Metrics used by the Indiana Governor's Office to track Child Support performance. Rolling 12-month numbers for Current Support Collected and Cases Paying on Arrears.
7. Past Public Assistance Report - Monthly report displaying TANF cash issuance history for an individual
8. Child Support Management Dashboard - Monthly graphical tool displaying key performance indicators to aid users in identifying how the state is doing in meeting strategic objectives.
9. Multi-dimensional Analysis cube of Child Support Data - Detailed OCSE 157 information and drill-through reports.
10. Case Segmentation Reporting - Weekly report showing IV-D caseload divided into segments based on CSUP collected, arrears only cases, and potential support order actions needed.
11. Enforcement Reports – Central Enforcement Unit Research Reporting, License Suspension Reporting

Software: Data Stage ETL Tool - IIS Parallel Extender, Informatica Suite of Products (Power Center, Data Validation Option, Data Quality), IBM Cognos BI, Tableau, Erwin Data Modeler, Microsoft BizTalk ESB, MS Projects, Oracle (various versions), Teradata Suite of Products (v15), Protegrity (Encryption), SQL Server (2014), Citrix (Protected Zone Access)

EDUCATION *Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.*
Bachelor of Engineering from University of Madras, India (1993)

CERTIFICATIONS *Information required should include: type of certification and date completed/received.*
Certified Project Management Professional - PMP (2008)

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) *Information required should include: environments, hardware, software, tools and databases.*	
Languages:	SQL, PL/SQL, COBOL, REXX

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Databases:	Oracle (various versions), Teradata v15, DB2, MS SQL Server, MS Access Software & Tools: Data Stage ETL Tool IIS Parallel Extender, Informatica Suite of products, MS Projects, Erwin Data Modeler, Tableu, Cognos BI, Microsoft BizTalk ESB, Quality Stage, SQL Server DTS, Citrix (Protected Zone Access), Protegrity Operating Systems: Windows NT, OS 390

REFERENCES ***A minimum of three (3) references are required, including name, phone number, fax number and email address.***
Cynthia Longest Director – State of Indiana, DCS - Child Support 402 W Washington Street, Indianapolis, IN- 46204 Phone: 317-233-4482 E-mail: Cynthia.Longest@dcs.in.gov Dawn McNeal Assistant IT Director – State of Indiana, DCS - Child Support 402 W Washington Street, Indianapolis, IN- 46204 Phone: 317-234-0487 E-mail: Dawn.McNeal@dcs.in.gov Kevin Jones Chief Information Officer Indiana Department of Child Services 302 W. Washington Street, E306 Indianapolis, IN 46204 Office: 317-232-2996 Mobile: 317.460.4380 E-mail: kevin.jones@dcs.in.gov

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11. Quality Assurance Manager, Anantha Kadur

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Anantha Kadur	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Quality Assurance Manager		
# of Years in Classification:	13	**# of Years with Firm:**	0

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

I have more than 22 years of experience in the IT industry. During this period, I have worked as Senior Project/Program Manager, Director of MIS, I.T. Director, Change /Configuration Manger and as an IV&V process analyst. Some of the workstreams (sub projects) that I led as a Program Manager/Senior Project Manager ($200 + Million) are: Data Cleansing /Data Conversion, Interfaces, Testing and planning for the project including across different business units. I have been involved in process re-engineering, systems analysis, design, development, installation and implementation of IT systems using a variety of hardware and software technologies. I have a Bachelor of Engineering, a Masters of Business Administration, PMI –ACP Agile Certified Practitioner (PMI-ACP), a Project Management Professional (PMP) certificate, and ITIL.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

California Office of State Controller **Dec 2015 – current**
Project Manager

Duties:

- Serve as a Senior lead in developing, implementing, reviewing, maintaining and improving the SCO-PMM processes and procedures,
- Act as lead consultant in advising and guiding SCO cross-divisional and enterprise projects with multidisciplinary project teams and multilayer cross-functional management structures through the project management process
- Consult, guide, advise, mentor and collaborate with the SCO project teams in guiding projects through various information system development lifecycle processes (SDLC) and incorporating the chosen SDLC approach into the overall project approach, and project management deliverables
- Prepare, provide and update IT project management related training for PMO staff;

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- Lead, consult guide, mentor and participate in SCO projects in the coordination, development, review, and cataloging of Project Approval Lifecycle Stage/Gate deliverables and other documents as required
- Currently managing two projects and working as project management support for another major project**.**

UC Davis, UC Path - New System Wide Payroll Project (HCM –PeopleSoft) April 15, 2013–October 2015
Program Manager/Senior Project Manager

As a Program Manager / Senior Project Manager I was responsible for planning, execution and close-out of each assigned sub-project of a replacement system from the current **Payroll System** to a **new system-wide HRIS and payroll system (HCM –PeopleSoft - HCM 9.2), 200 + million-dollar project**. My responsibilities as a project manager included detailed analysis, project planning and customer support for all assigned tasks. I was also responsible for each implementation from project planning to closeout.

In the context of managing projects, some of the items that I completed:

- Using Microsoft Project 2010 to plan, develop, maintain, and report status of the project to the executives.
- Managing highly complex integrated master schedules and work plans using industry best practices and standards (e.g., IEEE, PMBOK and SEI).
- Worked with Cross Business and Functional teams.
- Identified risks and tracked them
- Mobilize and provide direction to project teams;
- Develop project plan, resource, implementation, quality assurance, and testing plans with the project team that reflect methodologies appropriate to the technology and other factors;
- Identify issues which have campus impact or implications and ensure timely resolution of such issues;
- Develops project scope and objectives, detailed work plans, schedules, project estimates, resource plans, Identifies resource requirements;
- Manage the team to the project plan;
- Coordinate and gather information from external entities such as software providers and managers from peer institutions
- Report project status and prepare business cases for executive management and project director in a manner that describes the plan, benefits, barriers, risks, contingencies, and costs.
- Communicate accurate project status to university constituents.
- Provide in-depth personal and group training to business units to enable them to carry out their own individual missions.
- Develop working relationships with technical and business staff to facilitate the success of projects and timelines.
- Assist project director with project coordination and administration activities
- Coordinate development of Interface development effort
- Coordinate data cleansing and data conversion activities across different business units
- Working with SMEs and engineers in a matrix organization.
- Manage project related information on Confluence.
- Use JIRA to track tasks that needs to be completed.
- Started and chaired the Workgroup for the Interface – Involves all the UCs
- Collaborate with other UC campuses
- Lead the Future State Process Design (FSPD) and Business Process Analysis effort to come up with the schedule and process to so the Payroll, HR, and Academic Personnel can work on the (FSPD).

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A**chievements/Accomplishments/Extras** (in addition to required job duties):

- Leading Interface Workgroup for all the UCs
- Risk and Issue Manger
- Guiding/working with UC Berkley and other UC Campuses

Tools Used: MS Project, MS Project Server, MS Visio, Confluence, JIRA, MS Office

DIA Project – EDD **June 2010–April 12, 2013**
Configuration & Change Manager & Requirement Manager

Disability Insurance Automation (DIA) system, **$150M**+ Project, will provide an online application available to claimants, medical providers, and employers for submission of disability claim information, online access to claim information, and a business intelligence solution to increase the availability of essential disability information to Disability Insurance Branch management and staff.

Some of the items that I completed during my tenure as Configuration/Change Manager:

- Led and implemented the process for managing and sustaining the configuration and change management activities.
- Guide vendor team in Configuration and Change Management Plan
- Developed configuration and change management plan.
- Led and mentored the vendor team on most complex activities related to the DIA configurable items such as documents, network infrastructure, source code, etc
- Established methodology for generating configuration items (CI) identifiers, change management, maintaining status accounting.
- Performed audits and reviews of vendor deliverables.
- Led Change Control Board (CCB) interactions for the DIA Project, DIA-related production system changes, and communicated and coordinated with staff overseeing the CCB.
- Guide the hardware, software, documentation, and established the methodology for generating configuration item (CI) identifiers, change management, maintaining status accounting.
- Created the Master System Test Plan for the DIA project.
- Led the Testing Team in streamlining the testing process by using "The Continual Service Improvement (CSI) process" so that testing can progress at a very good pace.

Requirements Management:

- Led the requirement traceability efforts and conformity to the DIA
- Mentored the vendor team in the most complex activities related to the management of DIA requirements
- Mentored the project team members on most complex activities related to the management of DIA requirements.
- Coordinated with Information Technology Branch (ITB) and technical staff from other departments in identifying any technical requirements, identify system interfaces and performance requirements that are being met.
- Led the requirement efforts with the System Integration vendor and the Independent Validation and Verification vendor to satisfy the DIA requirements.
- Identified system interfaces and performance requirements via industry standard analysis techniques such as Data Flow Modeling, Use Case Analysis, Integration Definition for Process Modeling, Workflow Analysis, and Verifies DIA requirements.

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A**chievements/Accomplishments/Extras** (in addition to required job duties):

- Helped team in streamlining the testing process
- Worked as Requirements Manager

California Highway Patrol (CHP) **March 2009–May 2010**
Associate Programmer Analyst

Staffing Study Project
The goal of this project is to determine the need for more people to support the current and future projects that are needed to stay strategically ahead for I.T. Department of CHP organization. The information gathered from this project may be used in the **Budget Change Proposal (BCP)**.

Some of the items that I completed during my tenure as Associate Programmer Analyst:

- Created Project Charter and Project Plan
- Created Project Schedule and Management using MS Project
- Created Implementation Plan
- Created Software Requirements plan
- Designed, created, tested and successfully implemented the software using MS Visio, Visual C# 2008 and SQL Server 2005 as the database.

A**chievements/Accomplishments/Extras** (in addition to required job duties):

- Project Management
- Implementation duties
- Training
- Evaluating version control software

CCSAS/CSE Child Support System (FTB/DCSS) **October 2006–March 2009**
Sr. Technology Analyst (IV&V)

CCSAS CSE project (**2 Billion Project**) is responsible for the planning, design, development, implementation, training, maintenance, and operations of a new statewide system that meets Federal certification requirements and delivers improved child support program results for California.

Some of the items that I completed during my tenure as Sr. Technology Analyst (IV&V):

- Using the CMMI standards assisted the project in identifying issues with the process
- Using the IEEE 12207 (Software Life Cycle Processes) analyzed the processes that were being followed by the project to look for any gaps in the process
- Using IEEE 1012 (Standard for Software Verification and Validation) summarized, analyze, and prepared deliverable findings. I was able to create one new successful finding in every report. I have worked on different areas of IV&V
- Prepared and presented the findings to the project executives and federal government once every six weeks
- Analyzed the project management oversight plan and the risk management plan. Performed risk analysis, project scope, cost, and schedule adherence prediction assessment, and root cause analysis.
- Performed failure analysis to identify any potential issues and provided feedback on process improvement. Analyzed the redesigned process for any slips
- I was part of the team in delivering quality Quarterly Oversight Reports and Interim Status Update Oversight Report. Met with and provided feedback to the project executives on the findings.

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- Some of the standards that we used in the preparation of the report were: IEEE 12207.0-1996, Standard for Information Technology – Software Life Cycle Processes, IEEE 730-2002, Standard for Software Quality Assurance Plans, IEEE 1012-2004, Standard for Software Verification and Validation CMMI, PMBOK

A**chievements/Accomplishments/Extras** (in addition to required job duties):

- Had new finding in every reporting period

CS Marketing **October 2004–October 2006**
Intranet Application Developer

Some of the items that I completed during my tenure as Intranet Application Developer:

- In working with the users, I identified the need for a system that would have a web based knowledge base system so that the users can access the information easily and the information is in central location.
- I designed and programmed an intranet-based application. It was used by the IT resources to pool and store their knowledge. The application was created using PHP, HTML and mySql as the database.
- I led requirements gathering including identifying data-driven functionality and designs specific to meet the needs of each functional group while maintaining the corporate standards.
- I created the test plan as well as developed and implemented the test procedures for this project. I created and implemented intranet and web application design standards by working with the marketing group to incorporate corporate design standards for imaging and colors.
- I worked with the IT team to obtain server and network resources, installing and configuring SQL Server 2000 and DotNetNuke portal software, integrating online corporate applications into the portal software, and creating new content and functionality based on gathered requirements and corporate standards.

College America **October 2002–September 2004**
IT Director

Some of the items that I completed during my tenure as IT Director:

- Oversees infrastructure development cost estimates, budgets, and schedules.
- IT Operations effort - Used ITIL process to implement like Incident Management, Problem Management, Event Management,
- Organization planning, Cost/Benefit Analysis, and Budgeting.
- Gathering and Articulating the company's enterprise architecture
- Prepared and presented project proposals to management and user departments, including recharge proposals.
- Conducted performance evaluations and identified and resolved staff performance issues.
- Identified training needs and developed training plans. Hired, trained, monitored, mentored and provide feedback to the professors
- I was responsible for planning, managing, staffing, and overseeing project management knowledge areas
- I was able to complete all the administrative functions related to project management, including providing direction to each vendor area, ensuring that the customers/employees have the capability to perform their required business functions.
- Developed courses for Bachelor's degree program for the computer department
- Set up a new branch and obtained the accreditation for the local college
- Developed and implemented training program to the staff
- Implementation of IT policies, standards, practices. Contingency Planning and disaster recovery

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- Worked with vendors to design network systems. Ensured that branch infrastructure, application platforms, and connectivity are consistently secured. Provide reliable services to end users. Tracked and monitored network performance
- Reviewed hardware/software requirements and coordinated a fix for the H/W, S/W issues
- Developed and implemented the college installation, support and repair procedure
- I also served on the IT steering committee
- I was involved in contingency planning and disaster recovery for this branch office.
- I also taught courses in project management, networking and introduction to programming. Following are some of the courses that I taught: Project Management, Database Programming, Client Networking Concepts, Networking Concepts, Networking Administration, Network Security, A+ Guide to hardware

Achievements/Accomplishments/Extras (in addition to required job duties):

- Led the accreditation process and successfully got the accreditation for the college
- Set up new branch.
- Taught courses as needed

IBM/Avaya **February 2001–September 2001**
Senior Programmer,

Some of the items that I completed during my tenure as Senior Programmer:

- In the role of a senior programmer for IBM/Avaya, I was responsible for providing production support for legacy UNIX based server applications, troubleshooting production outages and also implementing source code changes as required.
- I was in charge of performing audits to make sure production source code was consistent with source code control system. I also performed data transfers from one server to another using Oracle import and export utility.

Achievements/Accomplishments/Extras (in addition to required job duties):

- Fixed the paging problem within one month of joining IBM

Drake Business School **Mar 1994 - Jan 2001**
Director of MIS/Programmer

Some of the items that I completed during my tenure as Director of MIS/Programmer:

- Planning, Managing, Staffing, and Overseeing project management knowledge areas
- Gathering and Articulating the company's enterprise architecture
- Organization planning, Cost/Benefit Analysis, and Budgeting.
- Conducting performance evaluations and identified and resolved staff performance issues
- I managed the IT systems at 7 different locations, including the corporate office. One of the responsibilities included visiting the branches periodically to review, analyze, solve any I.T. related issues and advise Director's of the branch on any I.T. related matters.
- I was able to complete all the administrative functions related to project management, including providing direction to each vendor area, ensuring that the customers/employees have the capability to perform their required business functions.

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- Advice president of the company on I.T. related issues and recommended strategic directions. Supervised the planning, estimating and scheduling of tasks related to Y2K compliance and testing of the information management system.
- Identified training needs and developed training plans. I also conducted performance evaluations and identified and resolved staff performance issues.
- To improve efficiency changed policies and operating procedures.
- I was involved in managing changes necessary to fix the Y2K problem for IT systems including testing, tracking, monitoring and implementation of Y2K solution.
- Ensured tasks were assigned and progressed according to the plan, adequate staff was maintained, company standards are met, and remedial steps were taken to correct any errors.
- I managed Quality Assurance and different phases of testing such as functional, system, integration, and regression as well as user-acceptance testing. I also performed the testing in accordance with federal standards and industry policies. I was also in charge of verifying the test plans, test methodology and acceptance criteria for testing.
- I also established and implemented IT policies, standards and security measures to safeguard information resources. I was also responsible for creating reports using Report writer and contingency and disaster recovery planning.
- Analyzed network, hardware and software operating platform to make sure that it is in compliance with the Y2K standards given by education department.

Achievements/Accomplishments/Extras (in addition to required job duties):

- Led the Y2K effort and successfully implemented Y2K.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

Masters of Business Administration (MBA), 1993
Huron University, South Dakota

Bachelor of Engineering (BS), 1989
Bangalore University, Karnataka, India

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

Certifications:

- PMI Agile Certified Practitioner (PMI-ACP)
  Project Management Professional (PMP)
- ITIL – Version 3.0

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC)

Information required should include: environments, hardware, software,

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tools and databases.	
Applications:	MS Office, MS Project, MS Visio, HPQC, TFS, Serena, JIRA, Confluence.
DBMS:	Oracle, ACCESS, MySQL, SQL Server 2005
Platforms:	Windows, UNIX, Linux
Programming Languages:	HTML, PHP, PERL, PL/SQL, Visual C# 2008

REFERENCES

A minimum of three (3) references are required, including name, phone number, fax number and email address.

Name of Company/Agency	UC Davis
Company/Agency Physical Address	1 BlueShield Avenue
Contact Person (Name and Title)	Vivek Saini
Contact Telephone #	(916) 432-0587
Contact Email Address	vsaini@ucdavis.edu

REFERENCE 2	
Name of Company/Agency	Department of Finance
Company/Agency Physical Address	800 L Street, Sacramento, CA
Contact Person (Name and Title)	Thom Pryor
Contact Telephone #	(916) 554 -6813
Contact Email Address	Thom.pryor@dof.ca.gov

REFERENCE 3	
Name of Company/Agency	SCO
Company/Agency Physical Address	300 Capitol Mall Sacramento, CA
Contact Person (Name and Title)	Kini Collins, Chief PMO Section
Contact Telephone #	(916) 445-1436
Contact Email Address	KACollins@sco.ca.gov

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12. Project Advisor, Katie C. Morgan

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Katie C. Morgan	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Project Advisor		
# of Years in Classification:	25+	**# of Years with Firm:**	1

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

- Katie Morgan has 28 years of experience in State Government in South Carolina.
- Among other roles she served as South Carolina's Child Support Director from 2013 to 2016, increasing collections from $252 million to $298 million over the three-year period – the largest percentage increase in the country for 2 consecutive years.
- She served as the Project Chief for the SC Child Support Project from 2011-2013 overseeing the daily operations of the project as well as communicating frequently with OCSE, state executives, the legislature and the Governor.
- She served as the Chief of Staff of the Department of Social Services from 2007 to 2011 overseeing TANF, SNAP, Child Welfare, Child Support, Adult Protective Services. During this period, she worked collaboratively with other agencies to safely reduce the number of children in Foster Care and she managed the implementation of SNAP's universal caseload project which included imaging and workflow management.
- She served as the State's Deputy Chief Information Officer during the State's data center consolidation and Y2K. She created the State's first Project Management Office and the State's first consolidated web portal.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

June 2017-Present **Protech Solutions** Columbia

VP-Business Development – Good Grid

Responsible for business development and deployment of the Good Grid, a comprehensive and collaborative solution for wrapping vulnerable NCP clients with the services and resources they need to successfully gain employment and make consistent, timely child support payments.

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October 2016-Present **Blue Ribbon Schools of Excellence** Columbia
Chief Operating Officer

Responsible for managing the overall operations of Blue Ribbon Schools of Excellence, Inc. Blue Ribbon Schools of Excellence is a national, non-profit organization focused on helping schools create better learning opportunities for students through a self-assessment process, sharing best practices, providing professional development, and promoting positive networking experiences.

July 2013 – September 2016 **Department of Social Services** Columbia
Director, Child Support Services Division

Responsible for the Child Support program in South Carolina. Oversees collection and distribution of child support payments and ensures compliance with federal and state laws and regulations. Works closely with the Clerks of Court and the business community to ensure timely payment of child support. Duties of this position include those of CFS Project Chief listed below.

- Increased collections by 8.43% or $16 million in the first 9 months of 2014
- Increased support order percentage by 8% in the first 9 months of 2014.
- Successfully implemented federal grant to increase non-custodial parent support.
- Expanded fatherhood programs into new counties.
- Initiated a joint program between child support and SNAP program to target unemployed non-custodial parents who are getting food support from SNAP for employment and training opportunities.

February 2011 – July 2013 **Department of Social Services** Columbia
Project Chief

Provides executive management of the automated Child Support Enforcement System, the Family Court Case Management System, and the State Disbursement Unit. Responsible for vendor negotiations, customer acceptance, peer agency interfaces, federal certification and overall timely and successful implementation of the project.

2007 – February 2011 **Department of Social Services** Columbia
Chief of Staff

Responsible for the daily operations and strategic oversight of the SC Department of Social Services (DSS). DSS is a $1.6 billion agency responsible for child welfare services including protection, foster care and adoption, adult protective services, Temporary Aid for Needy Families (TANF), Food Stamps, Child Support, and Child Care licensing. Represents DSS to the General Assembly, the Governor's Office, federal agencies, constituent groups, and others. Coordinates activities between other agencies and the private sector.

- Provided management oversight of the automated Child Support Enforcement System and the Child and Adult Protective Services System, both systems requiring federal certification.
- Secured grant from Casey Family Programs to deploy Family Group Decision Making in Child Welfare Services across the state. Safely reduced the number of children in foster care by 500 over three years.
- Successfully deployed imaging in the TANF and Food Stamp programs saving the agency time, money and space.
- Implemented two call centers to improve citizen communication.

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2004 – 2007 **Office of Regulatory Staff** Columbia
Division Director

Responsible for the economic regulation of South Carolina's investor owned telecommunication, transportation, water and wastewater utilities. Managed $90 million in telecommunications funding including the SC Universal Service Fund. Represented ORS before the Public Utilities Review Committee of the General Assembly and public interest groups across the state.

- Inaugural member of this newly created agency. Successfully hired and trained staff, established processes and procured tools necessary to carry out the functions of the organization.
- Facilitated the "branding" of the newly created office.
- Managed South Carolina's Universal Service Fund previously with the Public Service Commission. Provided management and oversight of the timely correction of all audit findings under the PSC administration to receive a clean audit for calendar year 2005.
- Managed the implementation of a multi-agency legal case management system that allowed interaction between two agencies, private utilities and private legal staff.

1998 – 2004 **SC Budget and Control Board** Columbia
Deputy Chief Information Officer

Responsible for all administrative functions of the Division of the State CIO including strategic planning, financial management, personnel and training, facility management, and procurement. Responsible for all state information technology procurements through the Information Technology Management Office. Responsible for statewide and multi-agency projects including resource allocation, cost recovery and performance management. Represented the CIO before state government organizations, citizens, associations, community groups, vendors and the General Assembly.

- Oversaw the consolidation of 13 agency data systems into one which included the migration of all systems and staff into a state of the art data center.
- Managed the K-12 School Technology Initiative which included state agencies (Department of Education, ETV, State Library, and the Budget and Control Board) and private sector partners (BellSouth and private communications providers.) Became the first in the nation to have all public schools and libraries connected to the Internet.
- Managed the implementation of the Palmetto 800 Mhz Public Safety Radio system which is a shared venture between SCANA, county and local law enforcement officials, and other state agencies. Became the first in the nation to have a comprehensive public safety communication system between state and local government. Successfully secured federal grant funding to accelerate the adoption of the system in the counties.
- Successfully negotiated a contract to secure the services of a vendor to establish the next-generation of South Carolina's state web site, MySCgov.com

1996 – 1998 **SC Budget and Control Board** Columbia
Assistant Executive Director

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Responsible for identifying program-specific federal and foundation funding sources for agencies throughout the state. Coordinated policy development for information technology issues, including data center consolidation, 800 Mhz radio systems, wireless technologies and video conferencing. Developed legislative initiatives to address infrastructure issues as they relate to growth and economic development. Developed and coordinated business and government exchange relationships with various German sister-states.

1992 – 1996 **SC Budget and Control Board** Columbia
Executive Manager, State Energy Office

Coordinated and implemented the state's energy policy with legislative, public and private entities. Monitored the impact of the state's energy providers' demand side management programs. Managed the state's $16 million comprehensive energy plan

1989 – 1992 **Office of the Governor** Columbia
Director of Planning, Office of Energy Programs

Developed energy conservation goals and guidelines for three federal energy programs. Identified successful energy programs in other states and implemented common solutions. Analyzed the use of $50 million of federal funds earmarked for energy conservation programs throughout the state.

1988 – 1989 **Office of the Governor** Columbia
Grants Coordinator, Division of Finance and Administration

Administered $8 million in federal grant programs to drug enforcement, economic development, education and criminal justice

EDUCATION ***Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.***	
Education:	Master of Public Administration College of Charleston/University of South Carolina, May 1988 Bachelor of Science in Mathematics College of Charleston, May 1986 Bachelor of Arts in Political Science College of Charleston, May 1986
Other:	The Governor's Center, Duke University Strategic Leadership Program for State Executives, 1997 South Carolina Executive Institute, 1996

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CERTIFICATIONS *Information required should include: type of certification and date completed/received.*
N/A

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) *Information required should include: environments, hardware, software, tools and databases.*
N/A

REFERENCES *A minimum of three (3) references are required, including name, phone number, fax number and email address.*
Susan Alford, State Director, SC Department of Social Services (803) 898-7360 susan.alford@dss.sc.gov Timothy Mose, SC Child Support Director (803)898-9240 Timothy.mose@dss.sc.gov Jimmy Earley, Project Chief, SC Child Support System Project (803)606-5460 Jimmy.earley@dss.sc.gov

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13. PMO Manager, David Lal

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	David Lal	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	PMO Manager		
# of Years in Classification:	20	**# of Years with Firm:**	0

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

David Lal, a seasoned PMP professional is proposed as our PMO Manager. He has directed large, complex management information systems in the areas of project management, vendor/third party management, independent validation and verification, risk management, requirements definition and systems integration for twenty (20) years. He has worked with Health and Human Services agencies for seventeen (17) years including Child Support and other Human Services systems. He has also received the CA Governor's recognition award for Right way of development

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

Dept. of Family Services 8/2017 - Present
Project Manager/ Project Oversight

Responsible for providing Project Management to oversight and program management team. Meet with executive staff, review project schedule, oversee work of staff assigned, manage budget, plan for SDLC activities, vendor management (Deloitte), interface with CMS and overall management.

Dept. of Mental Health NY 11/2014 – 4/2017
Project Oversight/Project Manager

Responsible for providing oversight and project management services for an enterprise EHR system. Wrote Project Management Plans, Risks Log, Quality Reports, Patient data migration plan, and Project Schedule. Reviewed and revised Training materials, Training Plan. Provided oversight for implementation off software and managed a team of consultants. Responsibilities also included ensuring that project adhered to best practices, developed critical path

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analysis and overall project management. Wrote Risks/Issues, developed Mitigation plans, status reports, EV analysis, performed vendor management and executive reporting. The project was to install a $70 million dollar COTS EHR software, using technologies from NTT DATA, DSS, and IBM. Responsible for integrating billing and financial systems into new application.

Dept. of State Hospitals, CA 02/2014 – 02/2015
Project Manager

Responsible for providing independent review and oversight of the COTS implementation for state hospital staff scheduling, financial, billing system. Develop Project plan per PMBOK, develop success criteria, interface with vendor, oversee Project for best practices, assist in implementation planning and provide executive and stakeholder reports.

State of North Dakota Health Services 09/2013 – 02/2014
Project Manger

Performing management functions for the Affordable Care Act eligibility implementation. Ensure industry best practices are followed, provide guidance to staff, review artifacts, review Project Plans and schedule, provide guidance, write oversight report, evaluate planning and implementation of ACA. The eligibility system was being developed in-house using SOA technology

Blue Shield of California 05/2012 – 07/2013
Portfolio Manager Project Management Office

Provided PMO support for 18 ICD10 system migration and conversion project. Duties included executive reporting communication, milestone and dependency management, Project management support, vendor management, testing support, developing standards, weekly meetings, status reporting, identifying and resolving issues and risks. Developed migration plans for financial and claims data from one vendor to another.

State of Illinois 08/2011 – 3/2012
Sr. Project Manager

Project Manager for the $92.25 million Illinois Integrated Eligibility System (IES) Planning Project for the Affordable Health Care Act (ACA). Project tasks included Initiating, Planning, executing and managing the project, including Scope development, Schedule, Budget management and delivery. Work include development of system migration plan to replace existing Legacy MMIS and MMIS architecture, RFP creation, evaluation criteria, Federal funding document creation (IAPD), Interface with Health Exchange, Infrastructure Assessment and vendor management. Create requirements for the replacement of the Medicaid, SNAP and TANF legacy systems.
Responsible for directing all project activities, completing weekly and monthly status reports, and managing/mitigating project issues and risks, meeting with federal and state stakeholders, including multiple state agencies.

Ernst & Young State of Florida 09/2010 – 08/2011

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Project manager

Review and validate requirements for Early Learning Child Development System. Ensure test cases written to validate requirements. Create and verify User Cases, verifications of testing methodologies using IEEE standards, reporting inconsistencies to Project Directors. Writing results of verification attend management meetings.

State of California, Child Support Enforcement Services 01/2010 – 09/2010
Project Manager

Working with the PMO verifying methodologies in support of system migration system from IBM to State. Provided support and mentoring to Project Manager. Verification included areas of network integration, application verification, content management, social media access, conversion, migration activities, IVR, and Helpdesk. Validating approach for testing, creating test cases. Verifying and validating contracts with vendors. Develop knowledge transfer plan (from IBM to State staff). Validating new state production environments and multiple development environments including implementation of SOA technology, IBM WebSphere.

Department of Mental Health California 07/2008 – 01/2010
Project Manager

Review and validate $5 million application implementation for a, COTS application to replace existing Medicaid Claims Financial system and content management. Writing status reports and management reports for management. Validated WBS, Project Management plans and reviewed project schedule. Assisting in Project Manager in implementing the Medicaid Billing System. Advising State project manager during testing and implementation. Working with the vendor and sub vendor in implementing a SQL/Access based COTS system. Provided vendor management.

Academy of Arts University 08/2007 – 02/2008
Acting Chief Information Officer

Provided oversight and management to the Network team, Applications development, and Telecommunications, Systems Administration PMO and Help desk. Provided Project Management and analysis support to PeopleSoft HR, Financials and Student applications, including planning for upgrade. Provided and participated in production support Help desk management. Managed, evaluated, recommended, budget, plan and implement upgrades to the existing network infrastructure, including Voice over IP. Assessed requirements for purchase of new facilities.

State of California POST 06/2005 – 01/2007
Project Manager

Provided Project Management and analysis support to POST. Developed and completed a Post Implementation Evaluation Report (PIER) for the Testing Management and Assessment System (TMAS). Prepared IT Strategy document for POST.

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Baniqued Reality 03/2005 – 11/2006
Sr. Project Manager

VOIP development/implementation. Manager overall development and implementation. Responsible for project from Initiation to close of Project.
Managed budget, reporting to management. Implemented SOA E-commerce applications. Worked with Contra Costa Assessor's office to access public tax records. Worked with Escrow companies, banks, real estate companies and developed public facing tax and property management system.

State of California Dept. of Transportation 07/1997 – 01/2005
Project Manager

- Worked on managing several projects at the California Department of Transportation (DOT) and with Dept. of Information Technology(DOIT).
- Provided Project Management for the Statewide $100 million 3 year wide-area network infrastructure project.
- As Sr. Project Manager, managed team of over 40 staff for this project in a matrix environment and a team of vendors. Project included the successful Groupwise to Lotus Notes Email conversion for 14,000+ users and connecting 400 remote locations to the WAN.
- Managed vendor contracts, budget and general overall management activities. Worked with state PMO and involved multi-agency and multi district offices.
- Mentored DOT project managers in utilizing sound project management practices during the course of the project, including risk identification, risk management planning and risk management monitoring and control.
- Developed DOT districts strategic plan, enterprise architecture, which addressed the technical support, training needs of staff, business plans, communications between other districts and headquarters and provided implementation support of the plan.
- Assisted DOT with building and improving relationships with Department of Finance, Department of General Services and the Legislature by personally meeting with these Agency staff members. Represented DOT at State of California Legislative hearings, the California Transportation Commission, and at local, county and State agencies. Provided consulting services and advice to the DOT CIO, DOT Deputy Director of Traffic Operations
- As Consulting Manager, directly under the DOT CIO responsible for the overall management and coordination of the Caltrans Year 2000 Project. Interfaced and assisted California Highway Patrol Y2K effort.
- Wrote the Governor's policy on using Right of Way for telecommunication use. Participated in vendor negotiations. Worked with Various vendors including ATT, MCI, SBC Global, Level 3, Nextel.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

Degree(s), Year:	Bachelor of Science, Economics, 1979 Bachelor of Science, Mathematics, 1979	**Institution:** **Location:**	University of London London, England

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

IBM Project Management Certification, PMP 1695002

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HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) *Information required should include: environments, hardware, software, tools and databases.*	
Languages:	SQL, C++, XML, Mumps
Various Operating Systems:	.Net
Database Tools:	PeopleSoft MySQL
Management Tools:	MS Project, Project Server, VISIO, Excel, WORD, Microsoft office 13, SharePoint, WebEx , HPQC, ServiceNow
Legacy based systems	
Web based systems	
IBM WebSphere, tools	

REFERENCES *A minimum of three (3) references are required, including name, phone number, fax number and email address.*
Gilbert Tafoya, Ex acting CIO St of CA, Dept of Transportation (916) 600-0308 gilbert@tafoya.net
Michael Ruleas PMO Director CA State Mental Hospital Mobile (916) 290-3006
Gary Bennett, CISSP,CCNA,CCDA P.O. Box 2414 Granite Bay, CA 95746 gbennett@netprotex.com (916) 572-2167 Cell (New Number) (916) 265-7167 Office

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14. Testing Manager, Michael J. Brown

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Michael J. Brown	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Testing Manager		
# of Years in Classification:	20+	**# of Years with Firm:**	0

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

I have worked in the Information Technology field for over 40 years. I started my career as a mainframe operator while attending college, quickly moving into application programming, and then application analysis and design. Along the way, I acquired an extensive background in accounting and business in general, having operated my own computer / accounting business for over 10 years. I have a B.S. degree in Sociology and many years working with private business, and service organizations. I came into the child support arena in 2000 as the Applications Supervisor (IT Manager) for the Clark County, Nevada District Attorney's Office Family Support Division (CC DAFS). During my 17-year tenure, I managed several projects for the division and worked closely with the State of Nevada's Division of Welfare and Supportive Services (DWSS).

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

Time Period:	02/2000 to 03/2017 (Retired)
Clients:	CC DAFS & DWSS
Roles:	DAFS IT Manager, Program Manager, Project Manager (details to follow)

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Role:	DAFS IT Manager
Details:	During my time of employment with CC DAFS, I managed the Development Team consisting of three programmers, two Business Systems Analysts and one clerk. For the last 12 years, I also managed the Operational Team consisting of four Help Desk staff, one Systems Tech, and one Systems / Network Programmer. Management duties included: Staff hiring and disciplinary actions; budget development and maintenance; hardware / software purchase and maintenance; in-house systems design, development, testing, implementation, and maintenance; IT representative in DAFS management; DAFS IT representative in DWSS management meetings as needed.
Role:	Program Manager (Managed several projects concurrently)
Details:	I designed several applications that enabled the line staff to be pro-active in case management. These applications were developed by the programmers which I managed. Projects were managed using the guidelines and principles found in the Project Management Institute's PMBOK (Project Management Body of Knowledge). With the ability for the line staff to practice pro-active case management, CC DAFS / State has moved up in the federal child support enforcement state rankings from last (54th) to 23rd within a six year period. CC DAFS earned the distinction as the most Outstanding Program in 2016 awarded by WICSEC (Western Interstate Child Support Enforcement Council) at its conference. All applications were developed in the MS Server / SQL environment using
Software/hardware used:	ASP.NET, C#, MVC, etc.

Project Name:	Document Management System (DMS) Implementation
Role in Project:	Project Manager
Details and Duration of Project:	Duties include: develop the Project Charter, budget and scope; select the vendor / system; and, manage / control the project costs and time line. The duration of the project was about 18 months.
Software used:	Compass Suite by Northwoods Consulting Group; software is a document storage / retrieval system that uses IBM's FileNet as the repository.

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Project Name:	Digitize Case File Documents
Role in Project:	Project Manager
Details and Duration of Project:	Duties include: develop the Project Charter, budget and scope; select the vendor / system; and, manage / control the project costs and time line.
Software Vendor (A) used:	Vendor: Global 360 provided the software and scan team; finished product were files which DAFS IT uploaded into FileNet (which then were retrievable through Compass.) Project duration was about 14 months. (The vendor did not finish the project on time and funds were terminated.)
Software Vendor (B) used:	Vendor: ViaTRON, LLC; DAFS provided the hardware and Compass Software, ViaTRON provided the scan team. Vendor completed the project on time and within budget. Project duration was 10 months.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

- Brigham Young University (BYU), Provo, UT; Bachelor of Science – Sociology; 08/17/1984
- University of Nevada, Las Vegas, NV; Accounting Concentration – credits earned transferred to BYU

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

- PMP (Project Management Professional), 01/24/2011
- Certificate of Excellence awarded by the Clark County District Attorney, 09/23/2004
- Value In Performance – Employee of the Year awarded by the Clark County Manager, 08/22/2005
- Letter of commendation from the Family Court Hearing Masters of the Eighth Judicial District Court, 08/30/2006

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC)

Information required should include: environments, hardware, software, tools and databases.

Software:	Microsoft Office Suite (including Project) SAP Business Objects Enterprise Platforms: Windows, AIX, IBM Mainframe Adobe Captivate
Databases:	DB2 SQL Server Access

REFERENCES

A minimum of three (3) references are required, including name, phone number, fax number and email address.

[redacted]

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Jeffrey J. Witthun: Director of CC DAFS
Jeffrey.Witthun@clarkcountyda.com
702-671-9500

Teresa M. Lowry: Assistant District Attorney, responsible for CC DAFS, retired
Teresa_Lowry@aol.com
702-596-4037

John Taft: DWSS Information Services
jtaft@dwss.nv.gov
775-684-0576

Richard Sulik: Development Chief, DWSS Information Services
RSULIK@dwss.nv.gov
775-684-0622

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15. Interface Architect, Ambarish Guntupalli

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Ambarish Guntupalli	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Interface Architect		
# of Years in Classification:	7	**# of Years with Firm:**	0

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

- About 12 years of experience in IT Industry, where I was involved from leading teams in Design and Development of Object Oriented Software Applications using N-Tire Architecture and Web Based Technologies.
- Experience in all phases of SDLC like Project initiation, Requirement gathering, Analysis, Design, Software Architecture, Development, Testing and Maintenance of Enterprise Application.
- Experience in application development using Java, J2EE, JDBC, JSP, Servlets, EJB2.0/3.0, XML, JavaScript, HTML, JMS, JavaBeans.
- Good hands on experience with JAXP, JAXB, JAX-WS and Restful Web Services.
- Developed XML applications, SAX, XSLT, DTD's using DOM and XML Schemas.
- Good experience in implementing Service Oriented Architecture (SOA) using XML based Web Services (SOAP/UDDI/WSDL/REST)
- Expertise in developing multithreaded applications and Middleware Server Applications.
- Extensive experience with Enterprise Java Beans (EJB) – Session, Entity and Message Driven Beans.
- Experience in JMS and MDB for server side messaging.
- Experience in developing and deploying the Enterprise Applications (ear) and Web Applications (war).
- Significant experience in Apache Struts framework, Hibernate, Mybatis, spring framework, JavaServerFaces.
- Good understanding on Design Patterns like Singleton, DAO, Factory, MVC.
- Experience working with front-end technologies like HTML, Java Script, CSS.
- Expertise in RDBMS, JDBC, Hibernate, Oracle and SQL Server including SQL, PL/SQL, Stored Procedures.
- Experience in application/web servers like Weblogic 5.1/7.0/8.1, Web sphere 6.x/5.x, Tomcat 6.0 and JBOSS 4.2.2.
- Extensive experience in different IDE's likes Net Beans, Eclipse.
- Experience with adhering to strict coding standards in a team development environment.
- Ability to change and Adapt to the environment, and Handle Multiple Projects.
- Having exceptional Analytical skills, Critical thinking ability and recognized as self-motivated, creative, result

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oriented, excellent communicator, hardworking, and fast learner.

- Extensive experience and expertise in tuning SQL queries to improve performance.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

Cisco, San Jose CA. **Jan 2011 – Present**
vMES (Virtual Manufacturing Execution system)

The Virtual Manufacturing Execution System (**vMES**) web services that will be used by our ODM & BTS partners to provide Cisco with the product attribute when the products ship from their docks to the DF/BTS sites, which will be used by the fulfillment partners as they pack out / ship the products to Cisco customers.

Responsibilities:

- Developed new **RESTful** web services which Cisco partners are using.
- The focus on development of these services was that they register and validate product attributes before the product reaches the pack-out stations.
- Worked extensively on **Hibernate** (An ORM framework) where the service could connect to multiple Databases that included **MySQL** and **Oracle** database.
- Used **spring** singleton pattern to load the objects when the application is loaded.
- Created Technical Documents with detailed process flows on what the service does in detail. This largely helped other team members and specifically the QAA's to get a better understanding of the process and service.
- Deployed the web service as **RPM** on **Tomcat** in **Linux** Environment.
- Apart from conducting and coordinating testing effort at different levels (**Unit (Junit)**, **Integration, Regression, Sanity and UAT**), I was a key part of stage support, go-live support and production support.
- As a part of this testing effort, I used Junits for unit testing and Jmeter for performance testing.
- Used **JAXB API** for **Marshaling** and **Unmarshalling**.
- Designed **XSD (Schema)** as per the business requirements.
- Worked with onsite and offshore team.
- Working with Architecture team to gather the requirements.
- Deployed the application and provided support in the production.
- Written a job, which runs in the background, periodically checks for the new data available in the table and process the data and writes in to another table.
- Extensively involved in writing SOL Queries to retrieve data from the backend Oracle Database and tuned them for performance improvement.

Environment: Java (J2EE), TFS (Team Foundation Server), Microsoft Visio, Maven, Tomcat6.0, UNIX, MySQL and Oracle, JUnit 4, Restful Web services, Hibernate, Spring.

Child Support Automation System (CCSAS) Child Support Enforcement (CSE) **Aug 2008 – Dec 2010**
California Department of Child Support Services, Rancho Cordova, CA
Sr. Application Developer

California's child support program is using new technology, expanding the ability of child support staff to assist Child

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support customers. Working collaboratively with local child support agencies, the courts, county health and human services entities, employers and various state and federal agencies, the Department of Child Support Services is using technology to make it easier and faster to locate individuals and collect child support – reducing delays for families.

Responsibilities:

- I worked on **adding new Functionalities** along with **fixing existing defects** by performing root cause analysis.
- **Fixing defects** involves in depth understanding of the existing code base to prevent any new Injections.
- Identifying Data related issues and fixing them by writing effective **DML** queries.
- Fine tuning the existing SQL Queries (**DB2**) for better performance.
- Extensively used **Struts framework, hibernate and Spring** for data access.
- Used **JavaScript** for client Side validations.
- Developed **POJO** classes and Object Relational Mapping in **Hibernate.**
- Writing **HQL** for querying data.
- Developed **stateless Session Beans** to handle business logic.
- Interacting and running Scheduled **Batch Jobs Using Tivoli Work Scheduler.**
- U**nit testing (JUNIT)**, **integration testing** along with code **review** and **peer review**.
- Working with cross-functional teams to understand the functional details, requirements and architecture of the application.

Environment: Java (J2EE), JavaScript, JSP, Struts, IBM RAD and Rational ClearCase, Rational Rose, Rational ClearQuest, Rational RequisitePro, Shell-Scripting, WebSphere Studio ADI (WSADIE), UNIX, DB2, JUnit, TWS Tivoli Client, Hibernate and HQL, Spring JDBC, EJB Session Beans.

SoftProSys, India **Jun 2006 to Aug 2008**
Municipal Digital Storefront
Software Engineer

This application is aimed at offering a web based digital store for product Transactions. This system contains three major modules

1. **Application website**
2. **Editor website**
3. **Management Information Module** (MIM)

Customer can access Application website and find the information about the products and order them on-line through forms. The Editor website allows an Editor to use a web based environment to edit and create Products, edit and create Forms and manage Users and manage keywords. The Management Information Module (MIM) is a companion function to the Editor website. It gives the site analysis report on the basis of products purchasing and status report of the site.

Responsibilities:

- Involved in Requirement gathering and developed HLDs and LLDs for Analysis and Design phase
- Followed Water-Fall Model for SDLC procedure.
- Implemented and designed UseCase and Class diagrams using **UML**.
- Created FDs for feature enhancements and requirement proposals
- Implemented **MVC** Architecture with J2EE environment using Struts framework.

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- Implemented Business Logic and View Components using **Servlets, Jsp, Ejb and HTML, CSS**, Jsp, **Swing,AWT**, JavaScript.
- Stateless beans has designed and implemented for a single session interval.
- Persistence has been developed using Entity beans and **DAO** by using Oracle as **RDBMS**.
- Worked on **Sql, Pl/Sql** for creating Procedures, Views and Functions.
- Developed optimized queries with query tuning using Index creation and table Analysis.
- Involved in the Code development and unit testing based on the business logic with **Eclipse IDE, JUnit.**

Environment: Java, J2ee, Ejb, Struts, Oracle8i, Weblogic, Eclipse, StarUml, JUnit, FlashPlayer, Clearcase, Ant, Unix, Sql, Pl/Sql, CSS, HTML, Xml, JDBC

EDUCATION *Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.*			
Degree:	Bachelor of Technology	**Institution:**	Nagarjuna University, India

CERTIFICATIONS *Information required should include: type of certification and date completed/received.*
N/A

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) *Information required should include: environments, hardware, software, tools and databases.*	
J2EE/WEB Technologies:	JDK-1.x, JDBC, JSP, Servlets, Struts, EJB-2.0/3.0, JNDI, Web Services, Hibernate, JPA, JFS 1.1, spring, JMS
Application Servers:	JBoss-4.0.2, Weblogic-8.0, Web sphere 6
Web Servers:	Apache Tomcat 6
XML:	XSL, XML Schema, SAX, DOM, XSLT and DTD
Framework/ APIs / Tools:	Struts 1.x/2.x, JUnit, Hibernate, Springs, JSF, Log 4j, Ant, Web Services (WSDL, UDDI, SOAP, REST).
Databases:	Oracle, MySQL
ORM:	Hibernate-3.1, MyBatis
Scripting Languages:	JavaScript
Tools:	Eclipse, NetBeans
Operating Systems:	Win 98/2K/XP/NT/2K3/2K8/7, UNIX

REFERENCES *A minimum of three (3) references are required, including name, phone number, fax number and email address.*
N/A

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16. Reporting Lead, Udaynath Subramani

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Udaynath Subramani	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Reporting Lead		
# of Years in Classification:	9	**# of Years with Firm:**	6

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

- Over 9 years of experience as Reporting Lead / Business Analyst
- Determined Project Scope, Data Questions, Interface Questions, Technology Questions, Reporting Questions and Policy Questions
- Excellent track record in providing reporting solutions to Child Support team at the State of Indiana
- Expertise in understanding various security requirements as prescribed by IRS 1075 guidelines
- Expertise in understanding various Federal and State reporting regulatory rules
- Expertise in creating management reports like dashboards and key performance indicators
- Expertise in analysis of the TANF and other federal reporting requirements and converting requirements into functional and technical specifications and communication to the teams.
- Managed and Lead HIP2.0 ad-hoc reporting and dashboard for live reporting capabilities. Different turnaround time reports were developed which helped the company in identifying gaps in the business process and ad-hoc sponsor reports requests were fulfilled.
- Strong database integration experience. Worked on analyzing data needs, identifying relational databases and coordinating the modeling
- Experience with the waterfall and agile software methodology with excellent communication skills and abilities to work with the teams across multiple geographic locations
- Authored various documents: Project Charters, Project Plans, URS, FRS, SDS, Validation Plan, Test Scripts, Validation Summary Reports, Training Materials, UAT, and Release to Production Memos, Training Materials, and User Guides.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the

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project/position and software/hardware used during the project engagement.	
Duration:	June 2011 – Current
Client:	State of Indiana – Department of Child Support – Child Support Bureau Data warehouse
Role(s):	Various – Reporting Lead/Business Analysis
Project:	Indiana Support Enforcement Tracking System 1. Reports On Demand - Provides the ability to create custom reports by selecting fields to display on the report and by specifying the desired case, participant, order, and financial criteria. 2. County Performance Dashboard – Support Order, Paternity Establishment & Collections. Historical and current maps of county performance on key metrics 3. Metrics Reporting for Governor's Office - Metrics used by the Indiana Governor's Office to track Child Support performance. Rolling 12-month numbers for Current Support Collected and Cases Paying on Arrears. 4. Child Support Management Dashboard - Monthly graphical tool displaying key performance indicators to aid users in identifying how the state is doing in meeting strategic objectives. 5. Case Segmentation Reporting - Weekly report showing IV-D caseload divided into segments based on CSUP collected, arrears only cases, and potential support order actions needed. 6. Enforcement Reports – Central Enforcement Unit Research Reporting, License Suspension Reporting
Software:	Data Stage ETL Tool - IIS Parallel Extender, Informatica Suite of Products (Power Center, Data Validation Option, Data Quality), IBM Cognos BI, Tableau, Erwin Data Modeler, Microsoft BizTalk ESB MS Projects, Oracle (various versions), Teradata Suite of Products (v15), Protegrity (Encryption), SQL Server (2014), Citrix (Protected Zone Access)
	Other Key Projects (not an exhaustive list)
Duration:	June 2011 – Current
Client:	State Of Indiana, Family of Social Services Administration
Role:	Business Analyst
	1. CMS Reporting – Reporting for Healthy Indiana Plan (HIP) 2. HIP Dashboard - Dashboard providing insights to various program aspects 3. TANF Work Participation Reporting – Indiana Manpower and Comprehensive Training (IMPACT) Supervisor Level Reporting Environment: 4. Healthy Families Indiana – Child Protective Services Reporting & Integration to the State of Indiana – FSSA Data Warehouse 5. Various changes to TANF reporting process based on new regulations 6. Assisted Guardianship Reporting under TANF for Indiana Child Welfare Information System 7. MOE Programs Tracking Integrated Database 8. Federal TANF Performance Bonus Reporting 9. Child Care Data integration into the warehouse for TANF reporting

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EDUCATION *Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.*
• Bachelor in Engineering, Visveswariah Technological University, Belgaum, Karnataka, India, March 2007 • Master of Business Administration, Indiana University of Pennsylvania, May 2011

CERTIFICATIONS *Information required should include: type of certification and date completed/received.*	
GAQM:	Certified Associate in Project Management, July 2017
ExpertRating:	Certified Business Analyst, January 2013

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) *Information required should include: environments, hardware, software, tools and databases.*
Data Stage ETL Tool - IIS Parallel Extender, Informatica Suite of Products (Power Center, Data Validation Option, Data Quality), IBM Cognos BI, Tableau, Erwin Data Modeler, Microsoft BizTalk ESB, MS Projects, Oracle (various versions), Teradata Suite of Products (v15), Protegrity (Encryption), SQL Server (2014), Citrix (Protected Zone Access)

REFERENCES *A minimum of three (3) references are required, including name, phone number, fax number and email address.*
Cynthia Longest Director – State of Indiana, DCS - Child Support 402 W Washington Street, Indianapolis, IN- 46204 Phone: 317-233-4482 Cynthia.Longest@dcs.in.gov Matt D Winely IT Project Manger – State of Indiana, DCS - Child Support 402 W Washington Street, Indianapolis, IN- 46204 Phone: 317-234-6085 Matt.Winely@dcs.in.gov Elizabeth SanMiguel Project Manager –Data Analytics FSSA 200 N Senate Ave, Indianapolis IN 46204 Phone: 317-233-9526 Elizabeth.Sanmihuel@fssa.IN.gov

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17. BPM Lead/Architect, Arup Biswas

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Arup Biswas	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	BPM Lead/Architect		
# of Years in Classification:	20+	**# of Years with Firm:**	0

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Arup is a technology executive with hands on experience in Information Technology (IT) management and transformation/Change Management for large industries with a strong record of creating IT architecture, leading Information Management engagements and providing strategic consultation to C-level executives.

Arup has more than 25 years of experience as a technical lead architect / business solutions architect / Program Manager, responsible for large scale transformation, application design and architecture, in Banking, Insurance, Healthcare, Government, Manufacturing, Utilities and Telecom domains.

Arup has extensive exposure to Service Oriented Architecture (SOA) and services platforms and in Enterprise Service Bus (ESB), and integration platforms on IBM BPM (Lombardi), IBM WebSphere, IBM FileNet, Documentum and Oracle Fusion

Arup has also been responsible for setting up an onsite Center of Excellence and an offshore technology delivery unit. Arup is a certified Project Management Professional (PMP).

Arup's primary areas of expertise are Enterprise Content Management (unstructured data) and Business Process Management. He has designed, architected multiple business solutions on these two platforms, by integrating external systems such as, Master Data Management (structured data), Business Intelligence (Content Analytics and Dashboard Reporting) and legacy systems, via web services, JDBC and APIs (Application Programming Interfaces).

In a typical turnkey assignment, Arup has been involved in Planning, Requirements Gathering, Fit-Gap Analysis, Architectural Blueprint design, Infrastructure Requirement planning, Functional Specification creation, Component Design, Development, Implementation and Performance Optimization activities.

TECHNICAL EXPOSURE

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- Experience working with Agile software practices, like Rational Unified Process (RUP), Extreme Programming (XP), and Scrum.
- Extensive exposure on J2EE features like Servlets, Java Server Pages, EJB, JDBC, JNDI, RMI, JMS and multi-tier architectures.
- Strong on Object Oriented Analysis & Design (OOAD), particularly in the development of Use Cases and design using UML/Rational Rose. Highly Proficient in GUI Web Designing using Ajax, DHTML, CSS, and JavaScript.
- Extensive Exposure in architecting and developing MVC architecture based web-applications using Struts framework. Proficient in XML and dynamic rendering of contents using XSL, XSLT, XPath and parsing using SAX, DOM, and Jakarta Commons Digester.
- Experience in developing multi-tiered application using web servers such as Apache Tomcat, and Sun, and application servers such as IBM WebSphere, BEA WebLogic, and JBOSS. Experience with GUI IDE tools like Visual Age for Java, JBuilder, WSAD, Eclipse, and NetBeans for Java.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

IBM Global Business Services **February 2013 – Present**

Associate Partner – ECM/BPM

Arup was brought into IBM Global Business Services to shape up the delivery lines of their ECM, BPM product and solutions after they acquired Lombardi, ILOG, and FileNet in recent past.

Arup was the Delivery Lead of Advanced Case Management solutions, built on ECM and BPM technology with a global responsibility of delivering IBM ACM and IBM BPM (Lombardi) engagements across industries.

As a technical program lead, Arup delivered large scale complex engagements in various roles and capacities, such as Architect manager, program manager, and subject matter expert.

Achievement –

- Technical Program Lead for IBM BPM and ACM for a number of projects involving IBM BPM and ACM for IBM and IBM system integrators.
- Delivered and secured a large deal for an architectural roadmap and blueprint for a Customer Communication system to the CIO for a major bank, by integrating Thunderhead, IBM BPM, IBM WAS Message Broker, iLog rules and FileNet P8 ECM
- Delivered a state government project for IBM Forms and Enterprise Service Bus (ESB) integration

Pricewaterhouse Coopers **January 2012 – January 2013**

Director – ECM/BPM

Arup was the leader of PwC's Enterprise Content Management team with global responsibility of ECM/BPM engagements. Arup assisted clients with ECM/BPM projects ranging from strategy, governance, vendor selections, architecture, as well as large-scale solution development and deployment. As an engagement partner, Arup performed following activities for a major bank in Saudi Arabia:

- Established a governance framework to manage changes to content, technology, and processes around ECM platform

- Reduced content silos and provide a single sources of content
- Increased accuracy and effectiveness of content search; Enable easy access to content versions.
- Provided compliance for all records by securing content in motion as well as content at rest.
- Applied appropriate retention policies to all documents identified as records
- Automated and streamlined content-centric business processes
- Created a Paperless office – automation of human workflows
- Assessed Current State Content Usage for understanding group patterns
- Determined Functional Group based on future functional needs
- Assessed Current ECM Maturity for every Group and the Bank
- Identified Target Maturity level and transformation initiatives

Achievement –

- Delivered a ECM Transformation project (FileNet P8, Lombardi and SharePoint portal) for a major Bank in Saudi Arabia
- Sold a Documentum based ECM project to World Bank

Infosys Technologies Limited **May 2010 – January 2012**

Principal Technology Architect – ECM/BPM

Arup was Principal Technology Architect (AVP level) in the Portal, Content and Commerce (PCC) group under Systems Integration of Infosys Technologies Limited, out of North America. Arup delivered a number of mission critical projects to cross industry clients in healthcare, manufacturing and financial domain.

Achievement –

- Exceeded Sales revenue target by 20% and engagement revenue target by 35%.
- Sold and delivered ECM projects for PMI Mortgage Insurance, CareFirst BlueCross Blue Shield, PricewaterhouseCoopers and Texas Instruments.

Client: PwC **Project Name: GSS Envoy**

Role: Team Lead

The Global Strategic Sourcing (GSS) initiative was intended to transform PwC's traditional business by enabling alternative service delivery models. Its goal was to position the global network of PricewaterhouseCoopers firms to be more competitive.

As part of the Global Assurance Delivery Model (GADM), six network firms (US, UK, Australia, Canada, France, CEE) agreed to replace an existing application called “theBridge” by a custom BPM and ECM solution built on IBM Lombardi and EMC Documentum to manage workflow between client-facing engagement teams and the SDCs. The solution supported common processes from the inception of a work request, the back and forth exchange of documents between engagement/project teams and SDC staff, the posting of completed work, and the sign-off and closure of deliverables. The solution also tracked task progress (showing when individuals updated documents and changed the status of a request) and allowed measurement of operational performance.

As a lead, Arup managed a team of architects and developers to complete the design and development as per the requirements, provided the required security support for “content-in-transit” and “content-at-rest” and conducted a design walk through meetings for all Requirements and appropriate Detailed Design Document prior to the start of development for those activities.

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Client: CareFirst BCBS **Project Name: EDMS**
Role: Team Lead
Arup led a team of architects, developers and business analysts to design, develop, test, deploy and support the Enterprise Document Management System (EDMS) to store, manage and retrieve documents in a secured way for multiple business units within CareFirst by utilizing the IBM FileNet P8 Content Management product. The following tasks were performed:

- Installation and configuration of multiple environments.
- Configured folders, document classes and property templates with choice lists
- Configured HTTPS for SSL Communication for
- Configured WebSphere load balancing and high availability (Active/Active) for Application Engine and Content Engine on Production Environment
- Designed and configured Security architecture.
- Designed and configured out of box search and configure search services.
- Designed and developed interfaces and WSDLs to provide custom web services for TIBCO
- Developed Event Subscription custom code for Folder Filing.
- Provided 24x7 assistance to client for Deploying all configured and custom components in Development, Test(s) and Production environments

Client: Texas Instruments **Project Name: Web Modernization Program**
Role: Lead Architect
There were Three (3) Primary Focus Areas for this modernization effort: (i) **Application Platform**, (ii) **Web Content Management,** and (iii) **Document Management**. Modernization of these Three (3) Primary Focus Areas was intended to achieve following goals:

- Reduce publishing cycle time (shorten the process and provide more real-time/dynamic publishing capabilities)
- Enhance Web Content Management (improvements on ease of use, simplified authoring & publishing, and more business control over content
- Improved ability to integrate acquisitions and future applications
- Improved web performance
- A foundation in support of future growth, multi-language web pages, and delivery of target content for mobile and other platforms

For each of the Three (3) Primary Focus Areas: (**Application Platform/Server AND Framework**, **Web Content Management**, and **Document Management**), following activities were performed:

- Set up environments for POC
- Develop POC on two (2) products short listed by client
- Testing of POC(s)
- Rank Products based on POC findings
- Submit recommendation on the Products based on POC findings

Client: PMI Mortgage **Project Name: EDMS**
Role: Delivery Lead
This client predominantly dominates in the mortgage insurance domain and its products support the mortgage finance

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system by providing protection to lenders and investors in the event of borrower default. Client's business requirements imply a complex security matrix which encapsulates various user roles across diverse geographies or offices and accordingly need implementation on folder, document and annotations level security.
The EDMS project was about capture, store and manage the electronic documents for mortgage loan processing for this specialty lender. The EDMS replaced the existing EIS system in Document Management, Document Search, Metadata and Annotation management and securing the documents based on the business rules.

The EDMS project also replaced the existing PLX application by Pyramid Solutions, which was used for underwriting business process. The creation of MI Workflow, document handling in the workflow, work item routing/auto-routing between the steps, workflow navigation, workflow security, searches and Integration of System of Records (a SQL database). In the later release EDMS was integrated with IBM Lombardi WLE for Loan Origination process, discarding the link with FileNet BPM and BPF.

Accenture **March 2007 – Apr 2010**

Sr. Manager – ECM/BPM

Arup joined Accenture's SI&T (Systems Integration and Technology) cross-industry Accenture Information Management Systems (AIMS) group as a Manager (later promoted to Sr. Manager), responsible for sales, solution design, and implementation of ECM solution architecture for business systems of the global 500 and large government departments. Arup developed client relationships, created solution architecture that met/exceeded clients' business objectives, presented them to clients, and negotiated the final scope to close the sale. Following the sale, Arup was also involved with implementation of the solution for a successful delivery. Some of the major Government engagements were New York City's Department of Building (DOB), Health and Human Services (HHS), Human Resource Agency (HRA) and Department of Homeless Services (DHS). Some of the healthcare engagements were United Health Group's Document Correspondence Output Management (DCOM) system and Humana's CMS Contract Management system.

Arup ensured that the proposed solution delivery was on schedule and within budget. Also, the solution delivery achieved a higher degree of client satisfaction by attaining demand management, relationship management and new business development. Arup performed following tasks:

- Led a team of internal/external project managers, and acted as a program manager
- Managed the overall program communication and training plans in partnership with other stakeholders
- Managed program and project risks, establish contingency plans, and initiate corrective action plan
- Partnered with other organizational managers to align resources and initiatives
- Led technical infrastructure planning, implementation services and review quality of documentations

Achievement –

- Delivered ECM projects for CalPERS, UnitedHealth Group
- Delivered ECM projects for New York City's Health and Human Services (HHS), Human Resource Administration (HRA) and Department of Home Services (DHS) agencies

Client: New York City **Project Name: HHS Connect**
Role: ECM Lead

The HHS-Connect solution was built to provide following benefits:

- Reduce requests for clients to provide documents that they have previously provided to an HHS agency.

- Increase worker access to documents related to a client collected by HHS agencies
- Reduce the time to get copies of documents from other agencies
- Identify duplicated information that has been collected from a client
- Improve the quality of client service by providing a more complete view of the person, family or household and the services they receive
- Improve quality, timeliness and consistency of information about a person, family or household in the supporting systems
- Improve timeliness of action based on client provided documents

As the ECM Lead, Arup managed a team of architects and developers to design, develop, test and deploy a solution by utilizing IBM FileNet ECM and Curam Case Management for multiple agencies of NY City (participants of HHS-Connect program).

Client: United Health Group **Project Name: MMT Ovations**
Role: Document Generation Technology Lead
Responsible for delivering Infrastructure Requirement, Pilot Acceptance Criteria, Document Sciences Extract Requirements, Document Sciences Extract Testing, Annual Notification of Change (ANOC) Detail Business Requirements (Data & Business Rules), Statement of Benefits (SOB) Detail Business Requirements (Data & Business Rules) ANOC / SOB Test Plan, ANOC / SOB Test Execution, ANOC / SOB Post Re-Bid Refresh Strategy

Management responsibilities:

- Status reporting, Issue management, Mitigation/contingency plans
- Management of key interdependencies between individual work streams
- Management of vendor/subcontractor relationships and inter-segment relationships
- Management of third party vendors
- Provide expertise to participate in design workshops and review to-be process flows

Client: Humana **Project Name: CMS Contract Management**
Role: Technology Solutions Lead
Led the technical solutions initiative for the client's Medicare line of business. Collected and analyzed qualitative and quantitative business process information and data from all constituent departments and teams. Validated the correctness and cohesiveness of the process as it affects multiple departments. Recommended process improvement across the departments. Planned and prioritized the business requirements for an Enterprise Content Management system (ECM), Business Process Management (BPM) and Electronic Forms Management system. Analyzed and compared various in-house software tools to satisfy the business requirement. Proposed to leverage the existing IT infrastructure and to procure the bare minimum components. Delivered the technology recommendation to support build/buy/fit decision for the client.

Client: CalPERS **Project Name: Oracle/Kofax PoC**
Role: Technology Solutions Lead
Led the Proof of Concept (POC) project for migrating from FileNet Panagon based Document management system to Oracle Stellent, BPEL and Kofax based Enterprise Content Management system. Managed Accenture and vendor resources (Oracle, Kofax and 4matix) and delivered the major deliverables within budget and schedule. Established good vendor and client relationship, by providing technical solution and future product direction. Defined the scope of content conversion and migration on J2EE/Oracle/Linux platform.

Client: New York City (DOB) **Project Name: B-SCAN**

Role: Subject Matter Expert (SME)
Delivered the Operational Procedure Guide for the B-SCAN project, recommending the best practices for the newly introduced processes, that includes various functional areas for processing applications, inspections, issuance of permits and most importantly, capture and retrieval of all documents. Recommended the Retention policy for both digitized and paper documents.

IBM Corporation **January 2001 – February 2007**

Senior Systems Architect

Architected large scale custom solutions for Enterprise Content Management (ECM) and Business Process Management (BPM) projects for various domains, insurance, banking and public service

- Managed business development from pre-sales stage of the project through delivery lifecycle. Some of the common tasks were - architect reusable services architecture, Service Oriented Architecture (SOA), design custom solutions by integrating FileNet with client's legacy system.
- Successfully delivered wide range of consulting assignments. Received accolades from clients and from IBM FileNet's management for bringing in repeated business

Achievement –

- Delivered ECM solutions for multiple Insurance and Banking clients as Lead System Architect. Some of the major clients are Key Bank, State Farm Insurance, CNA, Zurich NA, Allstate, American Family Insurance and Ohio Industrial Commission.

Arup delivered following major projects:

Client: Key Bank
Role: Lead Architect
Arup was involved from the pre-sales of the project through delivery lifecycle, replaced a Documentum based solution by a FileNet P8 based solution for Retail Banking and Trust Accounting. Arup also mentored client developers and architects to develop a proof of concept (PoC) system, architected reusable services architecture by following agile methodology.

Client: State Farm Insurance
Role: Senior Solutions Architect
As a Senior Solutions Architect, Arup was involved with a number of projects over a period of 2 years for multiple business areas, such as, Auto Insurance – New Business, Policy maintenance, Records management, Claims (partially). Arup was leading the IBM application design / development team to create infrastructure, and reusable services architecture.
Designed a Proof of Concept (POC) system for the client acceptance, led the development team to deliver a prototype custom solution, and architected an Enterprise wide solution by integrating FileNet P8 product suite (CM, IM, BPM and RM) with legacy system. Arup also created J2EE and FileNet P8 best practices for the project team along with a governance plan for ECM/BPM operations.

Client: CAN
Role: Solutions Architect
Architected and developed ISRA and CE beans, Servlets for implementing FileNet P8 in SOA environment. Those were made available to the Enterprise Service Bus (ESB) for consumption by individual business units, such as, new business, underwriting and claims.

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Client: Zurich NA
Role: Solutions Architect
Architected a FileNet eProcess system based application and mentored the team to deliver the project for enrollment and maintenance of Policies in North America. Coordinated cleanup of policy information due to inconsistencies in information captured by the old systems.

Client: Allstate
Role: Solutions Architect
As an architect, designed the eProcess system for the Marketing department to enhance their Forms approval process, mentored the developers to build system using OpenClient and .NET.

Client: American Family Insurance
Role: Solutions Architect
As a lead architect, Arup designed the upgrade path for from the previous version of the Case Management product to a newer version of the same product. Arup also led the review and implementation of enterprise-wide Health Claims business processes and software systems to ensure compliance with HIPAA requirements.

Client: Allstate
Role: Technical Lead
Arup was involved with multiple business areas at Allstate Insurance. The very first project was for Direct Response (DR) where he was instrumental in building a solution by integrating FileNet, Genesys T-Server and Tuxedo (middleware). The solution was intended to serve the Call Center representatives to create, locate and update policy information in an automated way.

The subsequent projects were for New Business Workstations for Underwriting, Annuity and Specialty Ops. Arup was also invited by Allstate Japan to implement a custom solution for Policy Management. The effort required extensive subject matter expertise on various functional areas of Life and Auto insurance including Endorsements, Premiums, Policy validations, and coverage, Chargeability and Discounts.

Comsys, North America **October 1997 – January 2001**

Managing Consultant – ECM/BPM
Served as Engagement Manager; planned, scheduled, prioritized, monitored project activities; allocated resources including financial management, orchestrated multiple projects simultaneously for the Allstate Insurance.

- Assisted client on SDLC process improvement implementation, based on direct impact to the business. The improvements led to a better quality product and reduced the number of defects in production. Cost savings and cost avoidance were recorded at 20-30%
- Recommended process, organizational, and system changes to support program business objectives, which resulted in quick decision making impacting timelines and budgets positively
- Assessed project risks with various stakeholders by holding brainstorming sessions and developing plans to mitigate the risk. The risk management process helped in meeting the timelines and budget expectations

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HCL Technologies, India/Singapore **February 1994 – September 1997**

Project Manager

Arup delivered four major projects within budget, scope and schedule.

- Led the development team to build a document management/workflow rapid application development toolkit.
- Actively involved in training, documentation, and implementation of upgrades and new products.
- Led a large manufacturing project. The project was intended to develop a comprehensive MIS system on Oracle/Unix platform. Some of the major modules were:
- Warehouse Management - Maintain a large distribution network, dispatch schedule, central excise documents.
- Sales Accounting - Record sales at various outlet channels, i.e. warehouse, wholesale, retail, agents, auction etc. To maintain transporters accounting, debit note, credit note etc.
- Sales Administration - Incorporate various promotional schemes, rebate, and incentive. Authenticity checking of invoices with valid prices change etc.
- Sales Management - Market Intelligence, Sales trend analysis, depot wise credit limit, control of third party manufacturers etc.

Saudi Fisheries Company, Saudi Arabia **July 1990 – February 1994**

Systems Manager

Arup managed an overall infrastructure of four geographical locations in Saudi Arabia with 200+ computers and 1000+ employees of the organization. Arup led an implementation and rollout of an ERP system for Inventory Control, Human Resource and Production Control.

Software Services, India **October 1988 – July 1990**

Systems Analyst

Arup developed application packages for a large number of clients. Most of the applications were on FoxBase/DOS and SCO XENIX platforms. The list of clients includes jute mills, tea gardens and manufacturing companies.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

Master of Science in Mathematics, 1988
Post Graduate Diploma in Computer Applications, 1987

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

Project Management Professional (PMP) – 2006
Value Driven Program Management (VDPM) by Accenture 2008
Autonomy iManage Certified Systems Engineer (ICSE) - 2012
SalesForce.Com certified Administrator and Developer (Winter' 2012)

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HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) ***Information required should include: environments, hardware, software, tools and databases.***
Languages / Tools: IBM Case Manager (version 5.1 and 5.2) **Electronic Content Management:** IBM Content Navigator, IBM Filenet, Documentum, Oracle UCM **Business Process Management (BPM)**: IBM FileNet (VW, eProcess, P8 all versions), IBM BPM (Lombardi version 7.x to 8.5) **Web Content Management (WCM)**: Interwoven and SDL Tridion **Document Correspondence Output Management (DCOM)**: DocScience, Thunderhead, HP Exstream **Capture software**: FileNet, Kofax, Datacap **Analytics and Search**: IBM Content Analytics and Enterprise Search

REFERENCES ***A minimum of three (3) references are required, including name, phone number, fax number and email address.***

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18. Functional SME/Lead, Cynthia Fisher

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Cynthia Fisher	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Functional SME/Lead		
# of Years in Classification:	8	**# of Years with Firm:**	20

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

- Functional Lead, State of NV, DHHS, DWSS, CSEP – Feasibility Study – 4/2014 – 3/2016
- Functional Lead, State of NV, DHHS, DWSS, CSEP – BPR – 2/2015 - 8/2015
- Child Support Lead, State of NV, DHHS, DWSS – IVR – Carousel System Implementation – Child Support Lead – 2/2015
- Child Support Lead – Document & Imaging, Case Management System Project – 11/2011 – 5/2013
- Child Support Participant – Chase Global Services, Data Warehouse and Business Objects Crystal Report Project – 10/2009 – 7/2016
- Participated in several key IT projects on the IV-A side of DWSS.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

11/2008 – 7/2016 **State of Nevada DHHS Division of Welfare & Supportive Services, CSEP** **Las Vegas, NV**

Field Operations Manager

Plan, organize, manage and direct the activities and operations of the State regional CSE offices and provide oversight of the county CSE offices to ensure quality services are delivered in the respective community or region in compliance with applicable laws, regulations, policies and procedures. Supervision of professional and paraprofessional staff; management of financial resources and facilities to ensure efficient operations and compliance with budgetary limitations; budget preparation and monitoring; participation in statewide program planning, development and implementation to ensure responsiveness concerning needs and availability of resources; monitoring program compliance with federal performance measurements; development or approval of

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corrective action plans to improve program performance; and representing the Division in the community to recognize and respond to community needs and concerns.

6/2006 to 10/2008 **State of Nevada DHHS Division of Welfare & Supportive Services** **Las Vegas, NV**

Social Services Manager

Plan, organize, direct and manage the activities, staff and functions necessary to provide social services in a large welfare district office. Train, supervise, & evaluate the performance of assigned staff, assign/adjust workloads; implement regulations/policy changes affecting unit and agency. Develop and maintain cooperative relationships with agency staff, other agencies, and community organizations.

4/2002 to 6/2006 **State of Nevada DHHS Division of Welfare & Supportive Services** **Las Vegas, NV**

Family Services Supervisor

Plan, organize, direct day to day activities of blended unit. Ensure services are provided per laws, regulations, and policies. Train, supervise, & evaluate the performance of assigned staff, assign/adjust workloads; implement regulations/policy changes affecting unit and agency. Compile/review statistical data associated with unit activities from available sources, identify and analyze trends, institute corrective action.

4/1997 to 4/2002 **State of Nevada DHHS Division of Welfare & Supportive Services** **Las Vegas, NV**

Family Services Specialist

Assess clients' vocational potential and employment options: identify barriers, ongoing case planning: evaluating and corrective action. Determine eligibility for FS/TANF/MAABD intake/ongoing and blended E&T unit. Review, monitor and report clients progress in their self-sufficiency plan. Establish and promote community relations: develop training sites: utilize local social services to avoid duplication of services. In supervisors' absence - attend meetings, handle client complaints, document personnel issues, complete reports, assist staff, monitor unit.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

Institution	Degree	Year	Major
Central Washington University, Tri-Cities University Campus, Richland WA	BA	1989	Liberal Arts/English
Columbia Basin College, Pasco, WA	AAS	1987	Criminal Justice
Columbia Basin College, Pasco, WA	AA	1987	Arts/Science

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CERTIFICATIONS *Information required should include: type of certification and date completed/received.*
N/A

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) *Information required should include: environments, hardware, software, tools and databases.*
N/A

REFERENCES *A minimum of three (3) references are required, including name, phone number, fax number and email address.*
Elizabeth Bush Retired, Chief of Child Support 702-338-4546 Louise.bush@charter.net Brenda Mahan Child Support Coordinator Churchill County District Attorney's Office 775-423-8423 775-428-6571 fax bmahan@churchillda.org Falena Eason Quality Control Specialist State of NV, DHHS, DWSS, CSEP 702-486-1465 702-336-2333 fax FEason@dwss.nv.gov

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19. Training Lead, Michelle Le Feve

PROPOSED STAFF RESUME FOR RFP 3462

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	Protech Solutions, Inc.

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	✓	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	Michelle Le Feve	**Key Personnel: (Yes/No)**	Yes
Classification; i.e., Project Manager, Implementation Lead, etc.	Training Lead		
# of Years in Classification:	16	**# of Years with Firm:**	16

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Michelle Le Feve is a Senior Consultant and Executive Director at Courtland Consulting. She comes from a background of developing and managing training programs and web services for the State of Michigan within the Health & Human Services, Education, and Treasury departments. Michelle worked on the Michigan Child Support Enforcement System (MiCSES) project for 6 years and was part of the implementation, training and system certification teams for helping Michigan achieve Federal Certification of its Statewide Child Support System. She is a certified trainer who has also produced comprehensive elearning programs and training services for the Michigan Supreme Court - State Court Administrative Office, Judicial Information Systems, and Michigan Judicial Institute. Michelle is currently contracted as a web strategist and project manager for Courtland's creative services and training divisions.

- Michelle holds a Bachelor's degree in Business Marketing and actively volunteers her time as a technology and marketing specialist to a number of nonprofit organizations including: National Association of Tribal Child Support Directors (NATCSD), Child and Family Services of Michigan, Michigan Family Support Council (MFSC), and Friend of the Court Association (FOCA).

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

Project Name:	**Courtland Consulting – Project Manager**
MMYYYY to present:	February 2006 to Present
Vendor Name:	Courtland Consulting

[redacted]

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Client Name:	100s of associations, agencies, nonprofits and small businesses
Client Contact Name:	Aimee Turner, Judah Garber, & Monica Morris-Moats
Client Address, Phone #, Email:	**Aimee Turner, National Association of Tribal Child Support Directors** Director, Kaw Nation Child Support Services (580)765-9952, aturner@kawnation.com 400 E. Central, Sute 301-E, Ponca, OK 74601 **Judah Garber, Friend of the Court Association** Director, Washtenaw County Friend of the Court (734) 222-3050, garberj@ewashtenaw.org 101 East Huron St., Rm 104, PO Box 8645, Ann Arbor, MI 48107 **Monica Morris-Moats, Michigan Family Support Council** Calhoun County Office of Prosecuting Attorney (269)969-6970, mmoats@calhouncountymi.gov 161 E. Michigan Ave., Battle Creek, MI 49014
Role in Project:	*Contracted for various positions* – Project Manager, Training Manager, Training Developer, Communications Specialist & Technical Writer
Responsibilities:	• Implement and deliver training for learning management system and content management system website for Courtland's creative services division • Manage team of instructional designers, training analyst, web designers, application programmers, graphic artists and search engine optimization specialists • Plans, designs/develops, implements and delivers training programs employing blended instructional technology and solutions including traditional classroom, web-based and other forms of learning • Coordinates, implements, and evaluates training in response to business, industry, labor and government needs • Plans and manages the effective use of resources and directs assigned staff to develop, implement and maintain large complex systems and/or projects • Establishes outcomes, procedures, timelines and performance criteria for short and long-term planning related to training program development • Develops and monitors project budgets • Maintains accurate project management and departmental reports • Establishes and maintains training development standards • Responsible for day-to-day resolution of all operational issues within the training and web teams
Details and Duration of Project:	Managed multiple web design/development projects along with additional training and support services for the last 16 years.
Software/hardware Used in Engagement:	Adobe (Dreamweaver, Captivate, and Photoshop), Snagit, MS Office 365 / Suite (Word, Excel, PowerPoint), Project Management system (Basecamp, Asana, and Others), Web Hosting Management Customer Service (WHMCS), Time Tracking system, Web Conferencing (Join.me, GotoMeeting and WebEx), Content Management Systems (WordPress, Joomla, Concrete5, Sharepoint), Learning Management Systems (Sumtotal, Cornerstone LMS, Blackboard, and Moodle),

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	Document Management (GoogleDocs and DropBox), Google Analytics, Social Media (Facebook, Twitter, Instagram, Youtube, and Others)
Project Name:	**Michigan Judicial Data Warehouse**
MMYYYY to present:	04/2007 to 12/2011
Vendor Name:	Courtland Consulting (Prime Vendor - Optum Insight)
Client Name:	Resourced on several projects Client Name 1:Michigan Dept of Health and Human Services (formerly Michigan Dept of Community Health) Client Name 2: Michigan State Court Administrative Office (SCAO), Judicial Information Systems, Judicial Data Warehouse (JDW) Project
Client Contact Name:	Jeanne Barnstead & Kristen Pawlowski
Client Address, Phone #, Email:	Client Contact 1: Jeanne Barnstead, Project Manager (DHHS projects) (517) 993-0913, Jeanne.barnstead@optum.com 822 Centennial Way, Suite 100, Lansing, MI 48917 Client Contact 2: Kristen Pawlowski, Project Manager (SCAO JDW Project) (517)993-0923, kristen.pawlowski@optum.com 822 Centennial Way, Suite 100, Lansing, MI 48917
Role in Project:	*Contracted for various positions* - Training Developer, Communications Analyst & Technical Writer
Responsibilities:	• Design and develop training scripts, presentations, training manuals, system demonstrations, audio recordings, and e-learning web-based training for end-user system support • Manage training documentation review process at all management levels for approvals • Develop project documentation to comply with State of Michigan Dept of Information Technology standards for System Engineering and Project Management Methodologies • Work closely with System Programmers and Business Analysts to develop required program materials and provide recommendations for process methodologies • Liaison with the State of Michigan Dept of Information Technology for communicating guidelines and submitting program requirements documentation • Provide weekly project tracking and status reports
Details and Duration of Project:	Multiple training roles and responsibilities for 4 + years.
Software/hardware Used in Engagement:	Judicial Data Warehouse application, Community Health Database Security Application, MS Sharepoint, Adobe Captivate, Snagit, MS Office Suite (Word, Excel, PowerPoint, etc.), Project Management system, Lotus Notes

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Project Name:	**Michigan Department of Education – Continuous Monitoring and Improvement System (CIMS) Project**
MMYYYY to present:	February 2006 to April 2007
Vendor Name:	Courtland Consulting (Prime Vendor - Public Sector Consultants)
Client Name:	Michigan Department of Education, Office of Special Education and Early Intervention Services (OSE/EIS), Continuous Monitoring and Improvement System (CIMS) Project
Client Contact Name:	Jeff Williams, Public Sector Consultants,
Client Address, Phone #, Email:	230 N Washington Square, Suite 300, Lansing, MI 48933, (517) 371-7455, jwilliams@pscinc.com
Role in Project:	Training Analyst
Responsibilities:	• Authored and maintained website content for project website • Designed and delivered e-learning programs for the Michigan Department of Education and local educational agencies (LEAs) • Worked with clients and contract staff to design and implement training curriculum • Managed the review and approval process for program user manuals and materials • Wrote time sensitive communications including emails and web announcements • Implemented instructional design techniques to enforce the learning and understanding of key messages for program application • Developed and edited system functional design documents and performed system testing
Details and Duration of Project:	Michelle was assigned as a Training Analyst on this project for 14 months.
Software/hardware Used in Engagement:	Adobe Captivate, MS Office Suite (Word, Excel, PowerPoint, etc.), Project Management system

Project Name:	**Michigan Child Support Enforcement System (MiCSES) project**
MMYYYY to present:	May 2000 to February 2006
Vendor Name:	Courtland Consulting (Prime Vendor - Accenture (previous project vendors include Oracle and PSI))
Client Name:	State of Michigan, Department of Technology Management & Budget
Client Contact Name:	Erin Frisch, State of Michigan, Current IV-D Director
Client Address, Phone #, Email:	Lansing Michigan, (517) 614-5877, efrisch@michigan.goc
Role in Project:	Technical Communications Team Manager / Implementation Analyst
Responsibilities:	• Managed all online communications for the State of Michigan Child Support extranet website that generates an annual average of over 6.6 million web visits and contains over 13,000 files • Led a team of web developers and instructional designers • Executed sophisticated web design programs and instructional design techniques to bring a cohesive and professional presentation to finished projects

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	• Developed, planned, managed and implemented communication projects, using multiple media to support marketing and organization objectives • Directed and monitored State of Michigan web standards and publication communication approval processes in coordination with stakeholders • Evaluated website feedback results for effectiveness and return on investment • Facilitated web and communication management meetings with clients and department managers • Monitored benchmarks and performance metrics for website usage and improvements • communication, application user documentation, and web development • Managed and facilitated focus groups for online program communications assessment and evaluation • Developed marketing materials for program promotion including website landing pages, presentations, brochures, email communications, newsletters, and other documentation • Delivered both classroom and elearning system training to end-users for system implementation and new employee training • Delivered videoconferencing sessions and seminars at state and national Child Support program conferences and executive meetings • Lead e-learning program initiatives for online course development and delivery using adult learning principles, policy, and instructional design standards to support program user base • Lead program workgroup events with business partners and stakeholders by implementing and managing strategic planning and business process improvement techniques • Monitored team capacities and competencies to minimize downtime or overtime requirements while meeting delivery dates • Prepared web productivity and analysis management reports • Managed the timely and accurate reporting of project status and team issues at all levels
Details and Duration of Project:	Multiple roles for 6 years
Software/hardware Used in Engagement:	MiCSES, Adobe (Dreamweaver, Captivate, and Photoshop), Snagit, MS Office Suite (Word, Excel, PowerPoint), Project Management system

EDUCATION ***Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.***	
Institution Name:	Eastern Michigan University (Ypsilanti, MI)
Degree/Achievement:	Bachelors in Business Administration with Specialization in Marketing

CERTIFICATIONS ***Information required should include: type of certification and date completed/received.***

[redacted]

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Certifications:	American Society of Training & Development, Measuring & Evaluating Learning Certification.
Date:	February 2007

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) ***Information required should include: environments, hardware, software, tools and databases.***	
Environments:	Microsoft Windows and MacOS
Hardware:	Laptop, Tablets (Surface and iPad), Mobile Phone (iPhone and Android)
Software:	Adobe (Captivate, Photoshop, InDesign, and Dreamweaver), MSOffice 365 / MS Office Suite (Word, Excel, PowerPoint, SharePoint, Yammer), Project Management system (Basecamp, Asana, and Others), Web Hosting Management Customer Service (WHMCS), Time Tracking system, Web Conferencing (Join.me, GotoMeeting and WebEx), Content Management Systems (WordPress, Joomla, Concrete5, Sharepoint), Learning Management Systems (Sumtotal, Cornerstone LMS, Blackboard, and Moodle), Snagit, Document Management (GoogleDocs and DropBox), Google Analytics, Social Media (Facebook, Twitter, Instagram, Youtube, and Others)
Tools:	Project management, ticket tracking, image editing, e-learning, web conferencing, learning management systems, content management systems, client relationship management systems, search engine analytic tools, web hosting client management, web analytics, social media
Databases:	Access and MySQL (queries only, not programming)

REFERENCES ***A minimum of three (3) references are required, including name, phone number, fax number and email address.***
Judah Garber, Friend of the Court Association Washtenaw County Friend of the Court (734) 222-3050, garberj@ewashtenaw.org
Timothy Cole, Management Analyst State Court Administrative Office (517) 373-5975, colet@courts.mi.gov
Lisa Robinson, Michigan Family Support Council Wayne County Friend of the Court (313) 224-5811, lisa.robinson@3rdcc.org

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Section IX

Preliminary Project Plan

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SECTION IX

Preliminary Project Plan

REQUIREMENT:

11.2.2.9 Vendors must include the preliminary project plan in this section.

Please refer to Appendix B for a preliminary project plan included as part of Protech's response.

IX-5.6 Preliminary Project Plan

5.6.1 Submit a Preliminary Project Plan

5.6.1.1 Gantt Charts

REQUIREMENT:

11.2.2.9/5.6.1 Vendors must submit a preliminary project plan as part of the proposal, including, but not limited to:
5.6.1.1 Gantt charts that show all proposed project activities

The preliminary plan Gantt chart included in Appendix B provides the State of Nevada with a high level overview of the timeframes and milestones for major efforts and proposed activities over the lifecycle of the NCSEAS project. The goal of the preliminary project plan Gantt chart is to:

- *Provide all key stakeholders and team member with an overview of key activities and milestones throughout the project*
- *Graphically illustrate the degree of overlap in key activities*
- *Uncover any differences in stakeholder expectations and reinforce common planning terminology*
- *Provide a framework for aligning project work plans with expected timeframes and key milestones*
- *A Work Breakdown Structure is included to provide cross-reference to projects deliverables.*

5.6.1.2 Planning Methodologies

REQUIREMENT:

11.2.2.9/5.6.1.2 Planning Methodologies

Protech's planning methodology, an integral part of Protech Project Management Methodology (Protech-PM), incorporates best practices from previous projects aligned with industry standards, including the Capability Maturity Model for Integration (CMMI) and the Project Management Body of Knowledge (PMBOK®). We offer the State of Nevada a comprehensive planning methodology that not only consolidates all leading industry standard but also reflects actual on-the-ground experience from similar large-scale government IT projects implemented by the Protech team.

During the initiation and planning phases of the project, the NCSEAS project management team will work on the development of a written statement defining the parameters of the project and the processes required to ensure that the project includes all the work required for successful completion. Some of the activities within Protech's planning methodology include:

- *Scope planning – A written scope document that will serve as the basis for future project decisions.*
- *Time management – Processes to ensure the timely completion of the NCSEAS project tasks and deliverables through activity definition, duration estimating, schedule development and control.*

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- *Organizational planning – An integral part of human resource management that involves defining, documenting and assigning project roles and responsibilities, the establishment of reporting relationships, staff acquisition and the measurement of team performance.*
- *Quality planning – The establishment of quality standards and project guidelines for quality assurance and quality control.*
- *Resource planning – Resource planning that incorporates cost estimation to develop quantitative assessments for costs and resource allocation.*
- *Communications planning – A detailed outline of the methods for the dissemination and receiving of information to stakeholders.*
- *Risk planning – The creation of a risk management plan for identifying, analyzing, and responding to project risks.*
- *Configuration planning – Planning for how to manage and control hardware and software changes to maintain integrity.*
- *Deliverables planning – The establishment of a documented plan to control the generation and revision of all project deliverables.*
- *Integration planning – The planned coordination and integration of the various elements of the NCSEAS project.*
- *Training planning – Training planning activities tailored to accommodate the preparation of training materials, delivery methods, curriculum and evaluation criteria.*

Protech's strategic planning approach incorporates the following elements:

- *A planning methodology that consists of developing a series of work products that communicate project planning information at different levels and for different purposes.*
- *A top-down planning approach that presents a roadmap consisting of high-level estimates of scheduled phases divided into project areas and decomposed into subprojects, as well as dependency charts that identify cross-project and cross-subproject dependencies and coordination.*
- *Major project milestones are captured by identifying high-level scheduling milestones for each of the project areas.*
- *A Work Breakdown Structure (WBS) with detailed subproject work plans that provide consistency with the common framework and expectations set by the roadmap, dependency charts, and major project milestones.*
- *Subproject work plans which are developed in the project-scheduling tool MS Project, and are detailed at the 40-80 hour effort by resource level for the short-term planning horizon.*
- *A rolling wave detail approach, wherein later work is detailed approximately three months before it starts. For example, development is dependent upon design and cannot be planned in detail until design is complete.*
- *A critical path for the overall project, computed by MS Project, which adds further perspective into the critical elements of the schedule.*

Throughout the course of the NCSEAS project, progress is monitored through the use of the roadmap, the dependency charts, the project schedule, MS Project, and the critical path. The roadmap is an effective communication vehicle for communicating the project status with the NCSEAS project management team, executive oversight board and other stakeholders.

As part of our planning methodology, Protech will deliver to the State the following group of management plans defining the processes for the overall management of the NCSEAS project. Sub section 4 – Scope of Work further detail the content of each one of these deliverables.

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NCSEAS Project Schedule		
RFP Deliverable #	Description of Deliverable	Project Phase(s)
4.3.3.1	**Project Management**	Phase 02 - Project Initiation and Planning
4.14.3.1	**Ease of Use Management Plan**	Phase 03 - Requirements Validation
4.15.3.1	**Database Configuration Management Plan**	Phase 03 - Requirements Validation
4.7.3.1	**Technical Approach Plan**	Phase 04 - Design
4.8.3.1	**System Capacity Plan**	Phase 04 - Design
4.9.3.1	**Development Hardware and Software Purchase**	Phase 04 - Design
4.12.3.1	**Database Development Plan**	Phase 04 - Design
4.13.3.1	**Application Development Plan**	Phase 04 - Design
4.16.3.1	**Data Governance Plan**	Phase 04 - Design
4.22.3.1	**Security Management Plan**	Phase 04 - Design
4.8.3.1	**Business Continuity and Disaster Recovery Plan**	Phase 05 - Development and Unit Test
4.11.3.1	**Production Hardware and Software Configuration Plan**	Phase 05 - Development and Unit Test
4.18.3.1	**Data Conversion Management Plan**	Phase 06 - Data Conversion
4.29.3.2	**Conversion and Testing Plan**	Phase 06 - Data Conversion
4.19.3.1	**Testing Management Plan**	Phase 07 - Integration, System, and Performance Testing
4.30.3.3	**Test Plans**	Phase 07 - Integration, System, and Performance Testing
4.20.3.1	**Training Management Plan**	Phase 09 - Training
4.21.3.1	**Web-Based Training Development Plan**	Phase 09 - Training
4.17.3.1	**Release Management Plan**	Phase 10 - Implementation
4.23.3.1	**Operations Support Plan**	Phase 10 - Implementation
4.32.3.2	**Implementation and Initialization Plan**	Phase 10 - Implementation
4.25.3.1	**Warranty Support Plan**	Phase 11 - Warranty (Initial Maintenance and Operations)
4.24.3.1	**Maintenance Transition Plan**	Phase 13 - Transition, Maintenance and Operations
4.35.3.1	**Knowledge Transfer Plan**	Phase 13 - Transition, Maintenance and Operations
4.35.3.3	**Maintenance Training Plan**	Phase 13 - Transition, Maintenance and Operations
4.35.3.5	**Operations Plan**	Phase 13 - Transition, Maintenance and Operations
4.35.3.7	**Operations Transition Plan**	Phase 13 - Transition, Maintenance and Operations
4.35.3.7	**Help Desk Management Plan**	Phase 13 - Transition, Maintenance and Operations

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5.6.1.3 Milestones

REQUIREMENT:

11.2.2.9/5.6.1.3 Milestones

Please refer to the preliminary project plan included in Appendix B for a list of all key milestones. Some of the major milestones for NCSEAS include:

Major Milestones			
WBA	Task	Phase	Complete By
	Notification of Contract Award	1	Before May 2017
	Contract Signature	1	Before May 2017
1.2.2.1	Project Kick-off	2	May 2018
1.2.2.4.6	Obtain Certificates of Occupancy	2	October 2018
1.2.4	Project Initiation and Planning Complete	2	October 2018
1.3.5	Requirements Validation Complete	3	October 2018
1.4.1.1.3	Business Continuity and Disaster Recovery Plan	4	November 2018
1.4.1.4.3	Development Hardware and Software Purchase Plan Complete	4	January 2019
1.4.1.6.3	Production Hardware and Software Configuration Plan Complete	4	March 2019
1.4.2.7	Security Management Plan	4	May 2019
1.4.7	Functional and Technical Design Complete	4	August 2019
1.5.5	Development and Unit Testing Complete	5	August 2020
1.6.4	Data Conversion Complete	6	May 2020
1.7.4	Integration, System Test, and Performance Test Complete	7	March 2021
1.8.4	User Acceptance Testing Complete	8	September 2021
1.9.4	Training Complete	9	April 2021
1.10.2.1.4	Implementation-Pilot Rollout Complete/Warranty Start/Go Live	10	October 2021
1.10.2.2.3	Implementation-Region 1 Rollout Complete	10	December 2021
1.10.2.3.3	Implementation-Region 2 Rollout Complete	10	February 2022
1.10.2.4.3	Implementation-Region 3 (Statewide) Rollout Complete	10	April 2022
1.12.4	Federal Certification Achieved	12	August 2022
1.13.4	Transition, Maintenance & Operations Complete	13	October 2023
1.14.1.3	Project Close-out Complete	14	October 2023

5.6.1.4 Task Conflicts and/or Interdependencies

REQUIREMENT:

11.2.2.9/5.6.1.4 Task conflicts and/or interdependencies

The preliminary project plan included in Appendix B identifies key conflicts and interdependencies among tasks. The work plan includes a detailed work breakdown structure that identifies milestones and defines the activities, tasks, deliverables and releases, resources, durations, sequencing, dependencies, constraints, and. The preliminary project plan identifies the logical relationships between activities, as well as the preferred relationship between those activities, in order to demonstrate their interdependencies and constraints.

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Tasks dependencies display the nature of the relationship between predecessor and successor tasks and the type of dependencies to point out their start-to-finish relation and overall duration. The Protech-PM methodology charters a multi-level hierarchy of interdependent tasks wherein every task in a hierarchy is associated with an appropriate role that facilitates the management of work teams by providing a clear illustration of assigned duties and interdependent tasks.

5.6.1.5 Timeframe for each Task

REQUIREMENT:

11.2.2.9/5.6.1.5 Estimated time frame for each task identified in Section 4, Scope of Work.

The preliminary project plan included in Appendix B identifies the estimated time frame to complete each task and subtasks as identified in Sub Section 4 – Scope of Work. This plan displays an estimated duration for each task to include how long it will take to complete the task. These fixed durations represent the amount of time allocated for each task taking into consideration the relationship to other tasks already identified. Once active resources are finally assigned to the individual tasks, the plan allows for a visual representation of which work and duration can be set independently.

5.6.1.6 Timeframe from Project Start to Completion

REQUIREMENT:

11.2.2.9/5.6.1.6 Overall estimated time frame from project start to completion for both Implementation Contractor and State activities, including strategies to avoid schedule slippage

The preliminary project plan included in Appendix B displays the estimated time frame Protech has allotted for both Protech and State activities. Protech understands that project planning has many challenges to overcome in order to finish the NCSEAS project on time. For this reason, we have designed a preliminary project plan that takes into consideration schedule predictability on task slippage from past experiences, the envisioning of potential future risks, and the reasonable impact of mitigation plans. Furthermore, we have entrenched key milestones in the preliminary plan to track progress and avoid task slippages, especially for those tasks in the established critical path. The use of Gantt charts, like the one included in Appendix B, will prove highly useful to detect delays in the initiation of activities on the planned start date.

5.6.2 Roles and Responsibilities and Method of Communication

REQUIREMENT:

11.2.2.9/5.6.2 Vendors must provide a written plan addressing the roles and responsibilities and method of communication between the Implementation Contractor and any subcontractor(s).

The NCSEAS Communications Management Plan will provide a written framework for project information exchange between Protech and all subcontractors. The communications management plan will document the formal communication process developed for the NCSEAS Project, starting with identifying and describing Protech's team and the roles and responsibilities of each subcontractor. Sections of the plan will describe the employed methods of communication to ensure that all information is consistent, accurate, and timely.

Furthermore, the communication management plan will include formal and informal communication elements, in order to enhance communication practices among all stakeholders, including subcontractors. Open, ongoing communication between all parties is vital to the success of the NCSEAS project. The communication process has been developed to primarily ensure that Protech's project team members, including subcontractors, are continuously informed about the NCSEAS project during development, implementation, and on-going maintenance efforts.

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5.6.3 Preliminary Project Incorporated into the Contract

REQUIREMENT:

11.2.2.9/5.6.3 The preliminary project plan will be incorporated into the contract.

Protech acknowledges that the preliminary project plan provided as part of this RFP response represents an integral part of the contract. Should there be any changes to the project plan as a result of discussions with the state, or due to realignment of priorities, Protech will apply the changes to the project plan with the approval of the state.

5.6.4 First Project Deliverable is the Finalized Detailed Project Plan

REQUIREMENT:

11.2.2.9/5.6.4 The first project deliverable is the finalized detailed project plan that must include fixed deliverable due dates for all subsequent project tasks as defined in Section 4, Scope of Work. The contract will be amended to include the State approved detailed project plan.

Protech's first project deliverable will consist of a finalized detailed project plan. This plan will include fixed deliverable due dates for all subsequent project tasks pursuant to the requirements set forth by Sub Section 4, Scope of Work. The plan will include a list of the project tasks with intended start and finish dates, organized by project phase, and grouped according to the agreed-upon work breakdown structure (WBS). Protech acknowledges that the contract will be amended to include the finalized project plan, submitted as the first project deliverable.

5.6.5 Potential Risks Associated with the Project

REQUIREMENT:

11.2.2.9/5.6.5 Vendors must identify all potential risks associated with the project, their proposed plan to mitigate the potential risks and include recommended strategies for managing those risks.

The NCSEAS Risk Management Plan will provide a written framework for recognizing and acting upon potential risks and challenges and taking proactive steps to mitigate these risks in order to ensure NCSEAS project success. In addition to recommending strategies for managing risks, Protech will maintain a risk management repository to develop and document an adequate response for each risk, scaled appropriately to its impact and probability.

As part of the plan, Protech will constantly monitor the status of each risk and its associated risk response and contingency plan to ensure effectiveness. These actions include the continuous identification of new risks, the dissemination of risk-related information to the project team and stakeholders, and the development of risk responses as required.

Protech's approach to risk management objectives also include:

- *Identifying potential problems and dealing with them when it is easier and more cost-effective to do so – before they are problems and before a crisis exists.*
- *Focusing on the project's objective and consciously looking for things that may affect quality throughout the development and production process.*
- *Advising managerial decisions regarding resource allocation based upon the early identification of potential risks.*
- *Involving personnel at all levels of the project, focusing their attention on a shared vision, and providing a mechanism for achievement.*

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Protech promotes risk management as an ongoing function over the life cycle of the project from inception to completion. During the initial phase of any project, risks are generally broad in nature and are related to expectations concerning financial goals, qualitative goals, project schedule, or technology. A risk may originate when an issue is left unresolved or is resolved with a solution that poses additional risk to the project. Later in the project, risks become more defined in nature and are often evidenced through compromised project schedules that occur when tasks are completed late or key dependencies are missed.

Protech will manage NCSEAS's changing conditions and priorities by creating new strategies and plans in tight coordination with the individual teams and senior management. The NCSEAS Risk Management Plan will address the specific roles and responsibilities for all project stakeholders.

5.6.6 Staff to be Located On-site in Carson City

REQUIREMENT:

11.2.2.9/5.6.6 Vendors must provide information on the staff that will be located on-site in Carson City. If staff will be located at remote locations, vendors must include specific information on plans to accommodate the exchange of information and transfer of technical and procedural knowledge. The State encourages alternate methods of communication other than in person meetings, such as transmission of documents via email and teleconferencing, as appropriate.

All key management staff will be located at our NCSEAS project office in Carson City while most of the software development activities will be performed remotely. Protech's personnel will be available via telephone and/or teleconference during business hours and Protech will configure the necessary equipment to ensure the capability for remote access to all development and testing regions. VPN tunneling and data encryption standards, including SSL, will be implemented for authenticated access for authorized remote users.

The following table identifies key roles, commitment levels, and staff location, whether remote or on-site.

Proposed Team		
Role	Commitment Level (Full or Part-time)	Location (Remote or Onsite)
Project Manager	Full time	Onsite
Technical Lead	Full time	Onsite and Offsite (as needed)
Implementation Lead	Full time	Onsite
Functional Manager	Full time	Onsite and Remote
Data Conversion Manager	Full time	Onsite

Protech will deploy a wide array of collaboration tools providing alternate methods of communication. These collaboration tools will allow the exchange of information between individuals and among teams. The Protech Team will enhance all coordination and communication efforts using web-based technologies such as SharePoint, Wikis, and 'GoToMeetings' as part of an agile work environment.

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IX-5.7 Project Management

REQUIREMENT:

11.2.2.9/5.7 Vendors must describe the project management methodology and processes utilized for:

Protech's Project Management Methodology (Protech-PM) provides a blueprint for successful project management by employing a common language and approach. The Project Management Institute (PMI) offers a generic model of project management which is deliberately industry non-specific; the Protech-PM methodology augments the conceptual model derived from PMI and extends it by adding Customer Relationship Management (CRM). Protech-PM also incorporates best practices from the PMI, the Software Engineering Institute (SEI) Capability Maturity Model (CMM), and Protech's extensive experience delivering IT products and services to hundreds of customers.

5.7.1 Project Integration

REQUIREMENT:

11.2.2.9/5.7.1 Project integration to ensure that the various elements of the project are properly coordinated

Protech's Project Management Methodology (Protech-PM) delivers a highly integrated framework allowing optimal coordination between a myriad of management processes. Furthermore, the Protech-PM ensures a seamless integration supporting all management processes including issues, change requests, schedule dependencies, and risks. Finally, Protech's Project Management Methodology encompass the integration of processes, procedures, best practices, and tools designed to provide flexibility and discipline to the NCSEAS project management team.

Due to the complexities of managing large projects and controlling a myriad of parameters, the Protech-PM provides flexibility and discipline to the project management team while ensuring that the multiple elements of the project are properly orchestrated. In the figure below, Protech-PM provides a high-level view of the project management lifecycle.

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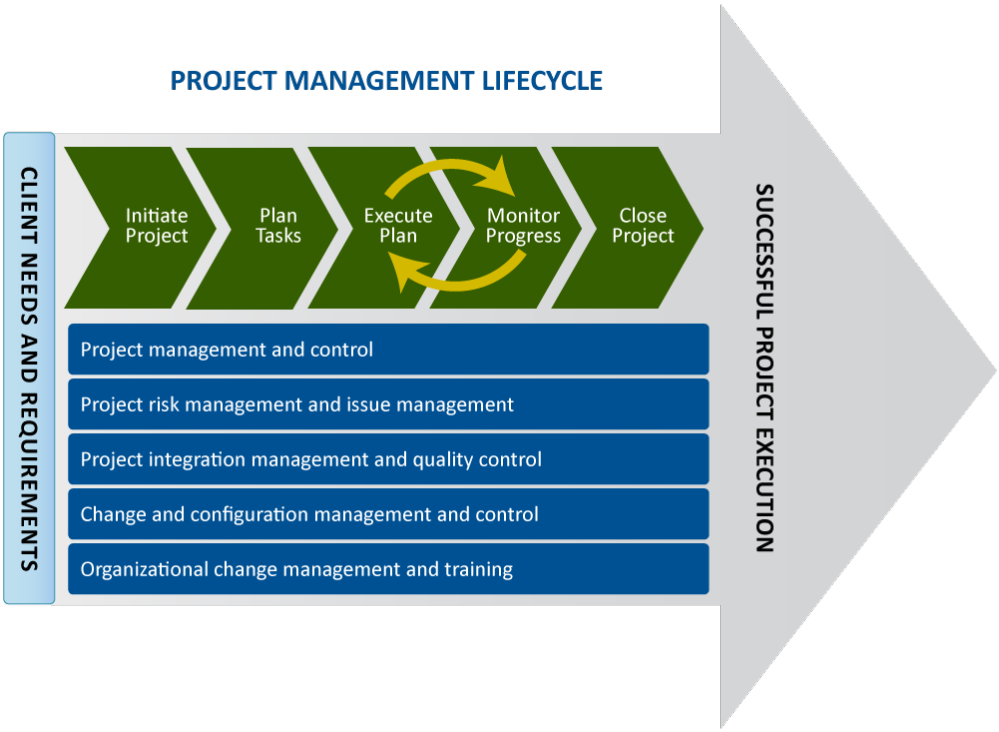

Figure 4.7-1 Protech Project Management Methodology

Protech's approach to project management will provide strict oversight, control, and monitoring of all NCSEAS project activities.

The Protech-PM integrated framework ensures that:

- *The Protech Team proactively manages the project's scope and functional requirements*
- *The project team remains staffed with appropriate resources during each phase,*
- *Issues and risks are actively identified and resolved*
- *Proper communications and collaboration with the State and its stakeholders remains in place.*

Please refer to Appendix B for a full outline of Protech's approach to project management tailored to NCSEAS.

5.7.2 Project Scope

REQUIREMENT:

11.2.2.9/5.7.2 Project scope to ensure that the project includes all the work required and only the work required to complete the project successfully

Protech's integrated project scope management delivers success by ensuring that all work required, and only the required work, is included in the work plan. Protech's approach to scope management establishes a sound approach for tracking and making decisions that impact the project. Protech ensures that scope management includes scope verification processes that verify the deliverables are formally accepted as meeting the established criteria. The scope control process documents and manages changes, along with the impact of these changes, in accordance with the integrated change management process. Our approach clearly identifies the group of individuals involved in change management, as well as their roles and

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responsibilities. Our scope management processes keeps the project scope well defined, integrates scope items with the project schedule, ensures all requirements are met, and ensures activities are executed as planned.

5.7.3 Time Management

REQUIREMENT:

11.2.2.9/5.7.3 Time management to ensure timely completion of the project. Include defining activities, estimating activity duration, developing and controlling the project schedule.

Protech's approach to time management will ensure the timely completion of all NCSEAS project phases. Protech's time and schedule management methodology involves defining, sequencing, and estimating activity duration as well as estimating resources for required project activities.

Time management and scheduling activities for the initial project schedule and the monthly rolling-wave detail updates include:

- *Defining tasks and subtasks*
- *Working with the State and contractor PMO in development of and updates to the schedule*
- *Linking dependencies across tasks or Strategic Management Milestones*
- *Assigning resources and expected work effort*
- *Following established scheduling guidelines*
- *Working within the established budget for each project area*
- *Working within the established Strategic Management Milestones dates for the applicable project area*
- *Monitoring and measuring the progress of tasks (planned vs actual, earned value and estimate to completion).*

As the activities are fully defined and dependencies are identified, the project schedule is developed, approved, and baselined for the project. After the baseline is established, it becomes a critical project asset for monitoring schedule performance, tracking the incorporation of approved changes, and evaluating the effectiveness of implemented risk mitigation and corrective actions. Schedule variance is measured, assessed and reported to the State and the contractor PMO during weekly project meetings.

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5.7.4 Management of Implementation

REQUIREMENT:

11.2.2.9/5.7.4 Management of Implementation Contractor and/or subcontractor issues and resolution process.

Protech's approach to contract and engagement management provides a framework for subcontractor management with the intent of achieving prompt resolutions. Our approach focuses on success-driven processes by recognizing the interdependencies of multiple team players, such as subcontractors.

Team partners will play a crucial role in the delivery of the NCSEAS solution. Large, complex system integration projects require a robust methodology for subcontractor management in order to provide a central point of coordination so that the integrated team meets its responsibilities. Critical to this role is the effective management of the subcontractor team, including conflict resolution. Protech assumes full responsibility for all subcontractor requirements on the proposed team.

The key components of Protech's approach to coordinating the activities of subcontracted teams are:

- *SINGLE POINT OF CONTACT – The State of Nevada must focus on departmental implementation issues and impacts, rather than managing multiple organizations while balancing their unique priorities. Protech will provide a single point of contact between the NCSEAS management team and all sub-contractors comprising the Protech Team through the Protech Project Manager, and will be responsible for all subcontractor performance.*

- *INTEGRATED PROJECT TEAMS – The Protech Team will structure integrated teams to promote shared information and knowledge transfer. The NCSEAS project will be composed of a number of small teams focused on specific application subsystems and/or project activities. These teams will include Protech, subcontractor, and State personnel. This integrated team structure will avoid the isolation that can arise when a single subcontractor is given full responsibility for one project piece with limited involvement from the prime contractor.*

- *INTEGRATE PROJECT PLANNING AND REPORTING – Project plans and reports will present the big picture. This is critical for individual teams, as well as senior project management, to understand the cross-activity relationships and impacts so that informed and balanced decisions can be made. The Protech Team's involvement in all aspects of the project will allow Protech to prepare consolidated plans and reports that integrate the project activities and focus on overall engagement success while helping the individual project teams, including subcontractors, contribute to that success.*

5.7.5 Requested Changes in Project Timeframes

REQUIREMENT:

11.2.2.9/5.7.5 Responding to and covering requested changes in the project time frames;

Protech will respond and fulfill requested changes by following a formal, State-approved change management process to ensure consistency. To support this consistency in applying change management processes, and to minimize impact in the project time frames, the Protech Team will designate an individual to serve as the change request administrator. This person is the single point of entry in the Protech Team's PMO for all change requests. The change request administrator receives all change requests, reviews them for completeness, and works with originators of change requests to obtain additional information as needed.

The change request administrator will have the responsibility to log, track, and monitor the status of all submitted change requests and work closely with the Protech Project Manager, the State, and the contractor

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PMO to assess the impact to the project schedule and allotted time frames. A change request log will be maintained in SharePoint to track each request from initial receipt through final disposition. We will also work with Nevada to establish a Change Control Board (CCB), consisting of key project stakeholders. The CCB reviews and approves (or denies) all change requests and the materials that have been prepared to estimate the impact of each change request in areas such as budget, schedule, resources, and overall impact on NCSEAS.

5.7.6 State Generated Issues

REQUIREMENT:

11.2.2.9/5.7.6 Responding to State generated issues.

The Protech Team will ensure timely communication and resolution of State generated issues through a structured, iterative process. The primary steps involved in the management of NCSEAS project issues are:

- *Issue identification*
- *Issue recording and tracking*
- *Issue review and prioritization*
- *Issue analysis*
- *Issue escalation*
- *Issue resolution*
- *Issue reporting*

The figure below provides a high-level example of the issues management workflow:

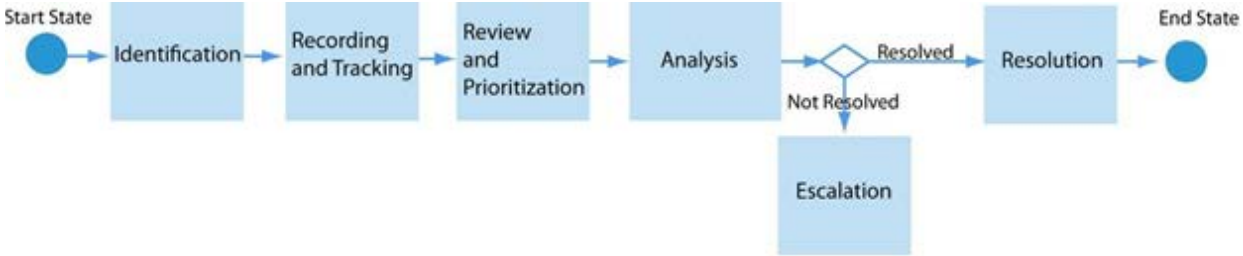

Figure 4.7-2. Issues Management Workflow

The Protech Team's issue management process provides comprehensive issue tracking and management

The Protech Team follows a structured approach that defines the process for identifying, communicating, tracking, and resolving issues throughout the life cycle of the NCSEAS project. The plan also describes the processes for categorizing issues, prioritizing them, and determining an escalation path for issues that remain unresolved within a predetermined length of time. Unacknowledged or unresolved issues can threaten project success and therefore must be identified and managed.

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5.7.7 Cost Management

REQUIREMENT:

11.2.2.9/5.7.7 Cost management to ensure that the project is completed within the approved budget. Include resource planning, cost estimating, cost budgeting and cost control.

Protech's cost management processes involve the tracking and reporting of earned value to provide early detection of project performance problems and to implement mitigation actions to improve project results. Cost management is primarily concerned with the cost of the human and material resources needed to complete project activities. Cost estimating, cost budgeting, and cost control are integrated and conducted iteratively as the project progresses. The cost estimating process is used to establish the cost budget associated with the activities defined within the project schedule. The cost budget is a time-phased baseline used in the cost control process to monitor and measure project performance and the impact of corrective actions on the project costs.

5.7.8 Resource Management

REQUIREMENT:

11.2.2.9/5.7.8 Resource management to ensure the most effective use of people involved in the project including subcontractors.

Protech resource management ensures the State of Nevada the most effective use of people and skills involved in the NCSEAS project, including subcontractors. The NCSEAS project success requires a cohesive team of experienced, dedicated, and skilled professionals who will work in partnership with the State of Nevada to achieve its vision. The Protech Team believes that our solution is more than just a system—it is a tool to assist Nevada in accomplishing the Department's goal of improving child support enforcement. We recognize that not only is this project very important to the Department, but the Department is ready and willing to commit the necessary resources needed to achieve success.

The resource management processes encompassed within Protech-PM guarantees the most efficient use of internal resources and subcontractors in human resources planning, project team acquisition, project team development, and project team management. The planning process includes determining the roles, responsibilities, reporting relationships, and other activities supporting the project organizational structure and the staff management plan necessary for project success. The process ensures the Protech Team is prepared, assigned, and available to complete the work as specified in the project work plan. While often viewed as a process during the start-up of the project or phase, this is an ongoing and integral component of success throughout the entire project.

Protech's methodology includes documenting the processes that are followed for subcontractor management and the procurement of the necessary products or services used during the NCSEAS Project. We use proven processes for managing and administering the resulting contracts and closing the contracts upon completion. With our years of systems development and deployment experience, we maintain multiple relationships with value-adding firms. Using our extensive knowledge and experience, we effectively identify, access, and integrate new technology and service providers into our solution offerings to meet overall project objectives.

5.7.9 Communications Management

REQUIREMENT:

11.2.2.9/5.7.9 Communications management to ensure effective information generation, documentation, storage, transmission and disposal of project information.

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Effective project and stakeholder communications are imperative to project success. Communications management must ensure effective generation of communication, documentation, storage, transmission, and disposal of project information.

Protech's approach to communications management emphasizes:

- *Identification of project audiences*
- *Creation of a project team roster*
- *Assignment of communication process owner*
- *Establishment of communication principles*
- *Communication types – formal and informal*
- *Management of stakeholders expectations*
- *Establishment of communication formats*
- *Document archival and disposal*
- *Project document control*

At the project's onset, Protech will publish a structured communications management approach to creating and delivering information, defining audiences, and identify standard scheduled communication activities. Protech employs a variety of shared collaborative databases and tools to promote internal communications. Protech uses a Document Management System (DMS) to create, track, and publish project documents. The DMS is made up of the version control tool and the LAN subdirectories. All NCSEAS deliverables and monthly work products will be maintained and baselined. MS Word-based templates and supporting auto-text functions and other project documents are housed in the appropriate file system subdirectories. An internal project website will also support cross-team communications along with access to SharePoint, where meeting notes and other documents will be stored for delivery between Protech, the contractor PMO, and the State. E-mail will also provide an effective informal tool to enable cross-team communication. The process ensures accurate and consistent communication is conveyed at the right time, by the right sender, to the right audience, and via the most appropriate channel.

5.7.10 Risk Management

REQUIREMENT:

11.2.2.9/5.7.10 Risk management to ensure that risks are identified, planned for, analyzed, communicated, and acted upon effectively.

Effective risk management is essential to ensure project success and includes risk identification, risk assessment, risk response planning, and risk monitoring and control. The Protech Team's Risk Management Plan defines a deliberate and proactive process for identifying potential risks and assessing the probability and potential consequences of identified risks. The Protech Team follows a thorough risk response planning process that identifies mitigation strategies. This process also identifies the criteria for early detection of risks, which promotes rapid implementation of risk mitigation actions. We believe risk monitoring and control involves not only the tracking of previously identified risks, triggers, response plans, and risk mitigation actions, but also a determined adherence to continual new risk identification and the threat of changing risks.

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IX-5.8 Quality Assurance

REQUIREMENT:

11.2.2.9/5.8 Vendors must describe the quality assurance methodology and processes utilized to ensure that the project will satisfy State requirements as outlined in Section 4, Scope of Work of this RFP.

Quality Management Methodology

Achieving and sustaining a high level of performance for the NCSEAS project can only be achieved through strict adherence to quality standards. Quality, and management of quality, results from intentional, intelligent direction and flawless execution using proven industry approaches. To ensure the highest quality of deliverables and work products, the Protech Team develops a detailed quality management plan during the planning phase and submits this to the State for review, feedback, and approval.

Our approach to quality management promotes, reinforces, and measures quality management activities at all stages of the project. We conduct quality self-assessments and trend analysis to monitor compliance and evaluate activities, as well as internal peer quality reviews prior to submitting deliverables. We review core business processes, especially those prone to errors, focusing on services, products and outcomes that achieve State and federal quality expectations. Our program is scalable, open, and auditable and uses findings to improve performance of processes and technology and to identify and fulfill staff training needs. We fully involve our subcontractors in this process.

Three essential quality management activities - plan, control, and improve—are at the heart of the Protech Team's quality approach. The circular relationship of these three activities— known throughout the quality industry as the Juran Trilogy – demonstrates the goals of a true quality approach and is presented in the figure below. The individual disciplines are then defined following the graphic.

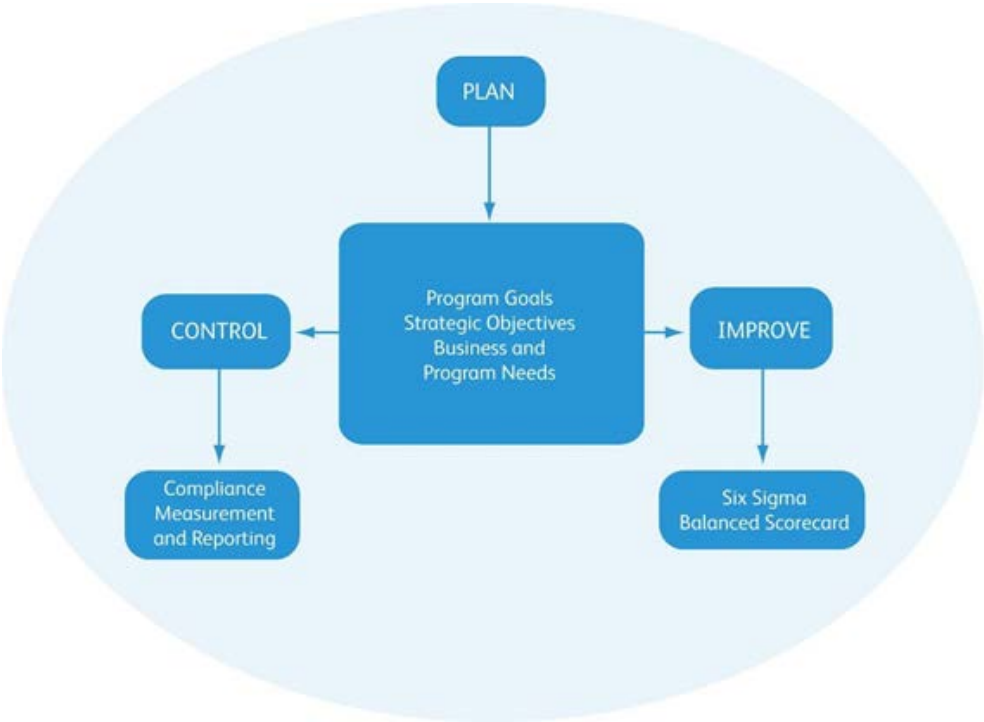

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Figure 4.8-1. Quality Management Activities

The Protech Team's approach to quality management incorporates proven activities: Plan, Control, and Improve.

Quality Planning: Quality planning is the identification, selection, and creation of quality standards and related procedures relevant to the systems and services being delivered. This includes the application of industry standards (e.g., PMBOK, IEEE) and the definition of the roles and responsibilities of the resources involved in the planning and execution of quality processes. It defines the procedures and tools used to validate and confirm the quality of deliverables.

Quality Control: Quality Control includes the evaluation process, testing activities, and operations techniques involved in monitoring project deliverables to determine whether they comply with relevant quality standards, State requirements, and agreed-upon specifications.

Continuous Quality Improvement: Continuous quality improvement is a core component of the Protech team's approach to quality. It defines the methods for monitoring and reviewing processes and understanding the extent to which those processes impact the quality of deliverables. This information is then used to make improvements to project activities. The goal of the continuous improvement process is not only to prevent non-conformities from recurring, but to provide an ongoing elevation of the quality level delivered on the project.

The relationship of these three quality domains is seen in the figure below. Taking these organizational factors into account ensures that NCSEAS is not only compliant with its requirements, but also that it operates in a way that is consistent with the State's operations and values. Control activities embody monitoring and testing processes to prevent output failure. These control activities, including standardization and compliance, maintain a steady and improving state of quality throughout the NCSEAS project. Continuous improvement activities include applying quality tools and techniques where applicable, such as Six Sigma, Balanced Scorecard, or others desired by the State, to achieve higher levels of performance and drive out waste. These methods also incorporate new processes over time to ensure that lessons learned during the project are proactively used to increase quality

Quality Management

The primary goal of our methodology is to produce high-quality technical solutions. All aspects of our methodology are developed and maintained in order to contribute to the overall quality of technical products and services. To achieve the quality that the State expects, the Protech Team executes its PMM and SDM on all deployment projects and performs quality reviews to verify proper execution. The figure below displays our methodology's threefold approach to quality management: Quality Assurance (QA), Quality Control (QC), and peer review.

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Figure 4.8-2. Quality Management

Quality assurance, quality control, and peer reviews are performed continuously throughout the project life cycle to ensure the Protech Team's deliverables meet State standards

Quality Assurance

Protech's corporate governance team continuously reviews project activities to ensure local processes are executed according to documented corporate criteria and methodologies. External reviews conducted by the governance team and quality reviews performed by project staff confirm that documents and software work products align to both the State and corporate standards. QA reviews are conducted on all artifacts and software deliverables. Process QA reviews are performed on a regular basis to include all PMM and SDM processes.

Quality Control

QC activities are typically the most visible portion of an overall quality management program, as errors found during inspections generate rework that typically has an impact on the project schedule and cost. For the NCSEAS project, the Protech Team's QC processes ensure that:

- *NCSEAS conforms and functions according to the approved requirements, specified technical standards, project timelines, system designs, and user business needs*
- *The functional and system components within NCSEAS undergo QC reviews as appropriate*
- *The QC procedures are followed*
- *The follow-up reviews are performed to ascertain problems are resolved*

The primary planning activities of managing QC are reviewing, tailoring, and creating QC plans, processes, and procedures. These are performed throughout the project life cycle and encompass activities that occur continuously throughout every workflow and all phases.

Peer Reviews

The Protech Team uses the peer review process as an additional tool to promote quality. Peer review is a methodical examination of work products by the author's peers to identify defects and areas where changes are needed. Peer reviews are planned and scheduled throughout the project life cycle and are performed for all major deliverables. Peer review has several purposes:

- *Detect and remove defects from project work products and deliverables early in the development cycle*
- *Verify the accuracy and completeness of all deliverables and work product*
- *Improve the overall quality of software or other work product*
- *Promote consistency across the project deliverables*
- *Facilitate a more thorough understanding of work products and thereby proactively prevent defects resulting from miscommunication and lack of understanding*

Our experience clearly tells us that the quality of the process used to develop a deliverable usually impacts the quality of the deliverable itself. Therefore, we focus on effectively managing the deliverable development process through consistent, structured peer reviews.

Our Methodology's Principles Contribute to Quality

The principles underlying our methodology contribute to high-quality technical solutions. The table below includes a few examples of our processes and their direct impact on the quality level of the deliverables.

Protech's PMM Processes	
Process	**Quality Impact**
Communication Management	• Provides documented standards for communications media, methods, and frequency • Ensures all stakeholders are properly informed and can contribute their knowledge and expertise to produce a high-quality solution
Configuration, Change, and Release Management	• Changes to all configuration items, such as documents and software code, are monitored and controlled to ensure alignment with requirements, design, and testing • Updates to the solution are released in a formal and controlled manner
Cost, Resource, and Scope Management	• The "Project Management Triangle," cost, resource, and scope management processes acknowledges that in order to maintain sufficient levels of quality project management must balance the three factors of cost, resources, and scope
Critical Success Factors Management	• Ensures the project's critical success factors are identified and tracked, and when a factor exceeds a predetermined threshold, corrective action is performed immediately • Ensures quality is not diminished and the project stays on track
Issue and Risk Management	• Establishes standard processes to manage issues, action items, and risks • Ensures ownership, accountability, tracking, reporting, and closure of all exceptions on the project so problems are identified before they negatively impact the quality of the project or technical solution
Requirements Management	• Ensures that the final technical solution aligns with the State's requirements, as evidenced by the Requirements Traceability Matrix
Schedule Management	• Requires development of a predictive and effort-driven schedule • Indicates to project management when deliverables and milestones are in danger of delay • Ensures quality can remain at the forefront rather than be pushed aside to meet slipping deadlines

Cost Efficiency

Cost efficiency is a key consideration on all Protech's projects. For the NCSEAS project, we bring a structured approach to cost management that includes a comprehensive set of documents and tools to track, forecast, and manage costs. Our cost model forecasts project costs and tracks actual expenditures against the forecast to accurately detect and predict cost overages. Our cost management process is integrated with our resource management process to ensure resources, their ramp up and roll off, and their costs are anticipated, monitored, and effectively managed. A significant portion of our success in providing cost-effective solutions has been our ability to allocate resources appropriately, effectively control scope through rigorous requirements management, and routinely conduct quality processes to ensure that work in progress meets pre-determined standards before it is submitted, thereby reducing rework.

Quality Assurance

To ensure we deliver solutions that meet the highest quality standards, we use a comprehensive approach to quality that supports the objectives of up-front prevention of issues, early identification of issues, and ongoing visibility into project activities. During the planning phase of the project, the Protech Team prepares and submits an application quality assurance plan that incorporates all aspects of our testing quality management approach.

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Quality Assurance Review

Our PMO staff and document quality assurance (QA) analysts ensure each deliverable is reviewed for standards adherence, grammar, formatting, and adherence to the expectations and quality standards defined in the deliverables and work products definition plan. This allows the State to focus more on deliverable content. The Protech Team's quality analysts review documents for grammar, punctuation, contents, indices, spelling, legibility, organization, and consistency with the format defined for the deliverable. The QA analysts produce deficit logs to capture errors and inconsistencies found in the documentation, allowing the author to fix the errors prior to State delivery.

State Walkthrough and Review

All deliverable and walkthrough due dates, as well as the State deliverable review periods, are documented in the work plan. Deliverables that may be categorized as straightforward and uncomplicated by the state and Protech could be handled by simpler review and approvals by the State.

After all internal reviews are complete; the Protech Team posts draft documentation to the project's SharePoint site for State access. An advantage of SharePoint is that the State has ready access to current documents as well all prior document versions for comparison purposes.

When formal walkthroughs are required for draft and/or final deliverables, the State and Protech team members agree upon the appropriate setting, staff participation, and other logistics related to the walkthrough. The Protech Team delivers documents to the State to allow adequate time to review all documentation prior to the walkthrough. Then, the State and the Protech Team work together in the review to assess, modify, supplement and clarify the deliverable. As deficiencies are discovered during the review, the Protech Team rectifies problems, tracks all changes and calls for follow-up meetings or interviews with the State staff to ensure complete closure of open issues.

Although specific walkthrough content varies by deliverable, a walkthrough typically consists of an overview of the deliverable, an explanation of its organization, and a presentation of critical components of the deliverable. During deliverable walkthroughs and joint reviews, we explain the deliverable and encourage comments and observations from the State. The Protech Team ensures that appropriate, knowledgeable project team members participate in reviews and walkthroughs, so we can be truly responsive to any questions the State may have during the review. If for some reason a matter cannot be addressed with present staff, project team members use the processes for action items or issues management to ensure open items are logged and tracked to resolution.

Modification and Approval

After deliverable feedback is provided by the State, the Protech Team members abide by documented and contractual review periods to address all the State-provided deficits and issues. In some cases, we may request a meeting with appropriate State staff to ensure we fully understand the requests and feedback. We recommend that the State provides notice to the Protech team regarding acceptance, conditional acceptance, or rejection of the deliverable defined as follows:

- *Acceptance. Indicates all requirements are met and no further updates are required.*

- *Conditional Acceptance. The Protech Team is recommending a conditional acceptance for use with those deliverables that substantially comply with the requirements but require a minor modification or update in some respect. A conditional acceptance permits us to proceed to the next step in situations where time constraints significantly impact progress. We do not anticipate payment for a conditionally accepted deliverable until the State has granted formal acceptance. The State provides the specific issues within a deliverable upon completion of the review period. The Protech team*

remediates those issues immediately and in accordance with the durations set forth in the contract, RFR, and/or the deliverables and work products definition plan.

- *Rejection. Indicates the deliverable did not comply with material requirements and specifications, including quality standards, and/or contained material errors or omissions. The State and Protech team managers meet to discuss next steps to ensure successful subsequent redelivery of the work product.*

The appropriate Protech team member revises the deliverable to incorporate all the State requested revisions. The revised deliverable undergoes the same Protech Team internal quality review and sign-off as the initial deliverable. After completing revisions, we submit the revised deliverable to the State for review and approval. Typically, a final review of a deliverable consists of verifying that all agreed upon revisions have been incorporated into the final document or work product. If necessary, we walk through the deliverable revisions with the State.

After final review and approval, the State provides written approval of the deliverable by completing and returning the sign-off sheet accompanying the deliverable. All deliverables are maintained under strict configuration control in the project's SharePoint site according to the configuration management plan. We apply strict steps in our process to ensure all deliverables are logically organized and explained in order for the State's input to be a valuable part of the process and enable the State to confidently sign-off on all deliverables.

The Microsoft Office Enterprise Project Management (EPM) Solution is our standard toolset for schedule and resource management. It integrates with SharePoint, our documentation management and collaboration tool.

Summary

The Protech Team offers the State proven, comprehensive, and flexible methodologies to manage the NCSEAS project, develop and implement the application, and ensure quality throughout all phases. Our combined program and technical experience with similar systems is significant. We have program managers with deep experience in human services and child support enforcement, as well as technical staff that have extensive SOA expertise in other health and human services enterprises. We also have proven our ability to provide leading J2EE child support enforcements systems on time, within budget, and to our client's specifications—as evidenced by our successful child support enforcement implementations. These proven experiences and qualifications collectively ensure that the Protech Team has the know-how to deliver and manage the NCSEAS project.

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IX-5.9 Metrics Management

REQUIREMENT:

11.2.2.9/5.9 Vendors must describe the metrics management methodology and processes utilized to satisfy State requirements as outlined in Section 4, Scope of Work of this RFP. The methodology must include the metrics captured and how they are tracked and measured.

Overview of Our Metrics Management

Throughout the life of the NCSEAS project, the Protech QA team, with the help of the project team, will collect measurements and analyze quantifiable data. From these measurements, the teams with the help of Protech's PMO team will create metrics that serve specific purposes. The purpose of a metric can vary depending on the type of data from which it is constructed or the needs of the end user of the metric. From a quality perspective, the goal of metrics collection is to provide data that facilitates quality control activities for project teams and QA activities for the Protech QA team, including the identification of process improvement opportunities. Metrics are collected and analyzed at various times and frequencies based on the QA schedule, which is integrated with master project schedule. Metrics analysis allows project teams to evaluate their processes so that they are achieving their desired results as well as identify areas for process improvements.

This section provides information about three categories of metrics that are collected and analyzed and the ways in which those metrics are used. Metrics are divided into these areas:

- *Project Management Metrics*
- *Software Development Metrics*
- *Implementation Metrics*

Each of these areas has a specific set of metrics that are used for management and quality purposes.

- *Project Management Metrics:*
  - *Planning and Scheduling Metrics*
  - *Communication Metrics*
  - *Change Request Metrics*
  - *Deliverables Metrics*
  - *Action Item Metrics*
  - *Issue Metrics*
  - *Risk Metrics*
  - *Configuration Metrics*

- *Software Development Metrics:*
  - *Requirement Metrics*
  - *Design Metrics*
  - *Coding and Unit Testing Metrics*
  - *Software Testing Metrics*
  - *Data Conversion*

- *Implementation Metrics:*
  - *Rollout Metrics*
  - *Change Management Metrics*
  - *User Training Metrics*

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Planning and Schedule Metrics

Data is collected regarding actual-versus-expected completion dates for both contract deliverable and strategic management milestones. Milestones are events that occur during the course of the NCSEAS project that the PMG monitors so the project is on schedule and meeting the defined targets.

Contract deliverable milestones are monitored and tracked. If any CD milestone is not met, it may jeopardize completion of another milestone event. Strategic management milestones are identified in the project schedule. The following metrics are collected by the PMO on a weekly and monthly basis and reviewed by the Protech QA Team as per the QA schedule (reference master project schedule):

- *Schedule variance*
- *Tasks planned but not started*
- *Tasks not planned but started*
- *Tasks overdue*

Communication Metrics

Meetings are an effective way of communication and sharing. Communication metrics are captured to help describe the formal interaction of the Protech Team with State staff and allow the Protech QA Team to verify that the meeting process is followed. The agenda, meeting minutes, and appropriate correspondence is used to capture information and measurements from a meeting. These metrics are captured by the Protech PMO and provided to Protech QA team for analysis:

- *Meetings scheduled vs. conducted*
- *Meetings conducted with vs. without agendas*
- *Meetings conducted with sign in sheet vs. without sign in sheet*
- *Meetings conducted with meeting minutes vs. without meeting minutes*

Change Request Metrics

The following change request metrics are captured and reported by the project management office team, and analyzed by the Protech QA team:

- *Number of change requests opened and closed during a period*
- *Number of change requests that resulted in change orders during a period*
- *Variance in planned vs. actual closure of change requests*
- *Variance in planned vs. actual approval of impact analysis documents*
- *Variance in planned vs. actual approval of change orders*

The goal of collecting the change request metrics is to support the analysis and reporting of not just change requests, but also the change request process itself. The Protech QA team will review the change request process as per the QA schedule to confirm that the process is followed and that metrics are collected and analyzed in accordance with the defined process.

Deliverable Metrics

The goal of collecting the deliverable metrics is to support and track the deliverable management process. Various measurements from the deliverable management process are collected by the Protech PMO using a deliverables log that will track:

- *Deliverables by current status, with the total number of deliverables in each status*

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- *Number of deliverable versions – average to highest*
- *Number of deliverables conditionally accepted, accepted, and rejected*
- *Overdue deliveries (delivery date is prior to current date and status is not yet "delivered")*
- *Overdue reviews (date response due is prior to the current date and the date response received category is blank)*
- *Overdue corrections (date corrections due is prior to the current date and the date redelivered category is blank)*
- *Overdue State subsequent reviews (date updated response due is prior to the current date) and status is still "redelivered"*

Action Item Metrics

Various measurements from the action item management process will be collected using the action item log and the tool generates the following metrics:

- *Number of action items reported vs. closed*
- *Number of action items open for a period*

Issue Metrics

Protech will log and track issues for the NCSEAS project following an issue management plan. Reports generated out of the tool are used to monitor the following issue metrics:

- *Issues opened vs. closed*
- *Age analysis of issues*

Risk Metrics

Various measurements from the risk management process are collected to gauge the effectiveness of the process and use this information to communicate the status of the risk profile and pinpoint opportunities for process improvement. These include:

- *Number of new risks identified – indicates the effectiveness of risk identification and may act as a trigger for remedial risk and/or planning action*
- *Breakdown of risks by identification method – shows the distribution of risks identified by an individual, through a meeting, or as a result of a project review*
- *Number and/or percentage of risks reduced in probability/impact – indicates the effectiveness of the Risk Response Plans over time*
- *Number and/or percentage of risks requiring contingency plans – acts as an overall indicator of the severity of risk facing the project*
- *Number and/or percentage of risk events occurring – provides the opportunity to use this data for purposes of continuous improvement of risk identification and risk response planning*

Configuration Metrics

Configuration management is maintained through electronic tools that facilitate and control the process. The Protech QA team will conduct an internal review to monitor compliance with the configuration management process by evaluating the configuration items and the configuration system. The tool will generate automated reports such as configuration status tracking.

The metrics collected from a configuration management process include:

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- *Number of configuration items*
- *Configuration status tracking issues*
- *Review results obtained from a configuration management review*

Software Development Metrics

The Protech functional design, technical design, development, testing and conversion managers will coordinate the collection of software development metrics and provide them to the Protech QA team for analysis on a scheduled basis.

Requirement Metrics

Metrics from the requirements management process will reflect the amount of new, changed or deleted requirements during a given period. Team members and team leads use views to assist them in analyzing proposed changes to the requirements. The Protech QA team will periodically review the requirements management process to confirm the defined processes are being followed and metrics are collected and analyzed.

Some sample metrics include:

- *Number of added requirements during the period*
- *Number of modified requirements during the period*
- *Requirements stability index*

Design Metrics

Design metrics will be identified and analyzed from the results of the peer reviews. Defects defined as "fixed" will be verified to ensure that they are closed.

Some sample metrics include:

- *Density of design defect*
- *Number of design defects open*

Code and Unit Testing

Defects identified during code walkthroughs and unit testing are documented and analyzed.
The nature of the failed code will determine whether another review will be needed. During unit testing, test cases will be executed and defects will immediately be resolved, negating the need of further incident tracking.

Defects found during the code review process will be documented.

At that time, it will be determined if:

- *The defective code can be deployed*
- *The defective code is in need of another review*
- *The defective code has minor defects and they will be resolved before the code is deployed, without need for another review*

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Some sample metrics include:

- *Number of code reviews specific to each module/component/package*
- *Number of code reviews where code containing minor defects was released and resolved before deployment*
- *Number of code reviews where the code contained no defects prior to deployment*

Some sample metrics specific to unit testing include:

- *Number of test cases executed*
- *Number of failed test cases*
- *Number of test cases which failed*
- *Duration of time to execute all test cases (in seconds)*

Code and Unit Test Metrics

The metrics utilized to measure software testing process performance and report test results are defined in the testing management plan. The metrics from the testing team generally relate to test script coverage and test results. The test scripts guide the development of the testing metrics. The Protech QA team will periodically review the testing process to validate that the defined processes are being followed and metrics are being collected and analyzed as defined in the testing management plan.

Some sample metrics include:

- *Test coverage*
- *Performance – response time*

Software Development Metrics

The Protech functional design, technical design, development, testing, and conversion managers will coordinate the collection of software development metrics and provide them to the Protech QA team for analysis on a scheduled basis.

Conversion

The Protech QA team periodically reviews the conversion process to confirm the defined processes are followed and metrics are collected and analyzed as defined in the conversion plan.

Some sample metrics include:

- *Number of unresolved data clean-up items, sorted by priority and type*
- *Time required to execute each conversion program*
- *Percent of cases successfully converted*

Implementation Metrics

Implementation metrics are broadly classified into rollout, change management, and user training metrics. These metrics will be collected and maintained by the implementation manager and provided to the QA team for analysis on a scheduled basis.

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Rollout Metrics

The Protech QA team will periodically review the rollout process to confirm the defined processes are followed and metrics are collected and analyzed as defined in the implementation plan.

Some sample metrics include:

- *Data conversion*
  - *Percentage of completion of data discrepancies are measured per county by priority and item. Frequency of this measurement (collection) is weekly.*
- *Application readiness*
  - *Percentage of completion of all pre-cutover, cutover, and post-cutover activities for each task.*

Change Management Metrics

The goal of change management is to implement all the identified business processes. This will be measured by collecting user feedback through various surveys during pre- and post- implementation of the changed process. The data collected will be used for the following metrics:

- *Change effectiveness - Percentage of completed action items in the business process impact (BPI) for each office and user group*
- *Action items - Number of action items rated with various priorities and status*
- *Outreach - Number of times an end user is being communicated through various communication tools (e.g., News Letters, Web Site, emails etc.,)*
- *User acceptance - pre/post implementation*
  - *Number of issues identified in the user feedback forms in a period*
  - *Percentage of positive responses in a period*

User Training Metrics

Various training such as user, security, and implementation are conducted during the course of the NCSEAS project. The Protech QA team will review the metrics in the assessments as part of the deliverable review process and check to ensure that the user training metrics are collected and analyzed as defined in the associated processes. Training attendance forms and feedback forms are used in collecting various measurements related to training. Various metrics are established and detailed in the training plan.

Sample Metrics are as below:

- *Trainings delivered (planned vs. actual)*
- *Training effectiveness*
- *Training program quality rating*

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IX-5.10 Design and Development Processes

5.10.1 Analyzing Potential Solutions

REQUIREMENT:

11.2.2.9/5.10 Vendors must describe the methodology, processes, and tools utilized for:
11.2.2.9/5.10.1 Analyzing potential solutions, including identifying alternatives for evaluation in addition to those suggested by the State.

The Protech-PM methodology controls a comprehensive Decision Analysis and Resolution (DAR) process. The purpose of the DAR process is to analyze possible decisions using a formal evaluation process to appraise identified alternates against established criteria. The methodology includes a process that takes into consideration all alternatives suggested by the State and the identification of alternatives for evaluating the best possible solution as part of the design and development process. The DAR process is a proven method that ensures that all viable architectures or product solutions will be selected within available alternatives.

The use of a decision analysis and resolution (DAR) process will provide the NCSEAS team with assurance that all available alternatives have been evaluated through an established evaluation based on solid criteria. Generally we use comparative statements or prototype development for evaluating various solutions.

The following flowchart contains the steps of our established decision and analysis process:

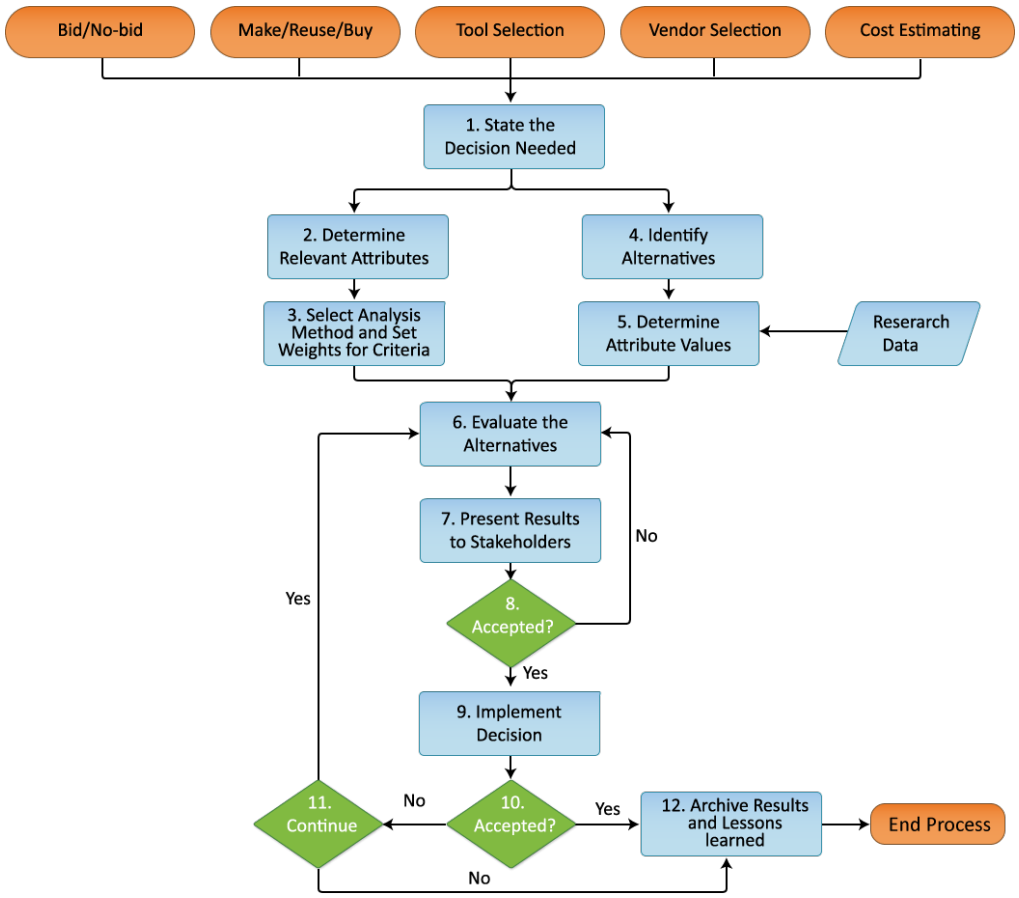

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Figure 5.10-1 Decision and Analysis Process

To further outline each step of the process, the table below contains a description of each step of the process for each DAR activity and the role the step is assigned to:

Major Milestones			
Step	Activity	Description	Role
1	State the Decision Needed	Using the inputs listed, document the decision needed using the change request template and resolution (DAR) plan-report to document this process.	Facilitator
2	Determine Relevant Attributes	List the features and needs that the decision will base the finding on.	DAR Team
3	Select Analysis Method and Set Weights for Criteria	Determine the ranking and scoring method to be utilized; reference Matrix DAR Tools, Guidelines Kepner Tregoe Decision Making and Template Cost Benefit Analysis. The DAR team must agree on a scoring method, the scoring range, and have a common understanding of what the scores represent. The selected approach is documented in the DAR template.	DAR Team
4	Identify Alternatives	Document similar products, services, etc that meet the requirements of the decision using the change request template.	DAR Team
5	Determine Attribute Values	The DAR team determines the evaluation criteria after considering the input from all stakeholders. The DAR team reviews the evaluation criteria with the stakeholders before finalizing the criteria.	DAR Team
6	Evaluate the Alternatives	Using the methods decided in step 3 and values established in step 5, determine the proposed outcome of the decision.	DAR Team
7	Present Results to Stakeholders	Complete the change request template and resolution plan-report including the decision needed, alternatives evaluated, risks and final decision. Present the final report to the stakeholders for review. If accepted, continue with archival and lessons learned. If rejected, re-evaluate the alternatives.	Facilitator
8	Accepted?	If the decision is accepted continue to step 9; if the decision is not accepted, re-evaluate the decision in Step 6.	Stakeholder
9	Implement Decision	Based on the accepted decision in the previous step, implement the decision and document in the change request template and resolution (DAR) plan-report.	DAR Team
10	Acceptable?	Determine if the expected results of the decision were met. If the decision results as expected, proceed to Step 12; if not, proceed to Step 11.	Facilitator and Stakeholder
11	Continue?	With the unexpected results, decide on whether to proceed with an alternate solution or cancel the process. If continue, return to Step 6; if not, go to Step 12.	Stakeholder

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Major Milestones			
Step	Activity	Description	Role
12	Archive Results and Lessons Learned	Once the stakeholders sign off on the decision, document any lessons learned in the report, ensure all other information is documented, and archive the report.	Facilitator

5.10.2 Detailed Operational Concept

REQUIREMENT:

11.2.2.9/5.10.2 Developing a detailed operational concept of the interaction of the system, the user and the environment that satisfies the operational need.

Protech firmly believes that a common understanding of the operational concepts will lead to the development of a system environment that will satisfy the user and the State's operational needs. Protech's system development life cycle (SDLC) deploys a robust requirements elicitation methodology whereas functional and non-functional requirements are documented with the understanding that meeting the customer's needs and requirements defines the probability of success for our projects.

As a result of our Joint Application Design (JAD) sessions, several documents will fully describe the characteristics and operation of NCSEAS from the viewpoint of the individuals who will use the new system. The Solution Design (SD) documents and the Detailed Solution Design (DSD) documents will provide a clear understanding of how the system will work. The inclusion of use cases clearly describe the interactions that the software will provide. These documents also contain screen mock-ups and a screen element matrix that detail all data validations and business rules. Embedded process workflows, and many other components of our standard documentation, also help to communicate the quantitative and qualitative NCSEAS system characteristics and how they fulfill operational needs.

Furthermore, Protech's augmented waterfall system development methodology tailored to the NCSEAS project places great emphasis on shorter development cycles that result in advancing prototypes where the State can get an "actual feel" of the system. This approach provides Protech the ability to continue development efforts without the need to freeze the requirements while it allows the State to get a better understanding of the system being developed.

5.10.3 Key Design Issues

REQUIREMENT:

11.2.2.9/5.10.3 Identifying the key design issues that must be resolved to support successful development of the system.

The Protech Team will deliver to the Nevada CSEP an automated child support enforcement system rich in functionally. The identification of key design issues from the onset will help outline the processes that will support the successful planning, development, and administration of the project. The identification of key design issues will begin with the review of all requirements as documented in the RFP with special consideration given to the program's business process re-engineering outcomes and process flows.

Protech will then review all known requirements and will identify requirements not satisfied by the transfer system and will prioritize those that warrant further discussion and clarification. NCSEAS design sessions will resolve discrepancies resulting from adapting the donor system to changes in regulations and Nevada's specific necessities.

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Protech's unparalleled experience in the design and development of modern child support enforcement applications, along with our hands-on experience with successful transfer systems, enhances our ability to conduct design sessions focused on identifying known existing gaps in transfer systems.

5.10.4 Integrating Disciplines

REQUIREMENT:

11.2.2.9/5.10.4 Integrating the disciplines that are essential to system functional requirements definition.

Protech's approach to functional requirements gathering shifts focus from defining to realizing objectives by proactively connecting requirements elicitation activities to other disciplines such as design, implementation, configuration management, project management, and testing. Protech's methodology ensures that while functional and non-functional requirements are gathered and prioritized, the interaction of other disciplines come into play very early at the project's inception.

Protech's multidisciplinary approach to requirements gathering take into consideration interface and operational constraints essential to system functional requirements definition. An integration specialist will work collaboratively with business analysts and solutions architects to achieve a consensus on systems needs and priorities. Our multidisciplinary approach to integrated functional requirements definition involve contacting locally-managed disciplines within the enterprise, understanding the interface between their business processes and defining the flow between them. Business processes that are candidates for an integrated solution are clearly defined as inputs and outputs and further divided into a collection of smaller, discreet units of work.

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IX-5.11 Configuration Management

REQUIREMENT:

11.2.2.9/5.11 Vendors must describe the methodology, processes, and tools utilized for:

The Protech team understands the importance of configuration management in large and complex initiatives such as the NCSEAS project. We have devised a disciplined approach to managing and controlling the evolution of system development by means of a robust configuration management approach. Many organizations struggle with the inherent complexities of managing changes to requirements, software designs and releasing code into multiple environments. Protech's configuration management enhances the reliability and quality of software by providing a methodology, processes, and tools for identifying and controlling documentation, code, interfaces and databases to fully support the NCSEAS application lifecycle management (ALM). Protech's approach empowers the NCSEAS project with a strong focus on reusable software architecture while controlling the governance of the entire development process.

Protech will use a robust configuration management model that spans the development lifecycle, managing changes in requirements and software artifacts. This model employs best practices and polices based on Protech's many years of successful implementations.

Best practices and policies include:

- *Trace requirements to design models*
- *Identifying and storing artifacts in a secure repository using the recommended project toolset, Perforce.*
- *Creating baselines of all artifacts at each major project milestone in order to maximize reproducibility, traceability, and reporting.*
- *Tracking and monitoring application management lifecycles using Bugzilla*
- *Integrating toolsets and automating software builds to maximize implementation efficiency.*

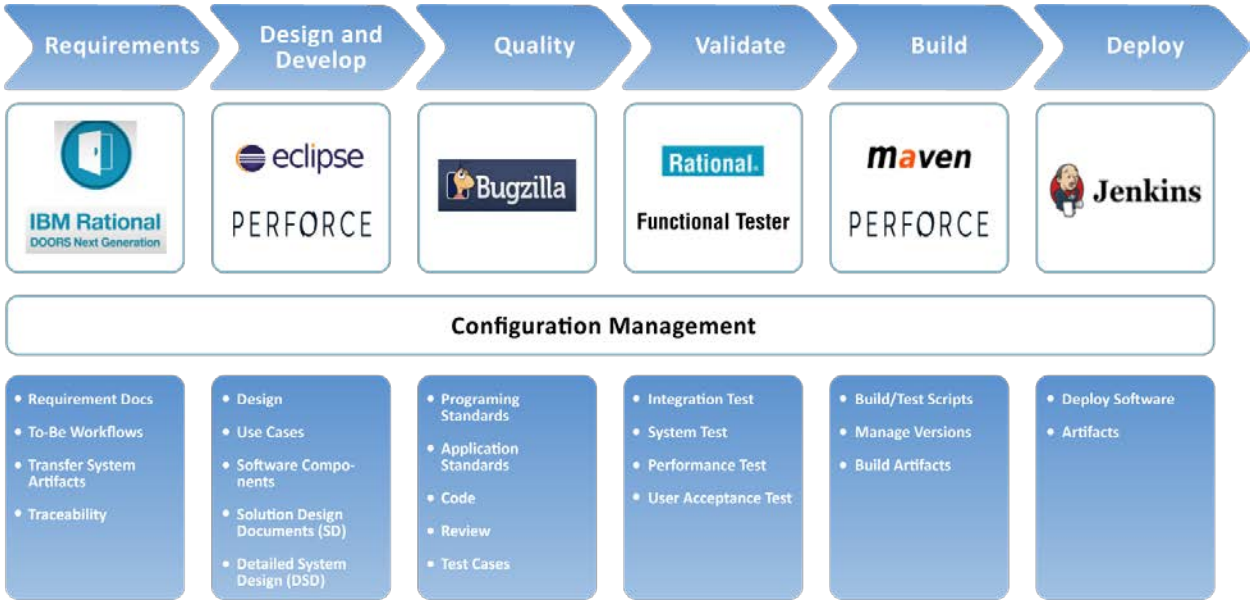

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Figure 5.11-1. Protech's Configuration Management Methodology

5.11.1 Control of Changes to Requirements, Design and Code

REQUIREMENT:

11.2.2.9/5.11.1 Control of changes to requirements, design and code.

Protech will track and monitor changes to requirements with the use of Rational DOORS next generation, a web-based requirements management tool developed as part of collaborative lifecycle management for the NCSEAS program to define, manage, report and track changes to requirements. Design changes will be tracked and controlled using SharePoint while code changes will be managed using Perforce for source code configuration control and build management. The control, tracking and management of changes to requirements, design and code is part of an overall quality control program that promotes quality development of NCSEAS.

Perforce servers include a robust issue tracking feature called jobs. A "spec depot" will be created in Perforce that will maintain and archive all code changes while updating the traceability of requirements in Rational DOORS. Control of code changes to requirement, design, and code will be accomplished by the integration of Rational DOOR for requirements management, Perforce for versioning control of design and code changes, and the use of Bugzilla for defect management and tracking.

5.11.2 Control of Interface Changes

REQUIREMENT:

11.2.2.9/5.11.2 Control of interface changes.

All NCSEAS interface software artifacts and related work products including source code, configurations, and message formats, will be under configuration control. Any changes in interfaces will be version controlled and will be published to all stakeholders for prior approval. The use of release managers for environments, which have live interfaces to external test or production systems (e.g. systems integration test, production) will manage dependencies when coordinating interface changes and deploying releases.

The Configuration Management Team (CMT) coordinates and confirms all CM activities and project compliance. The CMT is comprised of members from multiple functional teams (Technical Design, Application Development, Functional Design, Testing, Training, and Implementation). The Technical Design team oversees the administration of CM tools and processes. The CMT controls access to CM repositories to avoid conflicting actions that may jeopardize the integrity of system releases. Because successful implementation requires participation from the entire project organization, the CMT coordinates closely with all project teams to support CM processes and monitor compliance with CM policies and procedures.

Functional Teams follow the CM processes established by the CMT to identify and manage Configuration Items CIs.

Change Control Review Board (CCRB) evaluates, approves, or rejects changes that affect the project schedule, cost, or scope.

Technical Board (TB) reviews, evaluates, and recommends configuration changes and helps the Release Manager to plan and schedule system releases.

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Project Management Office (PMO) reports on status and metrics gathered from the CM processes and tools.

Quality Assurance Team reviews the work of all project teams associated with the CM process. In addition, the QA Team validate artifacts under configuration control and ensure teams follow the configuration management processes and standards, and complete related tasks according to the CMP

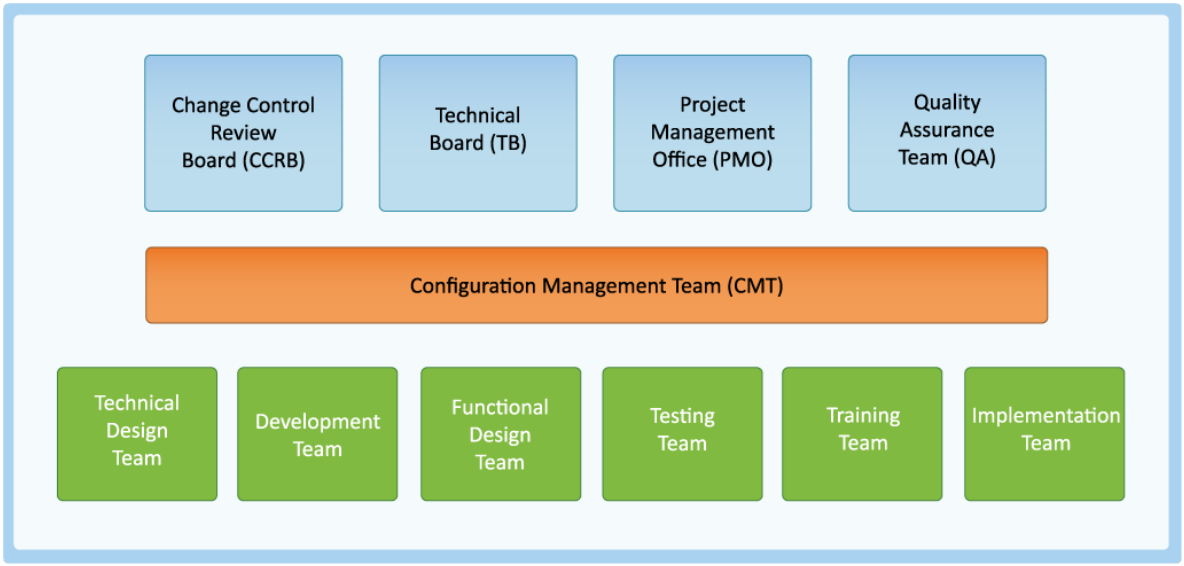

Figure 5.14-2. Configuration Control

Configuration control is the systematic proposal, justification, evaluation, coordination, approval, or disapproval of proposed changes. Configuration control also includes the implementation of all approved changes to the baseline including interface changes. Furthermore, the configuration control process includes identification, documentation, evaluation, disposition, and integration of approved changes

The below steps illustrates process for propagating changes to the interfaces:

Request Changes: Functional and/or Development teams originate the promotion of a change identified to an interface and assign it to the CMT. This event may be the initial identification of a CI, or may be a subsequent promotion based on later work plan activities to an existing CI.

Evaluate Changes: The appropriate functional teams evaluate requests that originated because of work plan activity and defects. Requests that originate because of a change order should go through the formal evaluation process.

Approve Changes: The functional team leads are responsible for changes resulting from work plan activity and defects and the change request management process fully defines the formal approval/disapproval process for project-level changes.

Implement Changes: The following scenarios are applicable to changes in an interface

- *Working with the normal results of work plan activities*
- *Addressing defects*
- *Fulfilling change orders*

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5.11.3 Traceability of Requirements, Design and Code

REQUIREMENT:

11.2.2.9/5.11.3 Traceability of requirements, design and code.

Rational DOORS Next Generation provides web-based requirements management tool developed as part of collaborative lifecycle management for the NCSEAS program to define, manage, and report on requirements. The requirements process will control a number of artifacts and work products that will be used to advance project processes, both toward the short-term goal of producing baseline requirements and toward the long-term project goal of producing executable software. The traceability of requirements, design, and code under the control of Protech's configuration management provides a structure that allow for traceability to use cases, JADs or federal requirements, their subsequent design and its output as code.

The use of Perforce allows for the tracking of changes to every file and directory, and includes complete, annotated version histories for all assets, including source code, binaries, executables, documentation, test scripts, and libraries. It provides support for the check-out/check-in development model and enables parallel development by providing support for unlimited branching. The Protech Team will use these capabilities in Perforce to establish build management and auditing trails.

5.11.4 Tools to Help Control Versions and Builds;

REQUIREMENT:

11.2.2.9/5.11.4 Tools to help control versions and builds.

Perforce will provide version control for source code configuration control and build management. Perforce stores system-related metadata. The file contents are stored in the database and will be used to verify repository file integrity. The Maven tool is then used for compiling the source code to produce an executable .EAR file for the build. Maven uses a configurable build file that contains the dependencies of the Java source code files to specify the build order and source code directories and further connect the databases to compile the database scripts in the appropriate environments. The configuration management team will use Jenkins software to deploy the NCSEAS application software in the various regions. Protech will also implement a continuous integration process using the Jenkins tool to automate and accelerates build and release processes that will enable iterative development, high-performance builds, and streamlined software delivery.

Perforce include a robust issue tracking feature called "jobs" and the tool allows for "jobs" to be associated to changelists so that when developers check in the code that fixes a bug or implements a new feature, the associated job is closed. The Perforce Defect Tracking Gateway enables Protech to integrate Perforce with Bugzilla so that changes to the status of defect tracker issues are replicated in Perforce jobs and vice versa. For each defect create in Bugzilla, one Perforce job is created.

The below figure represents the process flow for Configuration Management integrating the Bugzilla and the Perforce tool:

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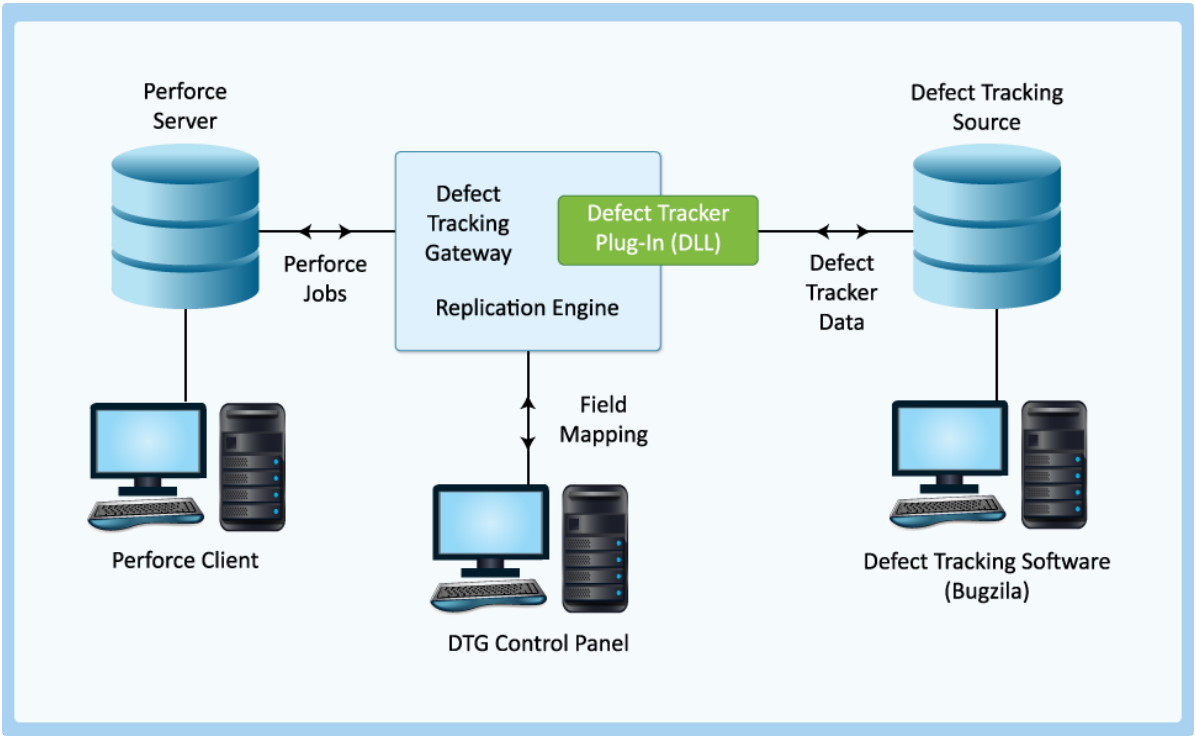

Figure 5.11-3. Configuration Management Integrating the Bugzilla and Perforce

5.11.5 Parameters Established for Regression Testing

REQUIREMENT:

11.2.2.9/5.11.5 Parameters established for regression testing.

Automated test scripts are created for regression testing using IBM Rational Functional Tester as it allows NCSEAS testers to create tests that mimic the actions and assessments of a human tester. Protech will implement a regression testing environment where changes and corrections to code are migrated. A dedicated regression testing environment provides testers the ability to test the system for any unintended behaviors due to changes in the module during any of the testing processes. The parameters established for regression testing will contain the appropriate parameter, strategies, process, and workflows used to execute and manage regression testing. Regression testing will be performed by executing subsets of test cases to verify that previously fixed defects do not reoccur and ensure that no new defects are introduced due to defect corrections.

5.11.6 Baselines Established for Tools, Change Log and Modules

REQUIREMENT:

11.2.2.9/5.11.6 Baselines established for tools, change log and modules.

The configuration management of the NCSEAS Program will include a baseline strategy for each core asset identified as configuration items (CIs): software components, design artifacts, and work products. The baselines we will establish include the code structure repository and tools to manage both common and variant asset, as well as the initial baseline for project scope as established in the contract.

Multiple baselines will be built into NCSEAS to create an efficient promotion model.
A baseline is a set of configuration items formally designated and fixed at a specific time during the software life cycle. The administration of the proposed set of NCSEAS configuration management tools will include the management of each asset by establishing the policies that control the integration among the assets.

Baselines established for tools, change log and code modules will permit version synchronization within the workspace. The CMT creates the baseline process that involves identifying the versions of CIs comprising each baseline, associating them through a labeling process, and releasing the items for use by those who require them. The Perforce version control tool allows for the labeling process and the process is repeated throughout the project lifecycle.

Baselines will also be established to maintain the relationship between change loga and code modules. NCSEAS change requests, in the form of new requirements, enhancement requirements, and defects will be baselined and maintained in Bugzilla where all contents of a change request will be initiated to then synchronize with Perforce to ensure data consistency.

5.11.7 Documentation of the Change Request Process Check-in/Out, Review and Regular Testing

REQUIREMENT:

11.2.2.9/5.11.7 Documentation of the change request process including check in/out, review and regular testing.

Protech's approach to configuration management support the needs to establish a well-documented process to identify, manage, track, and resolve change requests to the project baselines in a timely manner. Documentation and tracking of the change control process will be maintained in SharePoint initiated by the submission of a change request form that captures the overall potential impact to the project scope. SharePoint provides check-in/check-out capabilities and maintains a version history for each file. All artifacts resulting from the change request process, including system and performance test plans, test scripts, and test results will be documented and maintained in SharePoint. An overview of change management process is presented below.

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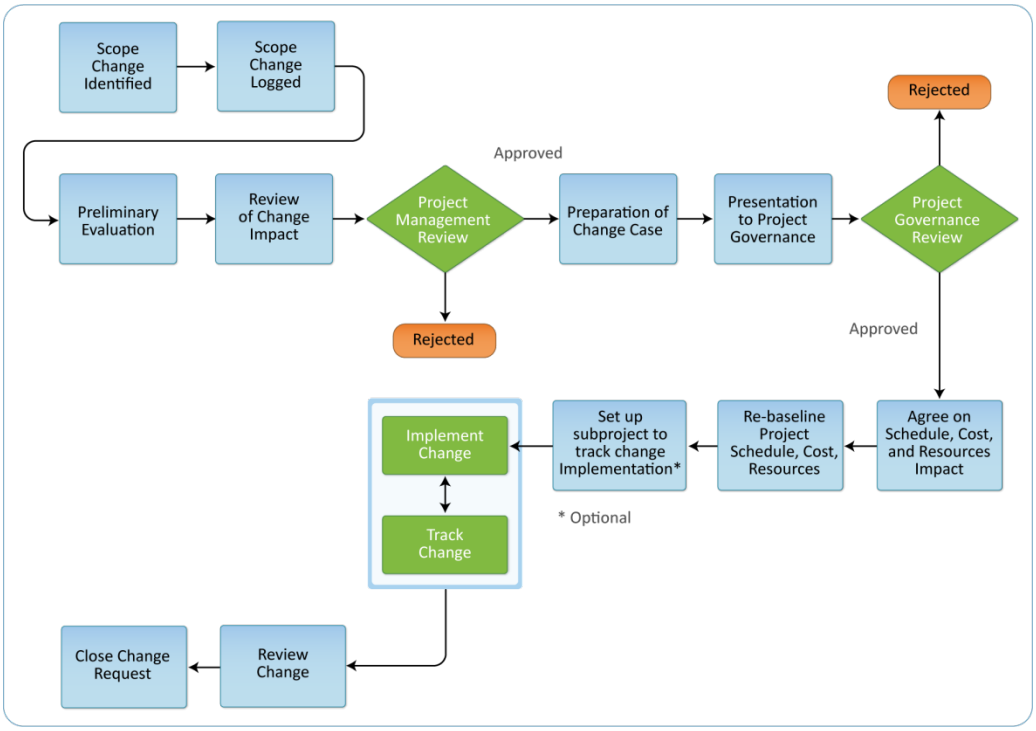

Figure 5.11-4. Protech Change Management Process

5.11.8 Documentation of the Change Control Board and Change Proposal Process

REQUIREMENT:

11.2.2.9/5.11.8 Documentation of the change control board and change proposal process.

The change control board will establish priorities, make assignments and decisions, provide direction, and review, and approve change requests for development and implementation. The change control board shall determine the priorities in order to balance change investigation with project progress.

The change request process will be tracked using SharePoint in order to maintain a repository of each change control request forms including attachments such as approved impact analysis, baseline deliverable configuration items and the solution description and impact. Change request documentation will include the integration with other NCSEAS processes such as planning, schedule, deliverable, and quality management. All change requests will be recorded in SharePoint where Protech will track and maintain a history of the status and progress of each change request.

The change control board will be responsible for changes that range from simple administrative changes to significant changes in system functionality and project schedule. These changes could include changes in refinement of deliverables definition to significant changes in application functional and technical scope. Based on the type of change request, the appropriate team or individual will evaluate the CRs efficiently and effectively for recommendation to accept or reject the change.

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5.11.9 Change Log that Tracks Open/Closed Change Requests

REQUIREMENT:

11.2.2.9/5.11.9 Change log that tracks open/closed change requests.

In order to maximize traceability SharePoint will maintain a log that tracks and logs all open and closed change requests along with the following:

- *Management of each change request in order to keep a clear definition of the scope with full traceability.*
- *Ensure change requests are identified, assessed, managed, and resolved in a timely and consistent manner.*
- *Accuracy in change requests prioritization based on their potential outcome on project activities.*
- *Ensure the impact to cost, schedule, resource, and performance of all changes is understood, documented, and managed.*
- *Facilitate a decision-making process based on complete and reliable information and involves the appropriate parties.*
- *Confirm that each assessed change request is addressed by accepting, rejecting, or deferring to the appropriate authority.*
- *Ensure timely communication of change request status, decision making and notification to all impacted areas.*
- *Enable the orderly implementation of each accepted change.*
- *Define impacted baseline items*
- *Establish a repository of historical change requests and their resolutions available for future reference*
- *Develop a process to ensure that all application and/or artifact changes are documented and approved.*
- *Establish timeframes and monitor the completion of change requests once approved by the control board.*

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IX-5.12 Peer Review Management

5.12.1 Peer Reviews Conducted for Design, Code and Test Cases

REQUIREMENT:

11.2.2.9/5.12 Vendors must describe the methodology, processes, and tools utilized for:
5.12.1 Peer reviews conducted for design, code and test cases.

Protech conducts peer reviews at various stages in the creation of a deliverable or work product. In a peer review, co-workers of a person who created a software work product examine that product to identify defects and correct shortcomings. This allows deficiencies to be identified and corrected early in the development process. We use the review process to ensure that the deliverables meet the necessary requirements and conform to standards before the formal review stage. We use the peer review process as an additional tool to promote quality.

Peer reviews are conducted in multiple forms which are:

- *Facilitated or non-facilitated*
- *Conducted within a team or between teams (cross-team)*
- *Performed by as few as one person or by many groups from across the project*

Peer reviews are planned and scheduled throughout the project life cycle and are performed for all major deliverables. Peer reviews have several purposes:

- *Detect and remove defects from project work products and deliverables early in the development cycle*
- *Verify the accuracy and completeness of all deliverables and work products*
- *Improve the overall quality of software or other work products*
- *Promote consistency across the project deliverables*
- *Facilitate a more thorough understanding of work products and thereby proactively prevent defects resulting from miscommunication and lack of understanding*

Design Review

Prior to submitting the Solution Design (SD), use cases, and Design Specification Document (DSD), we conduct peer reviews to assess the content, accuracy, and completeness in order to validate it is compliant with the State requirements. We allocate adequate time and staff to conduct peer reviews as they are extremely useful in improving deliverable quality and expediting the formal review and approval process. The Protech Team's managers determine the appropriate SMEs to conduct peer reviews. Peer reviewers are given checklists and reference materials to conduct peer reviews in a structured, documented, and consistent manner. SMEs review documentation to ensure cross-functional consistency, adherence to requirements, and business validity of all artifacts.

The document peer review process and workflow considers the following:

- *Follow the prerequisites for the review process including best practices, formats, and checklist.*
- *Assign the review task and notify the document reviewers.*

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- *Assign review task to the final reviewer, i.e. document approvers. These are resources that sign off on the document. They include the document owner, a subject matter expert, the development manager, and the State reviewer.*
- *If the document is not approved, we will notify the author of the document to incorporate the concerns or recommendations.*
- *Once the review is complete, the document is placed in the Perforce repository in an appropriate folder designated for design documents.*

The completion of the peer review of the design documents readies them for submission to the State for the formal review and approval process

Code Review

Protech uses the below criteria to identify software components that are candidates for a code review:

- *Components that use new technology, techniques, or tools*
- *Key architectural components*
- *Complex logic or algorithms that are difficult to understand but must be accurate and optimized*
- *Mission-, security-, or safety-critical components with dangerous failure modes*
- *Components having many exception conditions or failure modes*
- *Exception handling code that cannot easily be tested*
- *Components that are intended to be reused*
- *Components that will serve as models or templates for other components*
- *Components that affect multiple portions of the product*
- *Complex user interfaces*
- *Components created by less experienced developers*
- *Code modules having high complexity*
- *Modules having a history of many defects or changes*

The entry and exit criteria for the peer reviewers are defined as follows:

Entry Criteria:

- *Detailed Design Specifications are complete*
- *Code shells and JavaDocs are complete*
- *Unit test scripts are complete*

Exit Criteria:

- *Code is complete*
- *Peer review checklists are complete*
- *Unit test scripts are executed and results produced*
- *JCoverage reports indicate the necessary application code has been tested. Appropriate justification is provided for incomplete or failed JCoverage tests*
- *Code and successful unit test results and JCoverage reports have completed review*

The completion of the peer review of the software components readies them for migration to the integration environment.

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Test Case Review

Protech conducts various testing of the software components during the lifecycle of development. This includes:

- *Unit test*
- *Integration test*
- *System test*
- *Performance test*

Test cases in each of the testing phase are reviewed through an integrated peer-review process. This includes scenarios for basic security and performance, best-practice techniques, and adherence to coding and architectural standards.

Unit Test: For all levels of code, developers together with their development team leads review unit test scripts and results to ensure that application components are thoroughly tested. These peer reviews serve the purpose of allowing objective reviewers to examine the test case scenarios and suggest possible improvements. During these sessions, formal peer review checklists are used to ensure coding standards are followed and there are no omissions of functionality.

Integration Test: Integration testing is a process to test data in cross functional modules in an integrated environment. This testing ensures the software component being tested integrates into the system seamlessly with no impact to the functionality. The integration test scripts are reviewed by the development lead with the appropriate functional SME to examine test scenarios for coverage of cross functional testing. Checklists are used to record the results of the review.

System Test: System test addresses the coordination of all system functions and capabilities to achieve functionally cohesive coordinated process execution of multiple modules and components. We create test case data based on data converted from the legacy systems. Our process relies on carefully documented and executed system test scripts. The system test scripts and the test case data used are reviewed by the SME and the functional leads to ensure coverage of all functional scenarios and to verify the test case adequately covers the requirements per the solution designs

Performance Test: Subsequent to system testing, the migration modules and components that constitute these modules are subject to comprehensive performance testing processes. Performance testing addresses the ability of the system to complete business functions within acceptable response time limits. The criteria used for testing is recorded in a checklist including the scenarios relevant to the module being tested. The scripts and the test cases are reviewed by the development lead and the technical lead. The test cases are validated against the real world scenarios to achieve stable and desired results

At the conclusion of each testing phase, a test execution report is generated that documents the results of testing. A summary of the testing results for each type of testing and the corrective action taken to resolve any encountered defects is provided. The report contains:

- *Overview of testing performed*
- *Test cases used*
- *Scope of testing execution*
- *Corrective action taken*
- *Re-testing performed including the test cases that were used*

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The test execution reports are prepared and distributed to the State for review. In preparation for review of testing results, the Protech Team conducts joint training for the Protech Team staff and State personnel who are directly involved with the review process. Training also includes the necessary components of the test tools. The Protech Team reviews the test results report format with the State to ensure State reviewers are familiar with the document and understand how to read and interpret the results contained therein.

The successful completion of the peer review of the test cases and scenarios makes the software components ready for hand off to the subsequent environment.

5.12.2 Peer Reviews

REQUIREMENT:

11.2.2.9/5.12.2 Number of types of people normally involved in peer reviews.

Protech reviews the work product by involving project resources appropriate for the type of work product being reviewed. We follow the guidelines mentioned below for identifying the reviewer:

- ***The author of any predecessor document or specification***
- ***Resources who must base their subsequent work on the work product***
- ***Peers of the author***
- ***Resources responsible for a component to which the work product interfaces***
- ***Resource with supervisory authority over the author***

Review Participants for Different Types of Work Products

Work Product	Reviewers	Responsibility
Technical Solution Design	Architect, Development Lead	Review for completeness, consistency and project standards
Functional Solution Design	Requirements analyst, Functional Lead	Review for completeness, consistency and conformance to requirements
Design Specification Document	Functional Lead, Development Lead	Review for completeness, consistency and conformance to requirements
Source Code	Peer Developer	Review for coding standards, naming convention appropriate to the software components
Unit Test Document	Development Lead	Review for completeness, consistency and test case validity associated to the software component
Integration Test Document	Development Lead, SME	*Review for validity of test scenarios and test cases for coverage of cross functional testing*
System Test Document	Functional Lead, SME	Review for coverage of all functional scenarios and the test case adequately covers the requirements per the solution designs
Performance Test Document	Development Lead, Technical Lead	*Reviewed for agreeable performance metrics, results and test cases are relevant to real world scenarios*

5.12.3 Procedures and Checklists Utilized

REQUIREMENT:

11.2.2.9/5.12.3 Types of procedures and checklists utilized.

Internal walkthrough and peer review process are followed by the entire project team for the work products from their respective areas. Additionally, Protech will develop the following checklists as work artifacts to be used by the project teams to ensure completeness and assure quality:

- *Code migration checklists to verify the software components are reviewed and authorized for promotion*
- *Detailed Specification Document checklists to verify the completeness of the software components section to the use case section*
- *Software components checklists to ensure that all software components in the solution design are developed, unit-tested, and uploaded into the configuration management tool*
- *Database design standards checklists to ensure database standards are followed as set forth by the project*
- *Java coding standards checklists to ensure the Java code components comply with the agreed standards*
- *JavaScript coding standards checklists to ensure JavaScript's comply with the agreed standards*
- *Integration testing checklists to verify test scenarios adequately captured the cross functional test*
- *System testing checklists to verify all functional scenarios and that the test case adequately covers the requirements per the solution designs*

Completed checklists will be made available in the Perforce repository to the State when a code review is completed. The below figures depict a sample representation of the checklist formats that will be followed for the peer review process.

Code Migration Checklist				
Work Item ID:				
Task	**Category**	**Resource Name**	**Completed**	**Comments**
Development Testing	Technical			
Development Cross-Validation	Technical			
Unit Testing Document	Technical			
Artifact Naming Convention:	Technical			
Attach Testing Artifacts to Work Item	Technical			
Code Review	Technical			
Code QA Review	Technical			
Result Review	Technical			
Document review for technical changes	Technical			
Integration Test				
Work item approved for Integration Testing by Project Team	Project Team			
Additional Scenarios Identified by Project Team	Project Team			
Test left 'AS-IS'	Project Team			
SYT Ready				
System Test Scripts Attached in Work Item	Functional			
Artifact Naming Convention:	Functional			
Test Execution Completed	Functional			
Functional Peer Reviewer	Functional			
Additional Scenarios Identified by SME	Functional			
Functional Cross Validation	Functional			
Document review for functional changes	Functional			
UAT Ready				
Work Item approved for UAT by System Test	Functional			
Development and Functional Management sign-off	Functional			

Figure 5.12-1. Code Migration Process Checklist

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Code Review Checklist - HTML/DHTML/XML/JSP

Purpose

The Purpose of this document is to give a list of items to be checked for during a Code Review.

Review Conditions

The following Review Conditions are to be checked during the Code Review. Complete the checklist for one program/module before the next program is reviewed. Enter a "P" for Pass or "F" for Fail in the "Pass/Fail" column when a review point has passed or failed. Enter "NA" for a review condition that is not applicable in the "Not Applicable N/A" column. The "Comments" column is an optional entry column.

Name of Reviewer:	
Name of Program/Module:	
Date of Review:	

Section	*Description*	*Pass/Fail P/F*	*Not Applicable N/A*	*Comments*
Complete	Does the code covers all the design requirements?			
File Names	Do the File names follow the naming rules?			
	Are the file names >32 letters?			
	Are the file names in lowercase?			
	Filename names should not contain underscore to separate words. (Should have			

Figure 5.12-2. HTML/XML Code Review Checklist

Java Code Review Checklist

The following review conditions are to be checked during the Code Review. Complete the checklist for one program/module before the next program is reviewed. Enter a "P" for Pass or "F" for Fail in the "Pass/Fail" column when a condition has passed or failed. Enter "NA" for a condition that is not applicable in the "Not Applicable N/A" column. The "Comments" column is an optional entry column.

Name of Reviewer:	
Name of Program/ Module:	
Date of Review:	

Section	*Description*	*Pass /Fail P/F*	*Not Applic-able N/A*	*Comments*
Naming Conventions	Are full English descriptors that accurately describe the variable/field being used? For example: FirstName, GrandTotal or CorporateCustomer or ID_CASE or CD_SOURCE_RECEIPT			
	Is the terminology applicable to the domain? Eg: ID_CASE, DCN, Member SSN, Receipt ID etc. If users refer to the clients as customers, then use the term Customer for the Class, not Client			
	Is the use of abbreviations used sparingly? If used, are the			

Figure 6.12-3. Java Code Review Checklist

Test Script Peer Review (Test Script Name)

Peer Reviewer	Date Assigned	Date Completed	Results(Pass/Fail)

Checklist

Tasks	Completed(Y/N)	Comments
Heading Completed		
Headline:		
ClearQuest ID:		
TestScript scenerios/Steps		
Before fix scenario(s)		
Pre-Conditions stated Clearly		
After fix positive test scenario(s)		
After fix negative test scenario(s)		
Regression test scenario(s)		
Additional Scenarios Identified by Peer Reviewer		

Peer Reviewer Evaluation

Steps/Scenarios	Comments

Additional Scenerios

Test Scenario 1

Test Scenario 2

Figure 5.12-4. System and Integration Test Script Review Checklist

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5.12.4 Statistics Compiled on Type, Severity and Location of Errors

REQUIREMENT:

11.2.2.9/5.12.4 Types of statistics compiled on the type, severity and location of errors.

The peer reviewer collects the data items as shown in the first table below, from each review. These data items are used to calculate the process metrics shown in the second table below and to monitor and improve the review process. The peer reviewer records the data items in the appropriate spaces on the review summary report and the issue logs and reports them to the organization's peer review coordinator. The peer review coordinator maintains these metrics in the Perforce repository and produces periodic reports of summary data to the respective peer review coordinator.

The errors that are captured from the peer review process are assigned a severity level to assist in prioritizing the corrective action needed:

Severity level 1 (Critical): The error has a critical impact resulting in the inability to use the software or the inability to correctly process financial transactions. For example, the system goes down or there is serious data loss or corruption and there is no manual workaround to temporarily accomplish the tasks.

Severity level 2 (Major): The error has severe impact limiting the usage of one or more major functions of the software. The software is still operational, but restricted. The failure causes a loss of function or data but there is a manual workaround to temporarily accomplish the tasks. Or the financial subsystem is losing data but there is a validated workaround.

Severity level 3 (Moderate): The software still functions, but there are functional limitations that are not critical to operation. The failure causes a partial loss of function or data where the user can accomplish most of the tasks with a small amount of workaround.

Severity level 4 (Minor): Minor infractions including documentation or cosmetic error. The failure causes minor inconveniences where all the user tasks can still be accomplished.

Data Items Collected From Each Review	
Data Item	Definition
Effort-Planning	Total labor hours spent by the reviewer and author in planning, scheduling meetings, assembling, duplicating, and distributing materials, and any other related tasks
Effort-Overview	Total labor hours spent by the participants in an review meeting, if one was held
Effort-Preparation	Total labor hours spent by the reviewer and author preparing for the review
Effort-Rework	Total labor hours the author spent correcting defects in the initial deliverable and making other improvements; include verification time from the follow-up stage
Effort-Tracking	Duration of the review meeting in hours
Defects-Found	Total number of defects found by the review team grouped by the severity level; excluding non-defect issues raised, such as questions, requests for clarification, points of style, or items from the Typo Lists
Defects-Corrected	Total number of defects corrected during rework grouped by the severity level
Size-Planned **Size-Actual**	Total physical lines of code (not including comments and blank lines) or number of document pages that were planned for review and that were actually reviewed

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Data Items Collected From Each Review	
Data Item	Definition
Number of Reviewers	Number of active participants in the review meeting
Review-Appraisal	Review team's decision about disposition of the reviewed work product (accepted as is, accepted conditionally, review following rework)

Metrics Calculated From Review Data Items	
Metric	How Calculated
Defects-Found-Total	Defects-Found (For Each Severity Level)
Defect-Density	Defects-Found-Total / Size-Actual
Defects-Corrected-Total	Defects- Corrected (For Each Severity Level)
Effort-Meeting	Number-of-Reviewer * Time-Meeting
Effort-Review	Effort-Planning + Effort-Overview + Effort-Preparation + Effort-Meeting + Effort-Rework
Effort-per-Defect	Effort-Review / Defects-Found-Total
Effort-per-Unit-Size	Effort-Review / Size-Actual
Percent-Reviewed	100 * Size-Actual / Size-Planned
Percent-Severity	100 * Defects-Found / Defects-Found-Total (For Each Severity Level)
Rate-Review	Size-Actual / Time-Meeting
Rate-Preparation	Size-Planned / (Effort-Preparation / Number-of-Reviewer)
Rework-per-Defect	Effort-Rework / Defects-Corrected-Total

5.12.5 Errors Tracked to Closure

REQUIREMENT:

11.2.2.9/5.12.5 How errors are tracked to closure.

Protech follows an end-to-end peer review process which assists in delivering a quality product. Any deficiencies that are a result of the review process are tracked for a corrective action that requires rework.

The below figure represents the process flow we follow for peer review and tracking errors identified from the review process to closure:

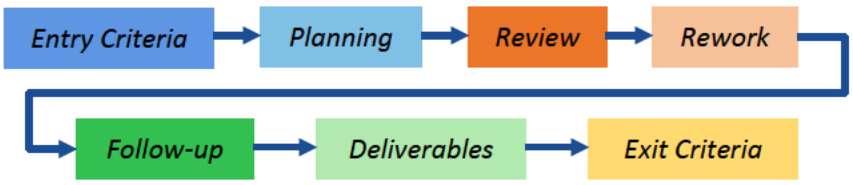

Figure 5.12-5. Review Process

Process flow followed for peer review and tracking errors identified from the review process to closure

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Entry Criteria

- *All necessary supporting documentation is available.*
- *Reviewers are trained in the peer review process.*
- *Documents to be reviewed are identified with a version number. All pages are numbered and line numbers are displayed. The documents have been spell-checked.*
- *Source code to be reviewed is identified with a version number. Listings have line numbers and page numbers. Code compiles with no errors or warning messages.*
- *For a re-review, all issues from the previous review were resolved.*

Planning

- *Reviewer is provided the work product to be reviewed and supporting documents, such as specifications, predecessor documents, or pertinent test documentation.*
- *Entry criteria for the work product are verified.*
- *Based on the size and complexity of the work product, we determine if a review meeting is required.*
- *If a review meeting is planned, the review package is distributed to the participants prior to the meeting.*

Review

- *Reviewers follow the project objectives, such as: checking the consistency of cross-references; checking for interface errors; checking traceability to, and consistency with, predecessor specifications; and checking conformance to standards.*
- *Reviewers examine the work product, to understand it, find defects, and raise questions about it. The appropriate defect checklist is used to focus attention on defects commonly found in the type of product being reviewed. Other analysis methods are used to look for defects as appropriate.*
- *Information for each defect found is recorded and presented to the author of the work product being reviewed.*
- *If a review meeting is planned based on the size and complexity of the work product, the following process is followed:*
  - *Reviewers are required to prepare a review summary report.*
  - *Reviewers will raise concerns, potential defects, questions, or improvements after the author presents each section.*
  - *All participants sign the review summary report to indicate agreement with the review outcome.*
- *The information for each defect is captured in the issue log shown in the first table below.*
- *Work product appraisal is decided after all reviews are completed, including any meetings that are conducted. The appraisal outcome is shown in the second table below.*

Information to Record for Each Defect Found

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Column	Description
Origin	Development phase in which the defect was introduced
Type	• Missing (something needs to be there but is not) • Wrong (something is erroneous or conflicts with something else) • Extra (something unnecessary is present) • Usability • Performance • Non-defect issue (question, point of style, suggestion, clarification needed)
Severity	• Severity level 1 (Critical) • Severity level 2 (Major) • Severity level 3 (Moderate) • Severity level 4 (Minor)
Location	Page and line or section number where the defect is located
Description	Concise description of the issue or possible defect

Possible Appraisals of Reviewed Work Products	
Appraisal	Appraisal
Accepted As Is	Modifications may be required in the work product, but verification of the modification is not necessary.
Accept Conditionally	Defects must be corrected, and the changes must be verified by the individual named on the review summary report.
Review Following Rework	A substantial portion of the product must be modified, or there are many changes to make. A second review is required after the author has completed rework.
Review Not Completed	A significant fraction of the planned material was not reviewed, or the review was terminated for some reason.

Rework

- ***The author corrects the errors and typos found resolving any issues raised, and modifies the work product accordingly. The defect list is updated to indicate the action taken.***
- ***The author records the number of defects found and corrected groups them by the severity level in the review summary report.***
- ***The actual rework effort is recorded on the review summary report.***

Follow-up

- ***The reviewer confirms that every item on the issue log is addressed.***
- ***The reviewer examines the modified work product for correctness.***
- ***Any findings from the follow-ups are reported to the author for a corrective action.***
- ***The reviewer will record the number of defects found and corrected, grouped by the severity level, to the review coordinator.***
- ***The reviewer checks the exit criteria and marks the review process complete.***

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Deliverables

- *Baselined work product.*
- *Completed Review Summary Report.*
- *Completed Issue Log including Typo Lists.*
- *Counts of defects found and defects corrected.*

Exit Criteria

- *All of the author's review objectives are satisfied.*
- *Defects raised during the review are tracked to closure.*
- *Uncorrected defects are logged in the project's defect tracking system Bugzilla.*
- *The modified work product is checked into the project's repository Perforce.*
- *The peer review coordinator has completed collecting and recording the review summary report and metrics.*

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IX-5.13 Testing

REQUIREMENT:

11.2.2.9/5.13 Vendors must describe the methodology, processes and tools utilized for testing as specified in Section 4, Scope of Work of this RFP including the following:

Throughout the design and implementation of NCSEAS, every feature and function of the system will be tested to ensure it operates according to the approved system design documentation. This is accomplished through a structured set of tests that validate the solution from a transactional perspective.

Our testing tools and methods have been refined through multiple large scale statewide CSE system projects. Protech's testing methodology is results driven and based on industry standards infused with practical experience. Our incremental approach is tailored to the specific requirements of the project.

Protech's testing foundation is based on the IEEE-829 test plan structure and is customized to the requirements of integrated child support system across multiple platforms. Appendix 1, Section 1.1, provides a comprehensive discussion of Protech's proposed testing methodology, processes, plans and tools for the testing component of this project.

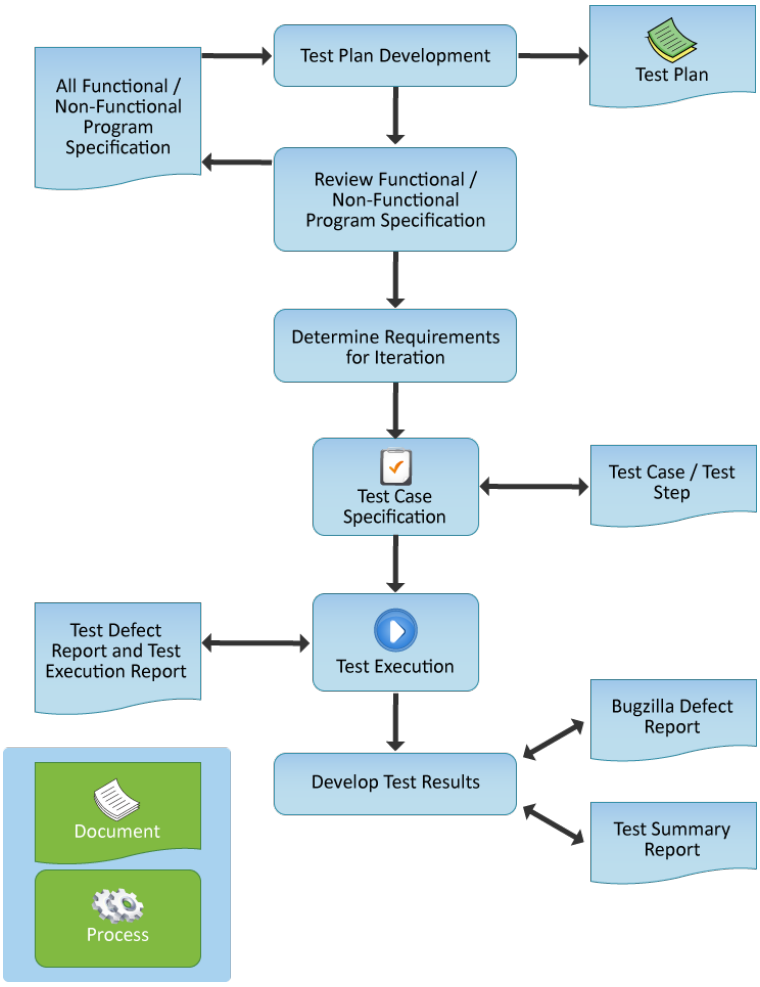

Figure 5.13-1. Test Process Model

Testing Process Overview

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5.13.1 Procedures for Review of Test Cases

REQUIREMENT:

11.2.2.9/5.13.1 Procedures for review of test cases.

It is our objective to work closely with the NCSEAS testing team to develop an appropriate approach to reviewing test case outcomes. The Protech test plan establishes three phases to the testing process so test cases can be reviewed; 1) development of the test script plan; 2) actual preparation of test scripts and 3) defining and reporting test script results. Throughout this process the Protech test team will collaborate with the State testing team to maintain strong communication of the testing workflow.

Our test phase will consist of exercising all business functions using key components of the system. The Protech functional design team and State SMEs will collaboratively identify test cases. The writing of test cases and test steps will continue until all use cases and functionalities are covered. Review of test cases will take place during the test case preparation phase. Utilizing our interactive approach, reviews will take place as they become available, with the final delivery of test cases for each component ready for review per the project schedule. The testing teams will exchange test script development information through joint testing meetings. The Protech Team will listen to all State teams' comments and will revise the test scripts incorporating all test script improvement input from the State. Joint peer reviews will focus on the following:

- *All the requirements are covered and traceability has been correctly established*
- *Positive and negative scenario tests are covered*
- *Boundary value conditions are covered*
- *Data validation tests are covered*
- *GUI related test cases are covered*
- *Test cases are maintained under well-defined test suites*
- *Test steps are complete and understandable*
- *There are no duplicate test cases*

After evaluation of identified scenarios, the Protech test manager will present the test case scenarios to the State's test manager for review and approval. These executable test cases will comprise the test case suite for the integration, system and performance test deck, and will be automated through the Bugzilla Defect Management tool.

Testers will identify test data based upon the applicability of the test case. Each tester will have a list of cases that they will use exclusively during test execution. The list of cases will be maintained in a spreadsheet that will be shared with all testers, clearly indicating tester responsibility.

Another important element within the review process is the ranking of test cases according to criticality factors. The Protech functional design team and State SMEs will collaboratively rank each test case based on business criticality. In the test case template, there is a field named "Test Case Level" with values of critical, high, medium, and low. Ranking will help the tester to understand the importance of test cases.

Interface partners will also be included in the testing review process. Coordination with the interface partners will be addressed in the test script plan and communicated, through joint test meetings. This will ensure that an open dialog between all appropriate parties is ongoing.

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Once again it is important that the State testing team has knowledge of the test case development process, is interactively involved in the process, and is confident that the test cases will produce reliable data during the integration, system and performance testing phases.

5.13.2 People Involved in Testing

REQUIREMENT:

11.2.2.9/5.13.2 Number of types of people normally involved in testing.

The Protech Team's testing manager, in cooperation with the State's testing manager, leads the establishment and implementation of protocols for testing. This includes the provisions for test case preparation and the performance and documentation of testing activities. The Protech Team is responsible for tracking and resolving application defects discovered by the State during user acceptance testing. This includes the prioritization of defects as well as reporting on the number, type, and resolution of defects.

We recommend that the State managers and Child Support Enforcement (CSE) staff comprise the State's test team and that the users come from varying functional areas and office locations as appropriate for the functionality undergoing acceptance testing. For example, regional office case workers would conduct testing for many of the application's core case management functionality, whereas CSE finance staff would also participate for the financial management functionality. During the testing cycle, State testers, under the supervision of the Protech Team, will execute the prepared test scripts and scenarios. The Protech Team will coordinate and support the entire test cycle by providing batch operations, technical assistance, problem research, and resolution to assist the team through the exercise of system functions and processes.

For tables detailing the potential roles and responsibilities for all phases of testing, please see Appendix 1, Section 1.4.

5.13.3 Checklists Utilized

REQUIREMENT:

11.2.2.9/5.13.3 Types of checklists utilized;

We use a separate tool, JCoverage to evaluate and report the percentage of application code tested by the executed unit test scripts. These reports show developers if portions of their code are not being tested, reducing or eliminating the delivery of untested code. Unit tests exercise all functionality of application components, but may not necessarily touch every line of code. Some code, such as exception catch blocks and get/set methods, are not always exercised by a unit test. To ensure untested code is not overlooked, developers provide written justification if JCoverage reports show less than 100% coverage during the scheduled code reviews.

This written justification usually takes the form of checklists. Checklists used in our testing processes include:

- *Peer review checklists*
- *Hardware implementation and installation checklists*
- *Test readiness checklists*
- *Web code review checklists*
- *Java code review checklists*
- *Java script code review checklists*

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- *Unit testing documentation checklists*
- *Entry and exit criteria checklists*
- *Test readiness checklists*

See Appendix A, Section 1.3, for examples of Protech CSE Implementation Model Checklists.

After our many successful implementations, Protech also has a detailed checklist repository for system installation, functional and technical prerequisites, staged installation testing, and all related processes.

Unit, integration, system and performance testing is considered complete when the predefined system test cases have been run successfully and the code, database, and environment are stable according to defined criteria and agreed upon with the State. For each testing phase entry and exit criteria have also been developed to compliment the process. These criteria procedures are mini-checklists to ensure that all steps within a testing process have been completed. The utilized checklist varies depending on the phase being tested. A sample checklist for entry and exit criteria used during integration and system testing is also included in Appendix 1, Section 1.3.

5.13.4 Statistics Compiled on the Type, Severity, and Location of Errors

REQUIREMENT:

11.2.2.9/5.13.4 Types of statistics compiled on the type, severity, and location of errors.

Protech uses metric reports to provide statistical defect information for defect management. Test metric reports will be produced from Protech's Team Foundation Server (TFS) to help quickly assess the status and performance of the project, the quality of the software under development, and the progress toward project completion. These reports summarize the metrics and will be addressed in the test management plan.

Status reports begin at the planning phase of testing and continue through to test completion of the project. Component metrics are available in TFS. During the test execution phase for each module, the teams will meet to review the test metrics reports generated from Bugzilla. The purpose of the meeting will be to provide the State team with visibility regarding the status of test execution so that the teams together can identify and resolve issues in advance of the first submission of the test results report.

Reporting on the number and types of defects and their correction

Throughout the testing process, we periodically create and distribute reports summarizing testing results. While the actual testing metrics we report are defined during the project start-up period, these reports are important management tools. There are a series of metric reports produced, using the testing processes to categorize the data. Thus our metric reports for unit, integration, system and UAT, although individualized by category, will summarize defect data first by type. This format gives management a clear view of the number of defects in 'open', 'closed' or "re-open" status, number of defects by priority, number of defects by severity level, and number of defects within a functional area. Protech also provides a secondary form of metric support that is produced to capture our test scripts pass/fail criteria, as well as suspension and resumption criteria.

Pass/Fail Criteria

For each test script, pass/fail criteria will be addressed in Bugzilla. Executed test cases will pass if they meet the expected results as defined in the test steps. A test case will fail if any expectation is not met.

The expected result column on the test case will have the system response for each test step. The tester will determine if the actual results and the expected results match, and document it with a screen shot.
For batch processes, a pass/fail criteria will include verifying fields on screens, or for some processes, verification will be done through macro level counts, followed by selecting a sample of data for closer verification.

Suspension and Resumption Criteria

The following are criteria that will result in partial or full suspension of testing:

- *Unavailability of external dependent systems during execution where no mutually agreed upon workaround exists*
- *A defect is found that prevents any further testing*
- *Hardware/software fails*
- *The build contains many defects which prevent or limit testing progress*
- *Assigned test resources are not available when needed*
- *The test environment is unavailable or cannot be efficiently utilized due to performance or other issues*
- *Smoke tests fail*
- *Test data is unavailable*

The tester will notify the Protech test manager via email for any occurrence of the suspension criteria. Depending upon the situation, the test manager will coordinate with the development manager, technical design manager and functional design manager to resolve the issue. Testing will resume when the cause of test suspension has been resolved and the testing team has been notified in accordance with the communication plan. If the issue cannot be resolved or will result in a delay in the schedule, the issue will be reviewed with the State during weekly review meetings.

Defect Trends: Protech understands how critical accurate informational metric reports are to successfully managing a large scale project such as NCSEAS. Thus, compiling defect data in a comprehensive format provides a positive advantage in giving management staff an overview of system defect issues. For example, a report that provides the number of defects in 'open' or 'closed' status as a function of time allows us to measure improvements as the number of defects closed per day become greater than the number of new defects opened. Having clearly defined metric data helps us accurately predict when the testing stage will end.

Protech utilities a series of reports to assist testing staff in determining a variety of data needs. For examples of reports demonstrating how Protech has maintained and provided testing data on several of our large scale CSE projects please see Appendix 1, section 1.4.

The reports in Appendix 1, Section 1.4, have been developed to provide comprehensive data for both the Protech and State teams. The actual testing metrics we show in these reports, such as the content and report design for the NCSEAS project, will be defined during the start-up period. It is critical that all project testing data is reflected through comprehensive reports that meet the needs of the State.

5.13.5 Errors Tracked to Closure

REQUIREMENT:

11.2.2.9/5.13.5 How errors are tracked to closure.

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Protech proposes the use of Bugzilla to track and manage defects for the NCSEAS project. Bugzilla will assist Protech and the State in efficiently managing errors/defects by producing comprehensive information to test managers and to the initial tester who identified the error. This will assist them in determining that all defects are properly tracked and that no omissions occur. See Appendix 1, Section 1.5, for a detailed chart providing an overview of the Bugzilla error/defect management workflow.

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IX-5.14 Project Software Tools

5.14.1 Software Tools and Equipment Resources

REQUIREMENT:

11.2.2.9/5.14.1 Vendors must describe any software tools and equipment resources to be utilized during the course of the project including minimum hardware requirements and compatibility with existing computing resources as described in Section 2.4, Current Computing Environment.

The details of software tools that will be utilized for the NCSEAS application are presented below. The software that is planned to be reused is also indicated against respective items. The new proposed software stack is primarily from IBM and will be deployed on the new environment. However, this new environment will be compatible with current computing environment for any integration requirements.

Proposed Software Components		
Description	Name	Description of Intended Use
Business Process Management System	IBM Business Process Manager (Advanced) V8.5	Tooling and run time for process design and execution, also utilize its capabilities for monitoring and optimizing the work flows.
Business Rules Management System	IBM ODM standard V8.x	ODM to manage and automate repeatable business rules, events and operational decisions that impact business performance.
Document Management	IBM FileNet P8 V5.x	Our solution for Content Management.
Scanning/Capture Tool	Data Cap V9.0	Our solution for capture, recognition, and classification of business documents.
Document Generation	Thunderbird	Proposed solution for Document generation.
Application Server	WebSphere Application Server(WAS) on AIX /Windows V9.0	Java/ J2EE applications will be deployed in WebSphere Application Server on AIX
Message Queue	WebSphere MQ V9.0	Our Solution will reuse WebSphere MQ for messaging across multiple platforms
Database Management Systems for distributed environment	DB2 FOR AIX V9.1 and UDB V8.2.2	Migrates the database entities to multiple environments. We will use DB2 for AIX as our primary Relation Database Management System
Languages and Frameworks	Java 7(6 or above) , SPRING MVC, JEE, JSON, XML, HTTP	The primary solution that we propose uses JAVA, J2EE and MVC architecture.
Business Process Management System	IBM Business Process Manager (Advanced) V8.5	Tooling and run time for process design and execution, also utilize its capabilities for monitoring and optimizing the work flows.
Business Rules Management System	IBM ODM standard V8.x	ODM to manage and automate repeatable business rules, events and operational decisions that impact business performance.
Document Management	IBM FileNet P8 V5.x	Our solution for Content Management.
Development Tools	Rational Application Developer (RAD) V9.0	Used as editors for Java EE, Web Service, SOA, XML, J2C, Web Application etc.
	WebSphere Integration Developer	Development tool for assembling complex business solutions, building SOA based application.

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Proposed Software Components		
Description	Name	Description of Intended Use
	IBM Integration Designer	To design the service components also integrated with WebSphere Business Modeler to import models for rapid implementation.
	WebSphere Business Modeler	To accelerate process development.
	Rational Business Developer	Integration development environment (IDE) to simplify development effort, also simplifies the development of Web 2.0, service-oriented architecture (SOA), and traditional applications using the Enterprise Generation Language (EGL).
	WebSphere Decision Server Rule Designer	For designing the rule, automats the response of highly variable decisions based on the specific context of a process, transaction or interaction
	WebSphere Decision Server Event Designer	For designing decision server events.
	Rational DOORS Next Generation	For Requirements management and maintain traceability.
	Bugzilla	For defect tracking.
	Perforce Windows Server 2003 V2007.2	For source code configuration control and build management.
Performance Monitoring	IT CAM	IT CAM for the management of our application environments and safeguard application performance.
Regression Testing	IBM Rational Functional Tester	Automated functional testing.
Performance Testing	Rational Performance Tester	Load testing.
Security Testing	IBM Policy Tester	For automated Online compliance solution to assess quality, privacy, and accessibility compliance issues across web properties
Reporting	Business Objects/Crystal Reports	The existing reporting tools, SAP BO and Crystal Reports will be reused for the reporting components.
ETL	SAP Data Services	To reuse the SAP Data Services process of populating the reporting database from the operational system.
Batch Process	CA Workload Automation	Protech proposes CA Workload Automation.as process scheduler
System Backup and Recovery	IBM Spectrum Protect	IBM Spectrum Protect for the Backup & Recovery Solution
Server virtualization - Linux and Windows	VM Ware	Utilize the VM Ware virtualization solution for Windows & Linux machines.
Server virtualization - AIX	IBM Power VM	Protech will use the PowerVM virtualization solutions for the AIX system in the new NCSEAS so that it can consolidate large numbers of applications and Servers fully virtualize its system resources, and provide a more flexible, dynamic IT infrastructure.

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Proposed Software Components		
Description	Name	Description of Intended Use
Network	TCP/IP, WAN, Cisco, Novell	Our Network communication is based on TCP/IP protocol, we recommend to use Cisco Networking hardware, our standard for core switches is Cisco 6509/6513 platform. The redundant firewalls are deployed in a multi-tier setup to support environment and tier isolation. The Data Center will be connected to WAN by high speed connection links and to the Internet.
Security	Novell Access Manager v4.2	Novell E-Directory will be part of our solution for the credential store.

5.14.2 Costs and Training Associated with Project Software Tools (Attachment I)

REQUIREMENT:

11.2.2.9/5.14.2 Costs and training associated with the project software tools identified must be included in Attachment I, Project Costs..

Protech recommends training for NCSEAS's technical team and business analysts who will be part of the NCSEAS project execution and post implementation support operations on the following project software tools:

Protech Change Management Process		
Description	Name	Training required for CSEP
Business Process Management System	IBM Business Process Manager (Advanced) V8.5	Business Analysts and Technical Team
Business Rules Management System	IBM ODM standard V8.x	Business Analysts and Technical Team
Document Generation	Thunderhead	Technical Team
Development Tools	Rational Application Developer (RAD) V9.0	Technical Team
	Rational DOORS Next Generation	Business Analysts and Technical Team
Regression Testing	IBM Rational Functional Tester	Technical Team
Performance Testing	Rational Performance Tester	Technical Team
Security Testing	IBM Policy Tester	Technical Team
Performance Monitoring	IBM IT CAM	Technical Team
Batch Process	CA Workload Automation	Technical Team

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Section X

Attachment N
Requirements Matrix

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Requirements Matrix X-2

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SECTION X

Requirements Matrix

REQUIREMENT:

11.2.2.10 Vendors must include their completed requirements matrix (see Attachment L, Requirements Matrix) in this section.

Protech's completed requirements matrix (Attachment N) is provided in the following pages.

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Section XI

Other Informational Material

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Appendix A: Additional Information for Section VI – Scope of Work

XI-1.0 Testing Methodology

XI-1.1 Integration, System, and Performance Testing

1.1.1 Methodology

Protech's approach is to build quality into the system development process using the V-Model approach to testing, which emphasizes the need for a testing focus from the earliest interactions through implementation.

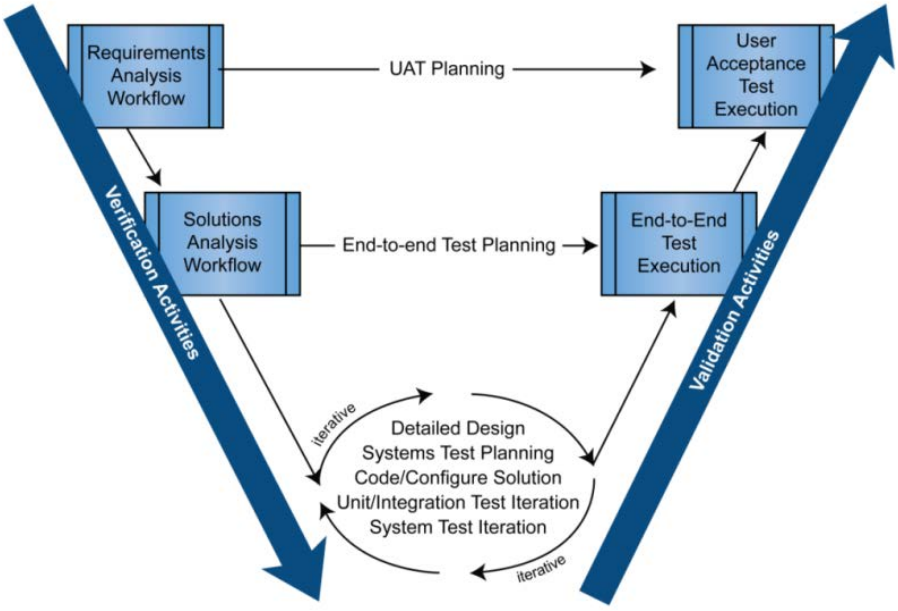

Figure 1.1-1. V-Model Approach to Testing

The Protech Team's testing approach is iterative and integrates development and testing activities

Protech's testing methodology addresses the following eleven areas of responsibility for executing integration, system, and performance. This proven testing methodology is based on industry standards, and infused with practical experience in the design and implementation of large scale systems akin to NCSEAS.

1.1.1.1 Prepare Integration, System and Performance Test Plans

We will deliver the integration, system and performance testing plans that will meet the highest quality standards and ensure that all areas of responsibility identified within this section are incorporated. More details on our specific testing plans are included in the next section, Test Management Planning.

1.1.1.2 Establish the Applicable Test Environments

We begin with upfront test planning during the project initiation and planning phase to define and agree upon the testing objectives, methodology, tool, responsibilities, and procedures. This is followed by the definition of test criteria for all phases of testing and the development of a test environment that permits frequent testing throughout the development lifecycle. Correctly identifying the testing environments and developing each environment is a critical success factor to the overall management of the testing process.

Our team is proposing the establishment of four (4) testing environments. These proposed environments and primary users are:

1. *Unit test environment – Protech development teams*
2. *Integration and system test environment – Protech test teams*
    a. *Regression test environment – Protech test teams*
    b. *Security test – State and Protech test teams*
3. *Performance test environment – Protech test teams*
4. *User acceptance test (UAT) environment – State and Protech test teams*

The Protech Team will also establish a development/unit test environment that is separate from other test environments and is configured to support verification of all required distribution test deck functionality.

The test environment, where applicable, will consist of multiple copies of the database to support concurrent and independent testing of each module, as well as end-to-end testing of the completed applications. Test environments will be configured in accordance with the child support enforcement system and prepared with test data converted from the legacy applications. This approach ensures that all modules within the entire system will be tested and the capability demonstrated in our testing reports.

1.1.1.3 System Configuration to Most Current Production Version for Software, Tools and Database

All underlying software, tools and databases, used in the configuration of the new system will be the most current production version. A comprehensive exercise of all the operational capabilities of a given system will be performed to ensure that the system's functionality conforms exactly to specifications.

1.1.1.4 System Configuration to Most Current Production Version for all Enabling Interfaces

The Protech Team, when configuring the new system, will rigorously review the latest production version of all interfaces and the appropriate supporting systems. The details of the interfaces to be tested and the method used for testing interfaces will be included in the integration, system, and performance test plan.

1.1.1.5 Develop Applicable Test Cases

The Protech Team follows a structured approach that involves designing test scenarios that mirror real work scenarios and executing those tests repeatedly throughout the development process. Our team will focus on building and executing these scenarios with direct traceability back to system requirements. We will load all case data into the testing environment, coordinate with the State technical team, and detail the management specifications in the configuration management plan.

We plan to use an incremental approach to testing all individual system modules. Our philosophy is to perform iterative testing - that is to test early and often throughout the life cycle to ensure a high quality application.

1.1.1.6 Create and Load Test Case Data

Integration testing requires close coordination across all components. Each iteration contains a collection of use cases which include the interactions between software components. These use cases will be used for creating test cases for integration testing.

Our functional and technical leads will review and accept test cases that verify the functionality of the system according to the requirements before migrating the test case data to the test environment. The testers will verify all the system functionalities and navigation between all screens.

1.1.1.7 Conduct Integration and System Tests

The purpose of system and integration testing is to provide thorough capability testing and defect discovery of the delivered system prior to its promotion to UAT. The Protech test team will conduct system and integration testing for NCSEAS in the system test environment.

Integration testing will follow an incremental approach where, as testing progresses, more unit tested software components are accepted into system testing where they are tested as an integrated system. The preferred order of test execution of the system will be in order of functional units. However, the order of test execution may change based on the completion of previous phases of each unit.

System testing includes end to end testing of all system components and interfaces to validate the functionality of screens, batch processes and scheduling, reports, interfaces, and notice generation. This testing will follow an incremental approach where interface components such as NPA case intake, locate, IV-A intake etc., are tested. Our testing team will create test cases for complete system and interface testing to ensure that all related systems exchange data seamlessly, thereby verifying the system's ability to operate as expected with other system modules within the same environment.

1.1.1.8 Correct Problems, Repeat Testing Until Expected Results Are Obtained

System issues will be identified, monitored and resolved through our comprehensive approach to defect resolution. Protech will track system defects using the defect management tool Bugzilla that will provide Protech and the State with extensive information to ensure that all defects are properly tracked and resolved and the testing cycle is again initiated. Protech will implement a regression testing environment where changes and corrections to code are migrated. A dedicated regression testing environment provides testers the ability to test the system for any unintended behaviors due to changes in the module during any of the testing processes.

1.1.1.9 Conduct Performance Testing

Our approach to performance testing focuses on the migrated code along with its interactions with the legacy modules that remain to be migrated. We will focus on building and executing real world performance baselines with direct traceability back to system requirements.

1.1.1.10 Identify/Correct Performance Testing Problems

Our combined project teams will work together to plan performance testing activities, establish test environments, create test data, develop test cases, execute testing, and resolve discrepancies. Performance testing is considered complete when the predefined system test cases have been run successfully and the code, database, and environment are stable according to defined criteria agreed upon with the State for baseline and peak loads.

1.1.1.11 Prepare Integration, System and Performance Test Result Reports

Throughout the execution of the integration, system and performance test plans, Protech will develop comprehensive reports that will define the outcomes of each test plan. A summary of the testing results for each type of testing and the corrective action taken to resolve any defects encountered will be provided. Our reports contain an overview of how the testing was performed, the scope of testing that was executed, what corrective action was taken, and how re-testing was performed.

1.1.2 Test Management Planning

The Protech Team proposes a comprehensive, results-driven testing plan for the State of Nevada. Our approach to developing the integration, system, performance, and acceptance test plans is to tailor them to the specific requirements of the State. Protech is cognizant of the need to deliver test plans that meet the highest quality standards. We use a comprehensive approach to quality that supports the objectives of up-front prevention of issues, early identification of issues, and ongoing visibility into project activities.

The following test plans describe our structured approach to testing. Our methodology hinges on the design of test scenarios that mirror real world scenarios and the execution of these tests repeatedly throughout the development life cycle, according to the test schedule. We will develop the following four (4) test plans:

1.1.2.1 System Test Plan

The system test plan will define how Protech will execute system testing. It will describe how system tests will be conducted as each application module is completed, including the components required to support interfaces. The purpose is to assemble all components into a working module and to verify the system meets its functional requirements and operates effectively as a whole. System testing focuses on verifying the functionality works correctly and all system objectives have been met. System testing treats the system as a "black box." Test cases are based on the functional requirements rather than on knowledge of the underlying architecture or code. System testing also validates the overall design and architecture of the software solution within the environment. This includes testing the movement of data through all interfaces, ensuring the platform is stable, and ensuring the code is stable. Our production-like testing environment will be designed to closely resemble production and provide realistic measurements of throughput and scalability.

1.1.2.2 Integration Test Plan

The Protech Integration Test Plan describes our intent to perform integration testing incrementally as components of the system are built and integrated. The purpose is to assemble components into a working subsystem and to verify the components interface/communicate effectively. Integration testing is conducted at the completion of each software iteration (early and often); to ensure defects are identified and addressed timely. Our production-like integration testing environment will be designed to closely resemble production and provide realistic measurements of throughput and scalability.

1.1.2.3 Regression Test Plan

This test plan describes the appropriate strategies, process, and workflows used to execute and manage regression testing. The test plan also formalizes and guides how regression testing is part of the integration and system testing process. Regression testing will be performed by executing subsets of test cases to verify that previously fixed defects do not reoccur and ensure that no new defects are introduced due to defect corrections. The exit criteria for regression testing means: 1) All critical and major severity defects are resolved, retested and closed, except as specifically deferred by the test management team to be fixed in a subsequent phase of testing; 2)Moderate and minor severity defects are resolved and retested except as specifically deferred by the test management team to be fixed in a subsequent phase of testing; and 3) Regression test cases are 100% executed with a pass rate as agreed and approved by the test management team.

1.1.2.4 Performance Test Plan

The plan will describe Protech's approach and methodology to testing the performance of NCSEAS. Performance testing will begin after the completion of system and integration testing. IBM Rational Performance Tester software is an automated performance and load-testing product from Hewlett-Packard for examining system behavior and performance, while generating actual load. IBM Rational Performance Tester can emulate hundreds or thousands of concurrent users to put the application through the rigors of real-life user loads, while collecting information from key infrastructure components (Web servers, database servers, etc.). The results can be analyzed in detail to explore the reasons for a particular behavior. Automation of certain processes reduces potential for operator error and enables consistent repeatable testing processes. The Protech test team will use IBM Rational Performance Tester to prevent performance problems in production by detecting bottlenecks before the new system is deployed. The performance load test will be conducted to validate the response time of the screen functionality and the scalability of the application for heavy user load based on the Performance Tester output.

1.1.3 Test Plan Scope

For each testing phase, Protech will provide the State with a document that will detail:

- *The scope of testing*
- *Pre-test preparations*
- *Requirements traceability*
- *Descriptions of the tests to be performed*
- *Processes used to prepare and execute tests*
- *Tools used during these activities*
- *Location and naming standards for files and work products*
- *Descriptions of the standards and reviews used*
- *Roles and responsibilities*
- *Quality assurance*
- *Environment*
- *Risks*
- *Criteria and processes used to evaluate readiness for commencement and completion*
- *Metrics to be used to evaluate progress and success of the testing process*
- *Management of the testing process*
- *System performance measurements*
- *Source code control and document versions*
- *Tracking of defect entry and resolution*

Our testing methodology encompasses four quality dimensions: reliability, functionality, application performance, and system performance. Furthermore, we describe the test lifecycle of planning, design, implementation, execution, and evaluation for each of these dimensions in our test management plan.

The testing workflow in each test category includes validation activities for functionality adherence to specifications, as documented in the NCSEAS application. Our approach includes testing of the integration (interfaces) between the NCSEAS application and related systems and all processes associated with PRWORA certification testing to completed certification.

Our testing protocol includes technical testing to confirm the ability of the architecture and the software to accommodate the anticipated data volume in the NCSES system, specifically targeting the performance and capacity management concerns for the system.

1.1.3.1 Defect Management Tool

Protech proposes to leverage the State's existing defect management tool Bugzilla to track and manage defects for the NCSEAS project. The Protech team has experience in using this tool in several other IT projects. Bugzilla is a repository for all identified defects originating from any source. Bugzilla also provides metric reports to assist both Protech and State management teams in overseeing and managing the testing process. A further discussion of the defect management process is included in the following section.

Protech's testing team will configure the defect management tool (Bugzilla), as well as define, build, and manage all test environments.

1.1.3.2 Test Environments

Correctly identifying and establishing testing environments is critical to the overall management of the testing process. Protech proposes the establishment of four (4) testing environments and the primary users for each:

1. *Unit test environment – Protech development teams*
2. *Integration and system and test environment – Protech test teams*
    a. *Regression test environment – Protech test teams*
    b. *Security testing – State and Protech test teams.*
3. *Performance test environment – Protech test teams*
4. *User acceptance test (UAT) environment – State and Protech test teams*

Protech will coordinate with the State to define appropriate levels of access to the necessary environment for team members to perform their testing functions. Each test environment will consist of multiple copies of the database to support concurrent and independent testing of each module, as well as end-to-end testing of the completed applications.

1.1.3.3 Roles and Responsibilities

Protech will identify roles and responsibilities for the testing teams. For example, Protech organizes test teams into major functional areas led by a subject matter expert (SME). The testing lead is responsible for configuring test tools and building and managing the test environments. Our documentation specialist documents the integration, system, and performance test results. Our interface lead is responsible for planning and executing all interface testing and works closely with State management to establish a listing of interface agency contacts and to coordinate scheduling.

1.1.3.4 Peer Reviews

Protech incorporates peer reviews into the unit testing and system testing processes. Protech developers and their development team leads review unit test scripts and JCoverage reports to ensure that application components are thoroughly tested. Peer reviews allow objective reviewers to complete a comprehensive examination of the code and, where necessary, suggest areas of improvement. Review checklists are used to ensure no omissions have occurred in the code. Entry and exit criteria have been developed to ensure uniformity in the review of unit tests and JCoverage report results.

A joint review team comprised of development and system test team members reviews the approved solution and test plans for each defect, evaluates additional impact, and may recommend inclusion of other areas into the unit or system test plans.

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Protech also incorporates a system test peer review process which provides an objective review of the completeness and validity of the system test and the test results.

1.1.3.5 Communication

Protech provides strong communication pathways between itself and the State as well as other State contractors and our own functional and system teams. For example, all test teams provide weekly status updates including accomplishments, issues, risks, and activities planned for the upcoming week. The Protech testing manager is responsible for daily management of the test teams. Protech maintains a Work Breakdown Structure (WBS) of testing activities, timeframes and dependencies, and the information is disseminated in meets and website postings. It is our intent to also provide assignments and work activity accomplishments to the State through status meeting and other agreed upon methods. Our commitment to open and frequent communication with both the State and our own teams is critical to the project success.

1.1.3.6 Test Case Standards

Protech's Testing Management Plan includes the following five (5) major areas to ensure that the overall testing process achieves the desired results:

Test Case Preparation

The Protech development team utilizes expertly developed test cases that have evolved through our extensive CSE system development experience. These test cases are designed to test from the simplest to the most comprehensive and complicated values found in a system such as NCSEAS.

The Protech system test team follows a structured approach that involves designing tests that mirror real world scenarios. This is accomplished through the use of a structured set of tests, created prior to construction, that validate the solution from a transactional perspective. All aspects of the system are exercised including system inputs and outputs, use case scenarios, outcomes, as well as both pre and post conditions. In addition, tests may be created from the design document, relevant change requests, management issues, and other project artifacts.

Protech utilizes a standardized template for all test scripts to ensure a straightforward, concise, easily understandable format for all test scenarios. A clear title and test description is included so that there is no ambiguity, and to allow another team member to complete the test if required. The template format:

1. *Define what is being verified;*
2. *Define any assumptions or dependencies;*
3. *Include test data to document variables and their values;*
4. *Define expected results;*
5. *Document actual results;*
6. *Determine Pass/Fail.*

Test case scenarios are also needed for the user acceptance test process. The Protech team has knowledgeable trainers and excellent training courseware to assist the State UAT testers in their readiness to complete comprehensive tests to the system.

In summary, the Protech Team will develop test cases to thoroughly test all system functions. Our test planning activities will ensure that all functional requirements of NCSEAS is tested. This is accomplished by comparing the test scripts to the defined, approved requirements document and the corresponding Requirements Traceability Matrix (RTM), to ensure that every requirement has at least one associated test case.

Performing and Documenting Testing Activities

Protech's development teams are well trained in the importance of proper testing protocols. We use JUnit and JCoverage to complete and record our unit test results. JCoverage provides management with significant reports to identify potential problems, improve defect resolution, and ensure proper documentation.

To promote the effectiveness of the State's UAT activities, the Protech Team provides the State's UAT members with appropriate system documentation. This documentation, which includes training materials and actual documentation as well as executed test scripts and results, is provided as part of the UAT team training.

Identifying and Tracking Application Defects

The Protech testing team will use Bugzilla to record all defects identified during the application testing phases, and will work with the State to jointly review, coordinate, and prioritize defects. Outcomes from the defect tracking process are specifically designed reports that prioritize defects and account for defect resolution.

The documentation of defects in Bugzilla will also be part of the training provided to the State. When issues are discovered during user acceptance testing, the testing analyst works with the State's testing team to carefully document each issue. The testing analyst records the test case number, the anticipated and actual results, and compiles all necessary information such as screen shots, test case settings, and data elements to facilitate the problem resolution process, and logs the issue in the defect tracking system in the defect is then reviewed by the Protech business analysts and if the problem is determined to be an actual defect, it is routed to the development team for research and resolution.

Prioritizing Defects as Critical, Major or Minor

Early in the project development phase, Protech will work with the State to define severity levels for defects. It is the responsibility of the defect coordinator to review and approve the designated severity prior to the defect's assignment to a developer. Status meetings are held regularly to review the priority of defects to be resolved by the application development team and verified (re-tested) by the test team. This close communication keeps the teams focused on correcting critical flaws early and to schedule system and regression testing as the defects are resolved by the application development team.

Reporting on the Number and Types of Defects and their Correction

Throughout the testing process, we periodically create and distribute reports summarizing testing results. While the actual testing metrics we report are defined during the project start-up period, most Protech projects include the following:

Defect Counts: This includes the number of defects in 'open' or 'closed' status, number of defects by priority, by severity level, by functional area, and re-opened defects.

Defect Trends: This reports the number of defects in 'open' or 'closed' status as a function of time. In particular, this allows us to measure improvements based on number of defects closed per day versus number of new defects opened. Finding these improvements help us accurately predict when the testing stage will end. Figure 1.1-2 illustrates the positive trend that defects should follow as testing progresses.

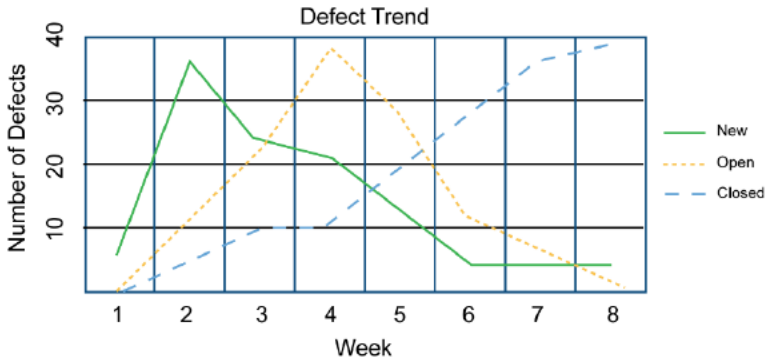

Figure 1.1-2. Defects

Defect measures improve as testing progresses

1.1.4 System, Integration, and Performance Testing Roles

The proposed types of roles listed in the table below, should be considered when establishing a strong testing team. The following chart includes areas of potential responsibilities:

Test Team Roles		
Type of Resource (Roles)	**Primary Responsibilities**	**Secondary Responsibilities**
Test Manager	Test Management • Aid users in creation of a defect management strategy • Serve as point of contact for defect status • Define testing approach and strategy for the test management process • Coordinate and manage testing activities across the project life cycle • Define skill set required to execute test tasks • Develop automated test cases and data requirements, execute tests, report test progress • Verify the required test environment configurations • Review the Test Plan	• Coordinate testing and resource planning • Report to Project Manager
Test Lead (s)	• Develop Integration and System Test plans for each component • Provide test management support and technical testing and support • Manage testing infrastructure • Implement testing approach and strategy • Direct day-to-day testing activities • Testing analysis and design • Identify target test items to be evaluated by the test effort • Define appropriate tests required and any associated test data • Gather and manage test data • Evaluate outcome of each test cycle • Generate defect reports • Help define requirements for environment management and configuration management • Deliver test summary report at end of testing cycle • Work with the State's test team to produce a defect report	Report progress to Test Manager Test tool setup and configuration

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Test Team Roles		
Type of Resource (Roles)	**Primary Responsibilities**	**Secondary Responsibilities**
	• Manage technical infrastructure in accordance with the test plan and testing requirements • During UAT phase, work with end users to produce a defect report • Work with project specific users to produce specific test plans • Mentor users in defect re-creation • Aid users in test activities including defect reporting • In general, serve as liaison between staff and those users designated to perform test execution • Support UAT activities	
Test Analyst **Functional**	• Design manual test cases • Initiate testing activities • Execute tests • Report test progress • Log outcomes and verify test execution • Analyze and recover from execution errors • Log defects • Retest defects • Log State System Test defects if any after mutual review with the test team	Report to Test Lead(s)
State Testing Team (PMO, UAT Manager and Lead, QA)	• Learning and exploring the application and test tools • Review of test cases and test steps for System Testing • Participate is selecting test case scenarios for regression testing and system testing • Participate in defect review meeting to review State System Test defects • Review testing results and reports	
Test Management Team (Test Manager, Functional Design Manager, Technical Design manager, and the State)	• Participate in test review and defect review meetings	

1.1.5 Hardware and Infrastructure Configuration Testing Protocols

Protocols to Test the Hardware

Prior to deployment or installation in a production environment or in any other environment, a wide range of installation and configuration prerequisites will be addressed by the Protech Team. We will provide these to the State for verification of system installation for each migration during the phased migration process. These typically include the proper installation and configuration of:

- ***Physical environment including servers, local partitioning (LPAR), firewalls, storage and other parameters***
- ***Hardware and software product numbers and version numbers***
- ***Hardware configuration details, such as memory and central processing unit (CPU) capacities***
- ***Software product assignment to hardware items, including number and type of licenses***
- ***Significant software product configurations***
- ***Application build deployments***

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Entry Criteria

- *Installation test TMP is approved*
- *Integration and System testing environment is operational*
- *Technical installation test logs are provided to the State*
- *Deployment plan is completed*
- *Regression & sanity test scripts are prepared to validate builds*

Exit Criteria

- *All installation issues resolved and regression testing is completed*
- *Installation test execution report is prepared, delivered, and approved*
- *On-lines are validated*

Application components are installed in the system test environment to test the installation routines and are refined for the eventual production environment. This activity serves as a dry run of the installation steps in preparation for configuring the production system. We will provide the State with a detailed test plan for system installation tests and other artifacts required for conducting these tests. We will need to interact for a week or less with State infrastructure personnel to set up these and other testing environments.

When developing the hardware test plan, Protech will define all the hardware utilized to run NCSEAS. We will list basic information about the hardware and establish the scope of the plan. Within the hardware test plan, we will address all requirements, processes, and testing tasks. We will also work with the State team to develop a testing schedule.

Infrastructure Configuration

Using our extensive and detailed knowledge of the California system and experiences implementing other child support systems, we propose a technical architecture that reduces online and batch processes into smaller, more agile and self-learning units of code that can report on the reliability of the processes in an automated manner. In batch, for instance, using a combination of database optimizations, architectural modifications, and functional process normalization, these smaller units can run in parallel as semi-autonomous processes that execute the bulk of the core functionality and combine towards the end of the batch processing to provide uniform batch run reports. This is not only desirable, but also essential for the future growth of the NCSEAS system. Furthermore, this approach addresses the need for a capable and mature system to handle the complex needs of Nevada's child support organization.

The Protech Team's approach to build performance into an n-tier system starts with allocating performance requirements to appropriate subsystems, or architecture layers. For example, consider a requirement that online transactions of a particular type have an end-to-end response time of two to four seconds. This time can be distributed to each of the following layers:

- *Network communication from the browser to the web server*
- *Processing time for the Java server page in the web server*
- *Network communication from the web server to the application server*
- *Processing time for the Java components in the application server*
- *Network communication from the application server to the database server*
- *Processing time for the database to execute the SQL*

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Allocation of performance requirements to each of these layers assists in the design of the hardware, network, system software, and overall application model. For example, network architects need to validate that their proposed network link from the web server to the application server is fast enough and has adequate capacity to stay within its limits.

This approach focuses the team on configuration issues. It helps us confirm that certain technical components meet their portion of the performance requirements. Moreover, when testing shows that the limit for a particular requirement has been exceeded, we can quickly focus in on the "offending" software modules or hardware that has exceeded their limits. It is in those areas that we believe we have scope to improve the overall performance of the transaction.

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XI-1.2 User Acceptance Testing

After successful completion of all integration, system, and performance testing, Protech will facilitate the state's UAT testing.

1.2.1 User Acceptance Testing Verifications

Protech's user acceptance testing includes the verification of the following areas:

No Critical and High-priority Defects Exist in the Software

Protech's defect management tools will track the status of all defects logged during the earlier test phases. Protech's team will provide defect management reports to the acceptance team to verify that all critical and high priority defects have been corrected and re-tested.

Application Software is Fully Installed and Fully Functional

Protech will configure the acceptance test environment and install fully tested and functional application software that is validated through our comprehensive integration and system testing process.

Appropriate Conversion of Legacy Data and Manual Data is Complete

Protech will validate that all legacy data including manual case data has been properly converted into NCSEAS. Our approach for automated data conversion includes a mock data conversion effort early in the process to provide full data loads for the system, integration, and performance testing phases to ensure that the system is fully tested with converted legacy data. For the manual data conversion effort, Protech will work with the State to develop a plan and execute the tasks.

Complete and Accurate System Documentation is Present

Our team will produce quality system documentation for the acceptance test phase and will continue maintaining these documents through the acceptance test process to ensure accuracy and currency.

Effectiveness of Training Methods and Materials

Training for the State's technical staff will focus on the technical aspects of NCSEAS, i.e. the test environments, how system interface testing will be accomplished, and the operational aspects of the defect test management tool. A comprehensive technical training manual will be prepared with the assistance of State staff. Technical training materials will be maintained beyond the acceptance testing phase.

Training for the acceptance test team will focus on system functionality, use of the defect management tool, and processes. UAT training will be classroom oriented and testers will have the opportunity to perform case testing exercises in a mock office setting that will simulate their actual office setting to the extent possible.

Protech understands that all training methods and material are "living" documents as the system development life cycle evolves and may necessitate on-going updates.

Response Time of the System and Overall System Performance

The Protech Team executes performance test cases with increasing numbers of virtual users and increasing activity levels. The performance test is repeated as needed until performance measures are met under full operational conditions. Performance load tests will be performed in the performance environment on test hardware. Tests will be conducted from workstations located at the State testing facility. The Protech Team

will document and maintain performance testing plans, test cases, test scripts and test results the State and any vendor approved to receive this information.

System Hardware, Software, and Telecommunications Performance

The Protech team executes installation testing processes to validate and verify the correctness of the system hardware and software configurations, including the communication channels between the infrastructure layers. In addition, load tests are conducted using the IBM Rational Performance Tester software to evaluate and fine tune performance.

System, Data and Application Security

Ease of use and role-based security will be tested throughout all functional areas. The details for testing ease of use standards and role-based security will be provided in each of the individual integration and system test plans. Databases will be initialized with appropriate data, security and user profiles, demographic data, and system parameters required to run a production environment.

Accuracy/Performance of System Interfaces

Our testing approach will focus on testing the successful movement of data through all interfaces. These data processing activities will not only focus on receiving data but also exchanging data. Accuracy and performance of these interface data exchanges are crucial to the successful execution of NCSEAS.

1.2.2 Acceptance Testing Responsibilities

Establish Acceptance Test Environment

During UAT, NCSEAS will be migrated to a testing environment that is configured to mirror the anticipated NCSEAS configuration at the time the application is released into statewide production. The Protech team will establish the acceptance test environment with multiple copies of the database to support concurrent and independent testing of each module, as well as end-to-end testing of the completed application.

Supply Acceptance Testing Training

The State team will be trained on the technical aspects of the system and the technologies employed in development and testing. UAT team members will receive system training prior to the beginning of the UAT process, providing the first test of the effectiveness of the project's training program and materials. The Protech Team provides training on the application, testing tools, and testing process prior to UAT.

Supply Documentation Needed for Acceptance Testing

The documentation necessary to understand the testing process, goals, and objectives will be included in the training sessions. As changes are made to the system due to defect resolution, UAT testers will be informed of the changes through our on-line bulletins which provided detailed information about any documentation changes.

Provide Support during Acceptance Testing

The testing process will be supported and coordinated by the Protech Team. It is our intent to provide batch operations, technical assistance, problem research and resolution, and other assistance as needed to assist the team through the exercise of system functions and processes. The Protech Team creates test case data for each testing phase. Test environments are backed up as required when test data is refreshed. The Protech Team will adhere to all support guidelines established in the service level agreements.

Through our previous testing experience we are prepared to assist the UAT test team in identifying cases needed for executing a specific test case type. This occurs when the State UAT team identifies the need for a

case with certain conditions and is unable to identify that such a test case exists. A UAT test script query request form will be submitted to the Protech test manager for review and editing. The State can also create cases with specific conditions in the UAT environment.

Document and Correct Problems

Our test team and help desk also support the State testing efforts by resolving issues, providing assistance to users, supporting the test environment, and ensuring defects are addressed. Documentation of defects will be completed in our defect management tools. Execution of acceptance testing will continue until all defects are corrected and retested, or exceptions are approved by the test management team. The approved "exceptions" will be corrected and retested during regression testing. Defects are re-tested by executing the test case until the tester determines that the test case scenario has passed. The defect status is then closed.

Examples of other documented testing problems that Protech will be proactive in resolving may be as follows. Each morning the State UAT Manager or designee will check the batch status log screen for NCSEAS UAT to determine if any of the scheduled batches failed during the previous night's execution. If a batch did fail, it will be referred to the Protech test manager who will initiate investigative action by the technical team. Once the issue has been identified and corrective action instituted, the batch will be re-executed in the next regular nightly process. This entire workflow process will be documented.

Create and Distribute Acceptance Test Analysis Reports

Status reporting will be generated from the individual test results maintained in a testing repository. The reports provide statistics to the State on initiated, executed, passed and failed test cases, and identified defects. Our metric reports are comprehensive and well designed. The Protech team will work with the State team to ensure that the report data and format meet their expectations. Metric reports will be provided to evaluate the progress and success of the acceptance testing process and that the developed system meets all business functional requirements and can be accepted for implementation and commencement of operations.

1.2.3 User Acceptance Testing Roles

The following table provides guidance on the composition of the UAT test teams, and the responsibilities of each position:

UAT Test Team Roles	
Type of Resource (roles)	**Primary Responsibilities**
Protech Test Manager	• Serve as point of contact for State during UAT activities • Participate in UAT readiness review • Work with State UAT team representatives to refine planning, execution, and support procedures • Assist as requested in the development and maintenance of the UAT plan • Approve migration of build from system test upon successful completion of the system test exit criteria for all of the functions within the build • Participate in planning and execution oversight process including batch execution and system date advancement based on Integration and System testing. State's Test manager or designee will participate in defect triage review • Receive and process requests from the State UAT manager or designee • Provide UAT results
State UAT Manager	• Responsible for the development and completion of the UAT management plan and UAT plan • Works directly with the project leads, and the implementation team to ensure the successful planning and completion of UAT

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UAT Test Team Roles	
Type of Resource (roles)	**Primary Responsibilities**
	• Provide UAT test management support and manage testing • Provide UAT infrastructure support • Initiate UAT technical testing and support • Ultimately responsible for accurately reporting progress of UAT to the project leadership team. • Escalation of any issues identified as a risk to testing or the project • Responsible for, and a member of, the UAT lead team
State UAT Lead	• Ensure the UAT environment is configured appropriately as required to support UAT • Assist the UAT script lead for data preparation, test execution, defect entry, tracking and reporting • Report updates to the test manager about testing progress, any issues faced, and any risks identified during the project.
Protech Team Testers	• Upon request from the State UAT team, assists in validating system and software requirements are appropriately reflected in test conditions and test scripts • Assist State UAT team with the test-related interaction with external entities (EXAMPLE: data exchange, execution, and interface related issues) • Follow procedures and support the State UAT team • Analyze regression test impacts of migrated defects • Coordinate defect resolution with the application development team for timely resolution of defects
State UAT Testers	• Test execution and defect reporting. • Include State SMEs, and project team business analysts
Protech Technical Team	• Support with the establishment of environments and application architecture.
State Technical Team	• Work in conjunction with the technical team in maintaining the UAT environments and addressing any technical issues within the purview of the State

1.2.4 User Acceptance Test Plan Template

UAT provides stakeholders the opportunity to gain first-hand experience with NCSEAS to determine how it will support their business needs prior to production. Through the use of a model office, users are able to test the functional aspects of the system and validate the workflow for the entire system. The model office is a physical location within Protech's project site that simulates the business and technical environment of an actual Nevada child support enforcement office.

An important part of this process is the implementation of a user acceptance test plan template. The use of this form facilitates the effectiveness of the UAT. This template will be developed by the Protech training team in coordination with the State. The UAT template will be part of the overall UAT training sessions, both for user tester and State technical team members. To ensure that test disciplines are understood and followed, all testing resources will participate in training. Although the Protech test team will provide the State with appropriate test cases/scenarios there will be instances when additional test cases will need to be developed by the State. The template will provide State testers with a uniform method of preparing test cases/scenarios. The template illustrated below provides one format that can be utilized for this project. However, it is our intent to design all templates with the assistance of the State test team staff to ensure that the template design meets the needs and expectation of the State.

UAT Test Request Form

Date Requested		**Submitted By**	
Contact		**Email/Phone**	
Screen Tested To Be		**Use Case To Be Tested**	
Case Type			
Case Category			
Case Conditions			
UAT Query:			
Test Management Team Edit:			
Comments:			
Request Completed (fill in once request has been completed)			
Date Completed		**Completed By**	
Request Not Completed (fill in if the request could not be completed)			
Date		**Contact**	
Contact Phone		**Contact Email**	
Reason Request could not be Completed		**Attachment/Defect ID**	
Expected Date Request will be Completed			
Recommendation:			

Figure 1.2-3. Example of UAT Test Plan Template

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XI-1.3 Sample Testing Checklists

The following is a sample checklist for entry and exit criteria used during integration and system testing.

Typical System Documentation Checklist			
Complete	**Entry Criteria**	**Complete**	**Exit Criteria**
	• Unit testing exit criteria are met.		• Integration/system test cases are executed to completion for the individual iterations.
	• Test cases have been traced to use cases.		• All defects identified during testing are documented, assigned a severity based on impact to testing, and resolved.
	• The Test Readiness Review Checklist is completed.		• A defect of critical severity has a resolution action plan and has been determined acceptable to pass according to the SDC Team and State.
	• System test environment hardware and software are installed and confirmed ready for use.		• All critical and major severity defects are resolved and retested at 100%, except as specifically deferred by the project management team to be fixed in a subsequent phase of testing.
	• Peer review and acceptance of all test cases have been completed for the tested iteration.		• Moderate and minor severity defects are resolved and retested except as specifically deferred by the project management team to be fixed in a subsequent phase of testing.
	• System test environment technical support personnel have been identified, dedicated, and trained.		• Integration/System test cases are 100% executed with a pass rate as agreed and approved by the project management team
	• All test data is available for test execution.		
	• Planned dates to system test have been defined in the project schedule.		
	• All testing resources are set up in the test manager and TFS tools.		

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The following are three examples of Protech's CSE model checklists, which serve various functions based on the nature of the code under review:

3.0 Checklists

3.1 Code Review Checklist - HTML/DHTML/XML/JSP

Purpose

The Purpose of this document is to give a list of items to be checked for during a Code Review.

Review Conditions

The following Review Conditions are to be checked during the Code Review. Complete the checklist for one program/module before the next program is reviewed. Enter a "P" for Pass or "F" for Fail in the "Pass/Fail" column when a review point has passed or failed. Enter "NA" for a review condition that is not applicable in the "Not Applicable N/A" column. The "Comments" column is an optional entry column.

Name of Reviewer:	
Name of Program/Module:	
Date of Review:	

Section	*Description*	*Pass/Fail P/F*	*Not Applicable N/A*	*Comments*
Complete	Does the code covers all the design requirements?			
File Names	Do the File names follow the naming rules?			
	Are the file names >32 letters?			
	Are the file names in lowercase?			
	Filename names should not contain underscore to separate words. (Should have			

Figure 1.3-4. Web Code Review Checklist

HTML_DHTML_XML_JSP Code Review Java Code Review Checklist

3.2 Java Code Review Checklist

The following review conditions are to be checked during the Code Review. Complete the checklist for one program/module before the next program is reviewed. Enter a "P" for Pass or "F" for Fail in the "Pass/Fail" column when a condition has passed or failed. Enter "NA" for a condition that is not applicable in the "Not Applicable N/A" column. The "Comments" column is an optional entry column.

Name of Reviewer:	
Name of Program/ Module:	
Date of Review:	

Section	*Description*	*Pass /Fail P/F*	*Not Applic-able N/A*	*Comments*
Naming Conventions	Are full English descriptors that accurately describe the variable/field being used? For example: FirstName, GrandTotal or CorporateCustomer or ID_CASE or CD_SOURCE_RECEIPT			
	Is the terminology applicable to the domain? Eg: ID_CASE, DCN, Member SSN, Receipt ID etc. If users refer to the clients as customers, then use the term Customer for the Class, not Client			
	Is the use of abbreviations used sparingly? If used, are the			

Figure 1.3-5. Java Code Review Checklist

HTML_DHTML_XML_JSP Code Review Java Code Review Checklist

3.3 JavaScript Code Review Checklist

Purpose

The Purpose of this document is to give a list of items to be checked for during a Code Review.

Review Conditions

The following review conditions are to be checked during the Code Review. Complete the checklist for one program/module before the next program is reviewed. Enter a "P" for Pass or "F" for Fail in the "Pass/Fail" column when a condition has passed or failed. Enter "NA" for a condition that is not applicable in the "Not Applicable N/A" column. The "Comments" column is an optional entry column.

Name of Reviewer:	
Name of Program/ Module:	
Date of Review:	

Section	*Description*	*Pass/ Fail P/F*	*Not Applicabl e N/A*	*Comments*
Naming conventions	Are English descriptors used that accurately describing the variable? *For example:* sFirstName, nGrandTotal, or oCustomerData			
	Do names begin with a character or underscore, and nothing else? *Subsequent characters may be any*			

Figure 1.3-6. Java Script Code Review Checklist

Example of Checklist is used for Java Script Code Review

XI-1.4 Sample Test Reports

Test Case Detail Report:

Report Description: This report provides information on the test cases that have been created for SIT. It will allow the team to view all test cases during the integration, system testing process.
Generated By: Protech test team
Report Timing: Anytime
Sorting Requirements: None
Field Requirements:

Test Case Detail		
Field Name	Field Description	Values
Test Case #	This field displays the test case number.	Numeric
Test Case Name	This field displays the test case name.	Text
Test Case Status	This field displays whether the test case has been executed and whether it has passed or failed.	• Not Executed • In Progress • Passed • Failed
Use Case	This field displays the use case(s) associated with the test script.	Alpha-numeric
Regression Test Case	This field shows whether the test case has been identified as a regression test case.	Y or N
Test Case Level	This field identifies the script priority.	High, Medium, Low
System Module	This field displays the area in which this script is associated.	• NPA • Locate • CSENet • IVA • Pat Establishment • Support Establishment

Test Case to Use Case Tracking Report:

Report Description: This report provides test script tracking back to a specific user case.
Generated By: Protech test team
Report Timing: Anytime
Sorting Requirements: None
Field Requirements:

Test Case to Use Case Tracking		
Field Name	Field Description	Values
Test Case #	This field displays the test script number.	Numeric
Use Case	This field displays the use case(s) associated with the test script.	Alpha-numeric

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Open Defect Report:

Report Description: This report provides details for all open defects throughout the Integration and System testing process.
Generated By: Protech Team
Report Timing: Anytime
Sorting Requirements: Priority, Severity
Field Requirements:

Open Defect Reporting		
Field Name	Field Description	Values
Defect#	This field displays the defect number assigned in Bugzilla.	Numeric
Defect Description	This field displays the description of the defect.	Text
Date Detected	This field displays the date the defect was detected.	Date
Test Case	This field displays the test cases linked to the defect.	Numeric
Use Case	This field displays the use cases(s) linked to the defect (test case/s linked to use case).	Alpha-numeric
Phase	This field displays the phase(s) with which this test case is associated.	• NPA • Locate • CSENet • IVA
Defect Status	This field displays the status of the defect (where it is in the process to be corrected).	• Defect status from TFS - need values • New • Pending • Open • Closed • Resolved
Severity	This field displays the severity level assigned to the defect.	• Critical • Major • Moderate • Minor
Priority	This field displays the priority level of the defect.	• Level1 • Level2 • Level3 • Level4
Level1Deferral Reason	This field displays the reason a defect was deferred. This field will only have a value when the Defect Status is equal to Deferred.	Text
Deferred work hours	This field displays the expected amount of time it will take to correct the defect that has been deferred. This field will only have a value when the Defect Status is equal to Deferred.	Numeric
Deferred Date of Completion	This field displays the date the defect is expected to be corrected. This field will only have a value when the Defect Status is equal to Deferred.	Date
Detected by	This field displays the name of the person who reported the defect.	Text
Assigned to	This field displays the name of the developer assigned to the defect, if it has been assigned.	Text

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Daily Defect Status Report:

Report Description: This report provides a daily summary of defects during the execution of test cases.
Generated By: Protech Team
Report Timing: Daily at the end of each day
Sorting Requirements: Status, Severity
Field Requirements:

Daily Defect Status Reporting		
Field Name	Field Description	Values
Previous Day Defect Count	This field displays the number of defects open prior to the test day beginning.	Numeric
Defect Corrected Count	This field displays the number of defects corrected during the testing day.	Numeric
Defects Corrected	This field lists the defect number for those defects corrected.	Numeric
New Defect Count	This field displays the number of new defects created during the testing day.	Numeric
New Defect #	This field lists the defect number for defects created during the testing day.	Numeric
Number of Repeat Defects	This field displays the number of defects, which have reoccurred after correction.	Numeric
Total Number of Open Defects	This field displays the total number of open defects to date.	Numeric
Defect Severity	This field displays the severity level assigned to the defect.	• Critical • Major • Moderate • Minor
Defect Status	This field displays the status of the defect (where it is in the process to be corrected).	• New • Pending • Open • Closed • Future-Release • Assigned • Deferred • Duplicate

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Integration and System Testing Summary Report:
Report Description: This report provides a summary of the execution of test cases.
Generated By: Protech Team
Report Timing: Anytime
Sorting Requirements: Functional Category
Field Requirements:

NOTE: ***This summary report will be comprised of two separate reports, one for Test Case Summary and one for Defects Summary.***

Integration and System Testing Summary Reporting		
Field Name	Field Description	Values
Total Number of Test Cases	This field displays the total number of test cases that have been developed.	Numeric
Total Number of Test Cases Executed	This field displays the total number of test cases that have been executed.	Numeric
Total Number of Passed Test Cases	This field displays the total number of test cases that have passed testing.	Numeric
Total Number of Failed Test Cases	This field displays the total number of test cases that have failed testing.	Numeric
Total number of Deferred Test Cases	This field displays the total number of test cases that have been deferred	Numeric
Total Number of Defects	This field displays the total number of all open and closed defects.	Numeric
Total Number of Repeat Defects	This field displays the number of defects, which have reoccurred after correction.	Numeric
Total Number of Open Defects	This field displays the total number of all open defects.	Numeric
Total Number of Closed Defects	This field displays the total number of all defects, which have been closed/resolved.	Numeric
Defect Status	This field displays the status of the defect (where it is in the process to be corrected).	• New • Pending • Open • Closed • Resolved
Defect Severity	This field displays the severity level assigned to the defect.	• Critical • Major • Moderate • Minor
Functional Area	This field displays the functional areas(s) under testing when the defect occurred.	• NPA • Locate • CSENet • IVA • Pat Establishment • Support Establishment • Enforcement • Financials • Reporting • Remaining Interfaces

NOTE: ***The values contained in the sample reports above are not all inclusive, but provided as examples.***

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XI-1.5 Defect Management Workflow

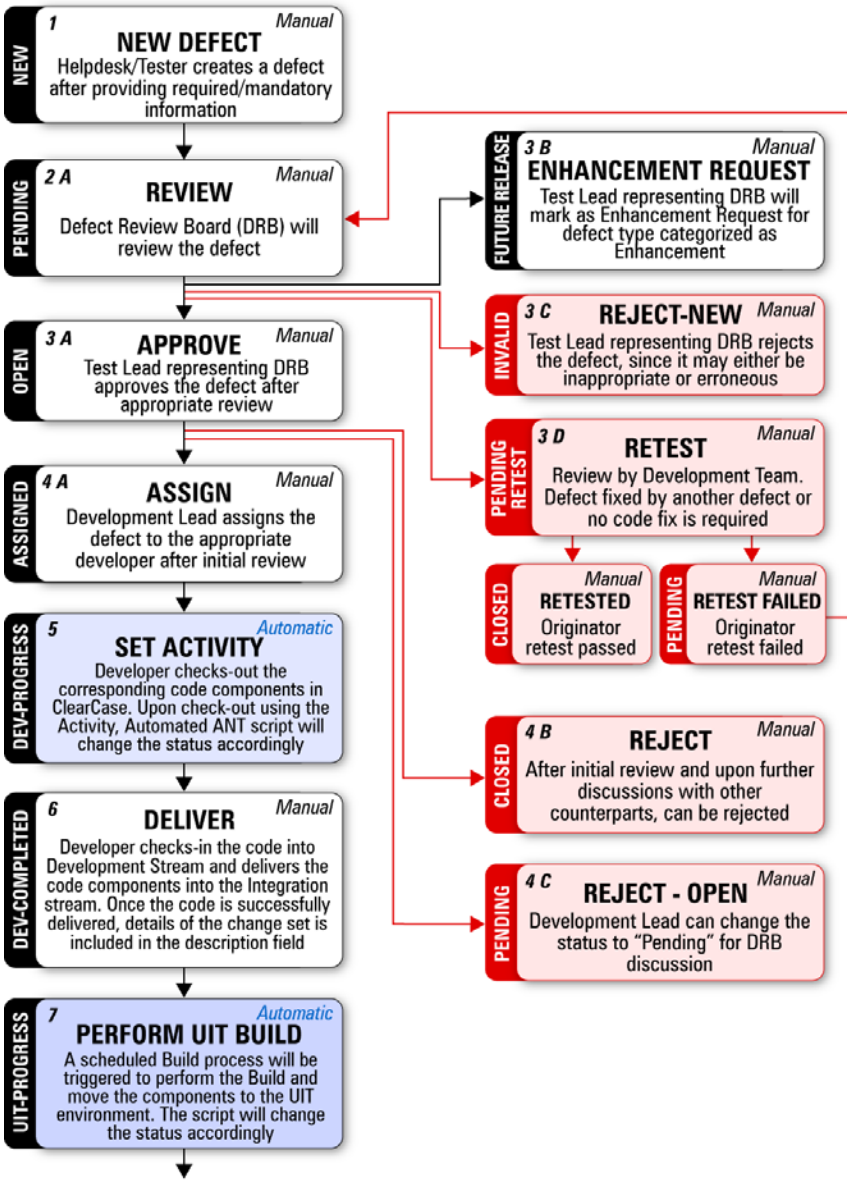

Figure 1.5-7. Defect Management Workflow

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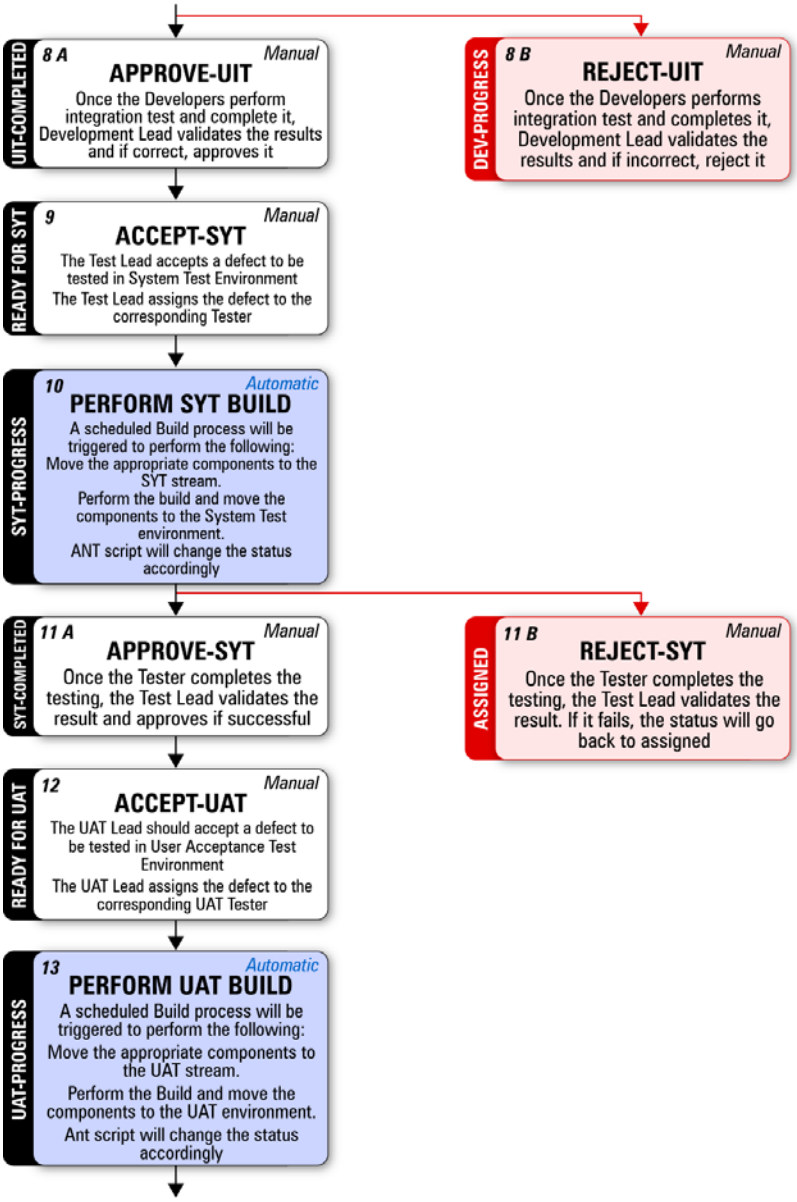

Defect Management Workflow (continued)

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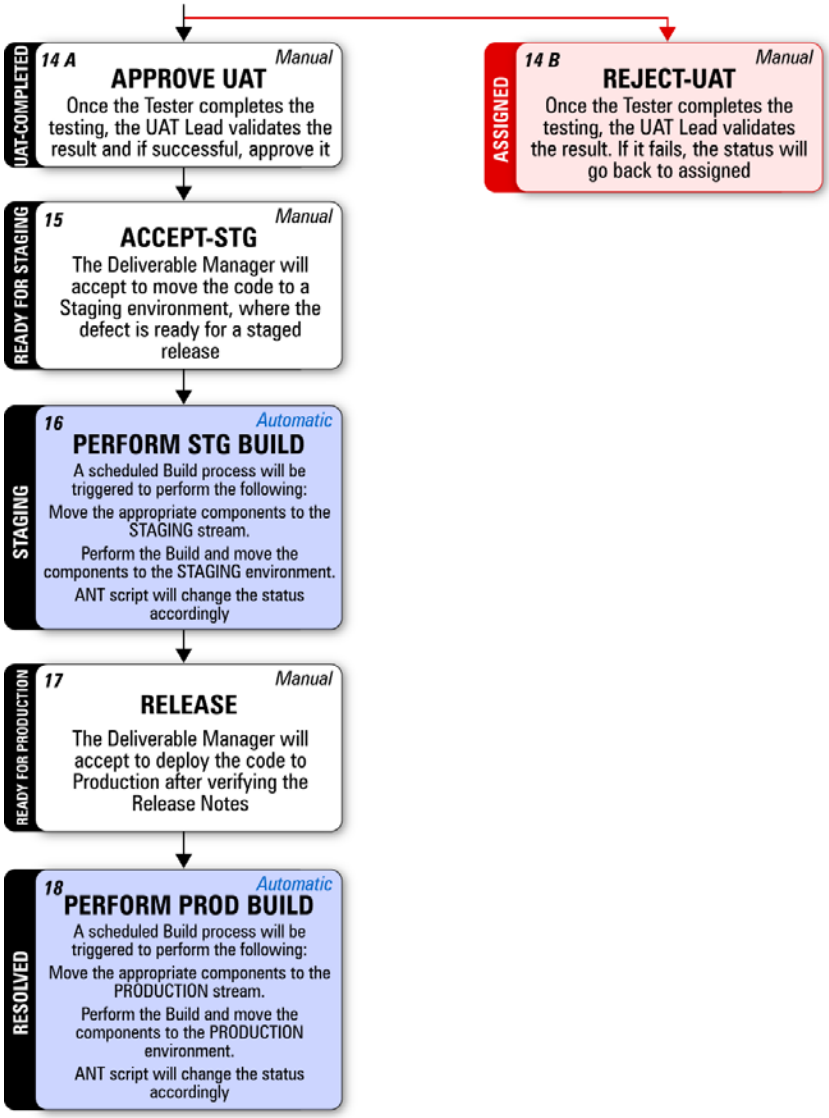

Defect Management Workflow (continued)

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Section XI

Other Informational Material

Appendix B. NCSEAS Project Work Plan

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Project1

ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1	**1**	**NCSEAS Project Implementation**	**1450 days**	**Tue 5/1/18**	**Mon 11/20/23**	
2	**1.1**	**PHASE 1 - Project Management**	**1433 days**	**Tue 5/1/18**	**Thu 10/26/23**	
3	1.1.1	Schedule Management	1433 days	Tue 5/1/18	Thu 10/26/23	
4	1.1.2	Project Site Establishment, Maintenance and Management	1433 days	Tue 5/1/18	Thu 10/26/23	
5	**1.1.3**	**Communications Management**	**1433 days**	**Tue 5/1/18**	**Thu 10/26/23**	
6	1.1.3.1	4.6.3.1 - Weekly Meetings and Minutes	1433 days	Tue 5/1/18	Thu 10/26/23	
7	1.1.3.2	4.6.3.2 - Weekly Status Reporting	1433 days	Tue 5/1/18	Thu 10/26/23	
8	1.1.3.3	4.6.3.3 - Monthly Status Reporting	1433 days	Tue 5/1/18	Thu 10/26/23	
9	1.1.3.4	Quarterly Executive Office of Board Meetings	1433 days	Tue 5/1/18	Thu 10/26/23	
10	1.1.4	Quality Management	1433 days	Tue 5/1/18	Thu 10/26/23	
11	1.1.5	Risk and Issue Management	1433 days	Tue 5/1/18	Thu 10/26/23	
12	1.1.6	M: Project Management (PHASE 1) - Complete (Over arching Recurring Phase)	1433 days	Tue 5/1/18	Thu 10/26/23	
13	**1.2**	**PHASE 2 - Project Initiation and Planning**	**129 days**	**Tue 5/1/18**	**Fri 10/26/18**	
14	**1.2.1**	**Project Initiation Planning**	**22 days**	**Tue 5/1/18**	**Wed 5/30/18**	
15	1.2.1.1	Project Repository Establishment	22 days	Tue 5/1/18	Wed 5/30/18	
16	1.2.1.2	Establishment of Protech Project Team	22 days	Tue 5/1/18	Wed 5/30/18	
17	1.2.1.3	Facility Selection	22 days	Tue 5/1/18	Wed 5/30/18	
18	1.2.1.4	M: Project Initiation Planning - Complete	0 days	Wed 5/30/18	Wed 5/30/18	
19	**1.2.2**	**Project Initiation Execution**	**107 days**	**Thu 5/31/18**	**Fri 10/26/18**	
20	**1.2.2.1**	**Project Kickoff**	**20 days**	**Thu 5/31/18**	**Wed 6/27/18**	
21	1.2.2.1.1	State Project Kick off Meeting	20 days	Thu 5/31/18	Wed 6/27/18	
22	1.2.2.1.2	Internal Project Kick off Meeting	20 days	Thu 5/31/18	Wed 6/27/18	
23	**1.2.2.2**	**4.3.3.1 - Project Management Plan**	**25 days**	**Thu 5/31/18**	**Wed 7/4/18**	
24	1.2.2.2.1	Create Draft Plan	25 days	Thu 5/31/18	Wed 7/4/18	
25	1.2.2.2.2	Review & Submit Plan	25 days	Thu 5/31/18	Wed 7/4/18	
26	1.2.2.2.3	Finalize & Complete Plan	25 days	Thu 5/31/18	Wed 7/4/18	
27	**1.2.2.3**	**4.5.3.1 - Project Schedule**	**45 days**	**Thu 5/31/18**	**Wed 8/1/18**	
28	1.2.2.3.1	Create Project Schedule draft	45 days	Thu 5/31/18	Wed 8/1/18	
29	1.2.2.3.2	Review and submit Project Schedule	45 days	Thu 5/31/18	Wed 8/1/18	
30	1.2.2.3.3	Baseline Plan	45 days	Thu 5/31/18	Wed 8/1/18	
31	**1.2.2.4**	**4.4.3.1 - Establishment of Project Office**	**107 days**	**Thu 5/31/18**	**Fri 10/26/18**	
32	1.2.2.4.1	Facility Lease	30 days	Thu 5/31/18	Wed 7/11/18	

Project1

ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
33	1.2.2.4.2	Facility Design	30 days	Thu 7/12/18	Wed 8/22/18	
34	1.2.2.4.3	Facility Build-out	30 days	Thu 8/23/18	Wed 10/3/18	
35	1.2.2.4.4	Project office Inspection	7 days	Thu 10/4/18	Fri 10/12/18	
36	1.2.2.4.5	Certificate of Occupancy	7 days	Mon 10/15/18	Tue 10/23/18	
37	1.2.2.4.6	4.4.3.1 - Obtain Certificates of Occupancy	3 days	Wed 10/24/18	Fri 10/26/18	
38	1.2.2.5	Definition of All Deliverable Templates	8 days	Thu 5/31/18	Mon 6/11/18	
39	1.2.2.6	M: Project Initiation Execution - Complete	0 days	Fri 10/26/18	Fri 10/26/18	
40	**1.2.3**	**Project Initiation Closeout**	**0 days**	**Fri 10/26/18**	**Fri 10/26/18**	
41	1.2.3.1	M: Project Initiation Closeout - Complete	0 days	Fri 10/26/18	Fri 10/26/18	
42	1.2.4	M: PHASE 2 (PROJECT INITIATION & PLANNING) COMPLETE	0 days	Fri 10/26/18	Fri 10/26/18	
43	**1.3**	**PHASE 3 - Requirements Validation**	**131 days**	**Tue 5/1/18**	**Tue 10/30/18**	
44	**1.3.1**	**Requirements Validation Planning**	**22 days**	**Tue 5/1/18**	**Wed 5/30/18**	
45	1.3.1.1	Analyze Functional Requirements	22 days	Tue 5/1/18	Wed 5/30/18	
46	1.3.1.2	Analyze Technical Requirements	22 days	Tue 5/1/18	Wed 5/30/18	
47	1.3.1.3	Schedule / Publish Calendar for RV Sessions	22 days	Tue 5/1/18	Wed 5/30/18	
48	1.3.1.4	M: Requirements Validation Planning - Complete	0 days	Wed 5/30/18	Wed 5/30/18	
49	**1.3.2**	**Functional Requirements Execution**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	
50	**1.3.2.1**	**Case Initiation**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	**2.1**
51	1.3.2.1.1	Automated Referral Processing	1 day	Mon 6/4/18	Mon 6/4/18	2.1.1
52	1.3.2.1.2	Online Pending Referral Function	1 day	Mon 6/4/18	Mon 6/4/18	2.1.2
53	1.3.2.1.3	Client Databases	1 day	Mon 6/4/18	Mon 6/4/18	2.1.3
54	1.3.2.1.4	Automatic Case Setup	1 day	Mon 6/4/18	Mon 6/4/18	2.1.4
55	1.3.2.1.5	Automatic Editing of Referral Data	1 day	Mon 6/4/18	Mon 6/4/18	2.1.5
56	1.3.2.1.6	Automated Case Record	1 day	Mon 6/4/18	Mon 6/4/18	2.1.6
57	1.3.2.1.7	Limited Services	1 day	Mon 6/4/18	Mon 6/4/18	2.1.7
58	1.3.2.1.8	Case Tracking	1 day	Mon 6/4/18	Mon 6/4/18	2.1.8
59	1.3.2.1.9	Participant Entity Management Capability	1 day	Mon 6/4/18	Mon 6/4/18	2.1.9
60	1.3.2.1.10	Participant Demographic Data Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.10
61	1.3.2.1.11	Participant Status Data Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.11
62	1.3.2.1.12	Participant Occupation Data Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.12
63	1.3.2.1.13	Participant Interface Number Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.13
64	1.3.2.1.14	Participant Address Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.14
65	1.3.2.1.15	Participant License Data Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.15

Project1

ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
66	1.3.2.1.16	Participant Asset Data Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.16
67	1.3.2.1.17	Participant Employer Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.17
68	1.3.2.1.18	Participant Employment Income Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.18
69	1.3.2.1.19	Participant Self-Employment Income Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.19
70	1.3.2.1.20	Participant Other Income Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.20
71	1.3.2.1.21	Participant Expense Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.21
72	1.3.2.1.22	Participant Medical Support Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.22
73	1.3.2.1.23	Employer Management	1 day	Mon 6/4/18	Mon 6/4/18	2.1.23
74	1.3.2.1.24	Non-Public Assistance (NPA) Applications	1 day	Mon 6/4/18	Mon 6/4/18	2.1.24
75	1.3.2.1.25	Application Form Generation	1 day	Mon 6/4/18	Mon 6/4/18	2.1.25
76	1.3.2.1.26	IV-A Referrals	1 day	Mon 6/4/18	Mon 6/4/18	2.1.26
77	1.3.2.1.27	Title XIX Referrals	1 day	Mon 6/4/18	Mon 6/4/18	2.1.27
78	1.3.2.1.28	IV-E Referrals	1 day	Mon 6/4/18	Mon 6/4/18	2.1.28
79	1.3.2.1.29	Interstate, Tribal, and International Referrals	1 day	Mon 6/4/18	Mon 6/4/18	2.1.29
80	1.3.2.1.30	Case Data	1 day	Mon 6/4/18	Mon 6/4/18	2.1.30
81	1.3.2.1.31	Court Interface	1 day	Mon 6/4/18	Mon 6/4/18	2.1.31
82	1.3.2.1.32	Intake Case Monitoring	1 day	Mon 6/4/18	Mon 6/4/18	2.1.32
83	1.3.2.1.33	Case Types	1 day	Mon 6/4/18	Mon 6/4/18	2.1.33
84	1.3.2.1.34	Assistance Status	1 day	Mon 6/4/18	Mon 6/4/18	2.1.34
85	1.3.2.1.35	Order Status	1 day	Mon 6/4/18	Mon 6/4/18	2.1.35
86	1.3.2.1.36	Functional Area Status	1 day	Mon 6/4/18	Mon 6/4/18	2.1.36
87	1.3.2.1.37	Intergovernmental Status	1 day	Mon 6/4/18	Mon 6/4/18	2.1.37
88	1.3.2.1.38	Child Welfare IV-E Status	1 day	Mon 6/4/18	Mon 6/4/18	2.1.38
89	1.3.2.1.39	State Case Registry	1 day	Mon 6/4/18	Mon 6/4/18	2.1.39
90	1.3.2.1.40	Non IV-D Court Orders	1 day	Mon 6/4/18	Mon 6/4/18	2.1.40
91	1.3.2.1.41	Federal Case Registry Interface	1 day	Mon 6/4/18	Mon 6/4/18	2.1.41
92	1.3.2.1.42	Decompose / elaborate Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
93	1.3.2.1.43	Conduct Functional Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
94	1.3.2.1.44	Refine Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
95	1.3.2.1.45	Submit Functional Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	
96	**1.3.2.2**	**Locate**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	**2.2**
97	1.3.2.2.1	Basic Locate Functionality	1 day	Mon 6/4/18	Mon 6/4/18	2.2.1

Project1

ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
98	1.3.2.2.2	Locate Case Monitoring	1 day	Mon 6/4/18	Mon 6/4/18	2.2.2
99	1.3.2.2.3	Secure Exchange of Data	1 day	Mon 6/4/18	Mon 6/4/18	2.2.3
100	1.3.2.2.4	Locate Interfaces	1 day	Mon 6/4/18	Mon 6/4/18	2.2.4
101	1.3.2.2.5	Federal Parent Locator Service (FPLS)	1 day	Mon 6/4/18	Mon 6/4/18	2.2.5
102	1.3.2.2.6	Locate Workflow	1 day	Mon 6/4/18	Mon 6/4/18	2.2.6
103	1.3.2.2.7	Quick Locate	1 day	Mon 6/4/18	Mon 6/4/18	2.2.7
104	1.3.2.2.8	National Directory of New Hires (NDNH)	1 day	Mon 6/4/18	Mon 6/4/18	2.2.8
105	1.3.2.2.9	Federal Case Registry (FCR)	1 day	Mon 6/4/18	Mon 6/4/18	2.2.9
106	1.3.2.2.10	Driver and Motor Vehicle Services Division (DMV)	1 day	Mon 6/4/18	Mon 6/4/18	2.2.10
107	1.3.2.2.11	Department of Wildlife	1 day	Mon 6/4/18	Mon 6/4/18	2.2.11
108	1.3.2.2.12	DETR	1 day	Mon 6/4/18	Mon 6/4/18	2.2.12
109	1.3.2.2.13	Vital Statistics	1 day	Mon 6/4/18	Mon 6/4/18	2.2.13
110	1.3.2.2.14	Department of Corrections	1 day	Mon 6/4/18	Mon 6/4/18	2.2.14
111	1.3.2.2.15	Credit Reporting Agencies	1 day	Mon 6/4/18	Mon 6/4/18	2.2.15
112	1.3.2.2.16	Postal Service	1 day	Mon 6/4/18	Mon 6/4/18	2.2.16
113	1.3.2.2.17	Nevada Department of Taxation	1 day	Mon 6/4/18	Mon 6/4/18	2.2.17
114	1.3.2.2.18	State IV-A Agency	1 day	Mon 6/4/18	Mon 6/4/18	2.2.18
115	1.3.2.2.19	Title XIX Agency	1 day	Mon 6/4/18	Mon 6/4/18	2.2.19
116	1.3.2.2.20	State Child Welfare (IV-E) Agency	1 day	Mon 6/4/18	Mon 6/4/18	2.2.20
117	1.3.2.2.21	General Assistance System	1 day	Mon 6/4/18	Mon 6/4/18	2.2.21
118	1.3.2.2.22	State Directory of New Hires (SDNH)	1 day	Mon 6/4/18	Mon 6/4/18	2.2.22
119	1.3.2.2.23	Public Utilities	1 day	Mon 6/4/18	Mon 6/4/18	2.2.23
120	1.3.2.2.24	Financial Institutions	1 day	Mon 6/4/18	Mon 6/4/18	2.2.24
121	1.3.2.2.25	State Licensing Entities	1 day	Mon 6/4/18	Mon 6/4/18	2.2.25
122	1.3.2.2.26	Real and Personal Property Ownership Agencies	1 day	Mon 6/4/18	Mon 6/4/18	2.2.26
123	1.3.2.2.27	Tribal IV-D Programs	1 day	Mon 6/4/18	Mon 6/4/18	2.2.27
124	1.3.2.2.28	Food Stamps	1 day	Mon 6/4/18	Mon 6/4/18	2.2.28
125	1.3.2.2.29	Additional Locate Information	1 day	Mon 6/4/18	Mon 6/4/18	2.2.29
126	1.3.2.2.30	Decompose / elaborate Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
127	1.3.2.2.31	Conduct Functional Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
128	1.3.2.2.32	Refine Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
129	1.3.2.2.33	Submit Functional Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	

Project1

ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
130	**1.3.2.3**	**Establishment**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	**2.3**
131	1.3.2.3.1	Paternity Establishment	1 day	Mon 6/4/18	Mon 6/4/18	2.3.1
132	1.3.2.3.2	Support Establishment	1 day	Mon 6/4/18	Mon 6/4/18	2.3.2
133	1.3.2.3.3	Medical Support Services	1 day	Mon 6/4/18	Mon 6/4/18	2.3.3
134	1.3.2.3.4	Legal Process Monitoring	1 day	Mon 6/4/18	Mon 6/4/18	2.3.4
135	1.3.2.3.5	Paternity Acknowledgement Access	1 day	Mon 6/4/18	Mon 6/4/18	2.3.5
136	1.3.2.3.6	Multiple Putative Fathers	1 day	Mon 6/4/18	Mon 6/4/18	2.3.6
137	1.3.2.3.7	Genetic Testing	1 day	Mon 6/4/18	Mon 6/4/18	2.3.7
138	1.3.2.3.8	Hearing Calendar	1 day	Mon 6/4/18	Mon 6/4/18	2.3.8
139	1.3.2.3.9	Service of Process	1 day	Mon 6/4/18	Mon 6/4/18	2.3.9
140	1.3.2.3.10	Guideline Support Calculation	1 day	Mon 6/4/18	Mon 6/4/18	2.3.10
141	1.3.2.3.11	Hearing Results	1 day	Mon 6/4/18	Mon 6/4/18	2.3.11
142	1.3.2.3.12	Decompose / elaborate Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
143	1.3.2.3.13	Conduct Functional Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
144	1.3.2.3.14	Refine Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
145	1.3.2.3.15	Submit Functional Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	
146	**1.3.2.4**	**Case Management**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	**2.4**
147	1.3.2.4.1	Data Maintenance	1 day	Mon 6/4/18	Mon 6/4/18	2.4.1
148	1.3.2.4.2	Third Party Data Maintenance	1 day	Mon 6/4/18	Mon 6/4/18	2.4.2
149	1.3.2.4.3	Case Management Monitoring	1 day	Mon 6/4/18	Mon 6/4/18	2.4.3
150	1.3.2.4.4	Case Update Processing	1 day	Mon 6/4/18	Mon 6/4/18	2.4.4
151	1.3.2.4.5	IV-A Updates	1 day	Mon 6/4/18	Mon 6/4/18	2.4.5
152	1.3.2.4.6	Title XIX Updates	1 day	Mon 6/4/18	Mon 6/4/18	2.4.6
153	1.3.2.4.7	Child Welfare (IV-E) Updates	1 day	Mon 6/4/18	Mon 6/4/18	2.4.7
154	1.3.2.4.8	Case Action History	1 day	Mon 6/4/18	Mon 6/4/18	2.4.8
155	1.3.2.4.9	Workflow Management	1 day	Mon 6/4/18	Mon 6/4/18	2.4.9
156	1.3.2.4.10	Alert Management	1 day	Mon 6/4/18	Mon 6/4/18	2.4.10
157	1.3.2.4.11	Document Management	1 day	Mon 6/4/18	Mon 6/4/18	2.4.11
158	1.3.2.4.12	Obligation Review and Adjustment	1 day	Mon 6/4/18	Mon 6/4/18	2.4.12
159	1.3.2.4.13	Case Closure Management	1 day	Mon 6/4/18	Mon 6/4/18	2.4.13
160	1.3.2.4.14	Intergovernmental Case Management	1 day	Mon 6/4/18	Mon 6/4/18	2.4.14
161	1.3.2.4.15	Initiating Intergovernmental Case Management	1 day	Mon 6/4/18	Mon 6/4/18	2.4.15

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
162	1.3.2.4.16	Responding Intergovernmental Case Management	1 day	Mon 6/4/18	Mon 6/4/18	2.4.16
163	1.3.2.4.17	Intergovernmental Document Generation	1 day	Mon 6/4/18	Mon 6/4/18	2.4.17
164	1.3.2.4.18	FIPS Management	1 day	Mon 6/4/18	Mon 6/4/18	2.4.18
165	1.3.2.4.19	Tribal Case Management	1 day	Mon 6/4/18	Mon 6/4/18	2.4.19
166	1.3.2.4.20	Decompose / elaborate Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
167	1.3.2.4.21	Conduct Functional Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
168	1.3.2.4.22	Refine Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
169	1.3.2.4.23	Submit Functional Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	
170	**1.3.2.5**	**Enforcement**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	**2.5**
171	1.3.2.5.1	Account Enforcement Monitoring	1 day	Mon 6/4/18	Mon 6/4/18	2.5.1
172	1.3.2.5.2	Enforcement Remedy Exemptions	1 day	Mon 6/4/18	Mon 6/4/18	2.5.2
173	1.3.2.5.3	Income Withholding	1 day	Mon 6/4/18	Mon 6/4/18	2.5.3
174	1.3.2.5.4	Federal Tax Refund Offset	1 day	Mon 6/4/18	Mon 6/4/18	2.5.4
175	1.3.2.5.5	Liens	1 day	Mon 6/4/18	Mon 6/4/18	2.5.5
176	1.3.2.5.6	Bonds	1 day	Mon 6/4/18	Mon 6/4/18	2.5.6
177	1.3.2.5.7	Unemployment Intercept	1 day	Mon 6/4/18	Mon 6/4/18	2.5.7
178	1.3.2.5.8	Credit Reporting	1 day	Mon 6/4/18	Mon 6/4/18	2.5.8
179	1.3.2.5.9	IRS Full Collection Services	1 day	Mon 6/4/18	Mon 6/4/18	2.5.9
180	1.3.2.5.10	National Medical Support Notice & Medical Enforcement	1 day	Mon 6/4/18	Mon 6/4/18	2.5.10
181	1.3.2.5.11	License Suspension and Non-renewal	1 day	Mon 6/4/18	Mon 6/4/18	2.5.11
182	1.3.2.5.12	Contempt and Bench Warrant Processing	1 day	Mon 6/4/18	Mon 6/4/18	2.5.12
183	1.3.2.5.13	Passport Denial	1 day	Mon 6/4/18	Mon 6/4/18	2.5.13
184	1.3.2.5.14	Financial Institution Data Match	1 day	Mon 6/4/18	Mon 6/4/18	2.5.14
185	1.3.2.5.15	Administrative Offset	1 day	Mon 6/4/18	Mon 6/4/18	2.5.15
186	1.3.2.5.16	Child Support Lien Network and Other Claim Matching	1 day	Mon 6/4/18	Mon 6/4/18	2.5.16
187	1.3.2.5.17	Federal / State Criminal Non Support Referral Tracking	1 day	Mon 6/4/18	Mon 6/4/18	2.5.17
188	1.3.2.5.18	Administrative Enforcement-Interstate	1 day	Mon 6/4/18	Mon 6/4/18	2.5.18
189	1.3.2.5.19	Decompose / elaborate Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
190	1.3.2.5.20	Conduct Functional Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
191	1.3.2.5.21	Refine Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
192	1.3.2.5.22	Submit Functional Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
193	**1.3.2.6**	**Financials**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	**2.6**
194	1.3.2.6.1	Order Entry and Obligation Maintenance	1 day	Mon 6/4/18	Mon 6/4/18	2.6.1
195	1.3.2.6.2	Future Obligation Setup	1 day	Mon 6/4/18	Mon 6/4/18	2.6.2
196	1.3.2.6.3	Retroactive Obligation Management	1 day	Mon 6/4/18	Mon 6/4/18	2.6.3
197	1.3.2.6.4	Debt Types	1 day	Mon 6/4/18	Mon 6/4/18	2.6.4
198	1.3.2.6.5	Account Charging	1 day	Mon 6/4/18	Mon 6/4/18	2.6.5
199	1.3.2.6.6	Obligor Billing	1 day	Mon 6/4/18	Mon 6/4/18	2.6.6
200	1.3.2.6.7	Payment Processing	1 day	Mon 6/4/18	Mon 6/4/18	2.6.7
201	1.3.2.6.8	Held Collections Management	1 day	Mon 6/4/18	Mon 6/4/18	2.6.8
202	1.3.2.6.9	Escheatment Management	1 day	Mon 6/4/18	Mon 6/4/18	2.6.9
203	1.3.2.6.10	Financial Distribution	1 day	Mon 6/4/18	Mon 6/4/18	2.6.10
204	1.3.2.6.11	Electronic Fund Transfer Management	1 day	Mon 6/4/18	Mon 6/4/18	2.6.11
205	1.3.2.6.12	Bank Account Reconciliation	1 day	Mon 6/4/18	Mon 6/4/18	2.6.12
206	1.3.2.6.13	Account Adjustments	1 day	Mon 6/4/18	Mon 6/4/18	2.6.13
207	1.3.2.6.14	Recovery of Misapplied Pymts & NSF Fin. Instruments	1 day	Mon 6/4/18	Mon 6/4/18	2.6.14
208	1.3.2.6.15	Account Audit Capability	1 day	Mon 6/4/18	Mon 6/4/18	2.6.15
209	1.3.2.6.16	Account Statements and Financial Reports	1 day	Mon 6/4/18	Mon 6/4/18	2.6.16
210	1.3.2.6.17	IV-A Updates and Notification	1 day	Mon 6/4/18	Mon 6/4/18	2.6.17
211	1.3.2.6.18	Title XIX and Child Welfare Recovery Account Mgmt	1 day	Mon 6/4/18	Mon 6/4/18	2.6.18
212	1.3.2.6.19	Statewide Accounting and Fee Management	1 day	Mon 6/4/18	Mon 6/4/18	2.6.19
213	1.3.2.6.20	Decompose / elaborate Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
214	1.3.2.6.21	Conduct Functional Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
215	1.3.2.6.22	Refine Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
216	1.3.2.6.23	Submit Functional Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	
217	**1.3.2.7**	**Reporting**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	**2.7**
218	1.3.2.7.1	OCSE-34A Reporting	1 day	Mon 6/4/18	Mon 6/4/18	2.7.1
219	1.3.2.7.2	OCSE-157 Reporting	1 day	Mon 6/4/18	Mon 6/4/18	2.7.2
220	1.3.2.7.3	OCSE-396A Reporting	1 day	Mon 6/4/18	Mon 6/4/18	2.7.3
221	1.3.2.7.4	Data Reliability Monitoring and Reporting	1 day	Mon 6/4/18	Mon 6/4/18	2.7.4
222	1.3.2.7.5	Self-Assessment Sample Selection	1 day	Mon 6/4/18	Mon 6/4/18	2.7.5
223	1.3.2.7.6	Self-Assessment Analysis Reporting	1 day	Mon 6/4/18	Mon 6/4/18	2.7.6
224	1.3.2.7.7	Accounting Management Reporting	1 day	Mon 6/4/18	Mon 6/4/18	2.7.7

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
225	1.3.2.7.8	Case Management Reporting	1 day	Mon 6/4/18	Mon 6/4/18	2.7.8
226	1.3.2.7.9	Business Intelligence Reporting	1 day	Mon 6/4/18	Mon 6/4/18	2.7.9
227	1.3.2.7.10	Data Warehouse	1 day	Mon 6/4/18	Mon 6/4/18	2.7.10
228	1.3.2.7.11	Management Analysis Reporting	1 day	Mon 6/4/18	Mon 6/4/18	2.7.11
229	1.3.2.7.12	Ad Hoc Reporting	1 day	Mon 6/4/18	Mon 6/4/18	2.7.12
230	1.3.2.7.13	Program Compliance Monitoring and Reporting	1 day	Mon 6/4/18	Mon 6/4/18	2.7.13
231	1.3.2.7.14	Decompose / elaborate Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
232	1.3.2.7.15	Conduct Functional Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
233	1.3.2.7.16	Refine Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
234	1.3.2.7.17	Submit Functional Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	
235	**1.3.2.8**	**Customer Service**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	**2.8**
236	1.3.2.8.1	Interactive Voice Response Unit (IVR) Accessibility	1 day	Mon 6/4/18	Mon 6/4/18	2.8.1
237	1.3.2.8.2	Website Accessibility	1 day	Mon 6/4/18	Mon 6/4/18	2.8.2
238	1.3.2.8.3	Interstate Caseworker Web Services (QUICK)	1 day	Mon 6/4/18	Mon 6/4/18	2.8.3
239	1.3.2.8.4	Employer Website	1 day	Mon 6/4/18	Mon 6/4/18	2.8.4
240	1.3.2.8.5	Call Center Functionality	1 day	Mon 6/4/18	Mon 6/4/18	2.8.5
241	1.3.2.8.6	Imaging and Document Generation	1 day	Mon 6/4/18	Mon 6/4/18	2.8.6
242	1.3.2.8.7	Client Communication Facility	1 day	Mon 6/4/18	Mon 6/4/18	2.8.7
243	1.3.2.8.8	Decompose / elaborate Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
244	1.3.2.8.9	Conduct Functional Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
245	1.3.2.8.10	Refine Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
246	1.3.2.8.11	Submit Functional Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	
247	**1.3.2.9**	**Ease of Use**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	**2.9**
248	1.3.2.9.1	Screen Standards	1 day	Mon 6/4/18	Mon 6/4/18	2.9.1
249	1.3.2.9.2	Screen Navigation Standards	1 day	Mon 6/4/18	Mon 6/4/18	2.9.2
250	1.3.2.9.3	Lists of Values for Data Type Designations	1 day	Mon 6/4/18	Mon 6/4/18	2.9.3
251	1.3.2.9.4	Data Validation	1 day	Mon 6/4/18	Mon 6/4/18	2.9.4
252	1.3.2.9.5	Data Exceptions	1 day	Mon 6/4/18	Mon 6/4/18	2.9.5
253	1.3.2.9.6	Filter and Sort Functionality	1 day	Mon 6/4/18	Mon 6/4/18	2.9.6
254	1.3.2.9.7	Recall Cases	1 day	Mon 6/4/18	Mon 6/4/18	2.9.7
255	1.3.2.9.8	Online Help	1 day	Mon 6/4/18	Mon 6/4/18	2.9.8

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
256	1.3.2.9.9	Calendar Support for Date Entry	1 day	Mon 6/4/18	Mon 6/4/18	2.9.9
257	1.3.2.9.10	Case Data Review	1 day	Mon 6/4/18	Mon 6/4/18	2.9.10
258	1.3.2.9.11	Contact Documentation	1 day	Mon 6/4/18	Mon 6/4/18	2.9.11
259	1.3.2.9.12	Case and Participant Special Attention Alerts	1 day	Mon 6/4/18	Mon 6/4/18	2.9.12
260	1.3.2.9.13	Appointment Scheduling	1 day	Mon 6/4/18	Mon 6/4/18	2.9.13
261	1.3.2.9.14	Specialization Management	1 day	Mon 6/4/18	Mon 6/4/18	2.9.14
262	1.3.2.9.15	Caseload Assignment	1 day	Mon 6/4/18	Mon 6/4/18	2.9.15
263	1.3.2.9.16	Parameter File Management	1 day	Mon 6/4/18	Mon 6/4/18	2.9.16
264	1.3.2.9.17	Decompose / elaborate Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
265	1.3.2.9.18	Conduct Functional Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
266	1.3.2.9.19	Refine Functional Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
267	1.3.2.9.20	Submit Functional Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	
268	1.3.2.10	4.27.3.1 M: Functional Requirements Completed	0 days	Fri 10/5/18	Fri 10/5/18	
269	1.3.2.11	4.27.3.2 M: Conduct JAD Sessions	0 days	Fri 10/5/18	Fri 10/5/18	
270	**1.3.3**	**Technical Requirements Execution**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	
271	**1.3.3.1**	**Core Architecture, Tiered and Modular Architecture**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	
272	1.3.3.1.1	Decompose / elaborate Technical Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
273	1.3.3.1.2	Conduct Technical Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
274	1.3.3.1.3	Refine Technical Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
275	1.3.3.1.4	Submit Technical Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	
276	**1.3.3.2**	**Archive & Purge, Languages, Performance, Communications**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	
277	1.3.3.2.1	Decompose / elaborate Technical Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
278	1.3.3.2.2	Conduct Technical Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
279	1.3.3.2.3	Refine Technical Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
280	1.3.3.2.4	Submit Technical Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	
281	**1.3.3.3**	**Database, Security**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	
282	1.3.3.3.1	Decompose / elaborate Technical Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
283	1.3.3.3.2	Conduct Technical Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
284	1.3.3.3.3	Refine Technical Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
285	1.3.3.3.4	Submit Technical Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	
286	**1.3.3.4**	**Interfaces, User Interface, Calendar Management, Alerts Management**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
287	1.3.3.4.1	Decompose / elaborate Technical Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
288	1.3.3.4.2	Conduct Technical Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
289	1.3.3.4.3	Refine Technical Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
290	1.3.3.4.4	Submit Technical Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	
291	**1.3.3.5**	**Document Generation& Management , Datawarehouse**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	
292	1.3.3.5.1	Decompose / elaborate Technical Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
293	1.3.3.5.2	Conduct Technical Requirements Validation sessions	1 day	Mon 6/4/18	Mon 6/4/18	
294	1.3.3.5.3	Refine Technical Requirements	1 day	Mon 6/4/18	Mon 6/4/18	
295	1.3.3.5.4	Submit Technical Requirements for state review and acceptance	1 day	Mon 6/4/18	Mon 6/4/18	
296	1.3.3.6	4.27.3.1 M: Technical Requirements Completed	0 days	Fri 10/5/18	Fri 10/5/18	
297	**1.3.4**	**Requirements Validation Closeout**	**17 days**	**Mon 10/8/18**	**Tue 10/30/18**	
298	**1.3.4.1**	**4.27.3.3 - Requirements Traceability Matrix**	**17 days**	**Mon 10/8/18**	**Tue 10/30/18**	
299	1.3.4.1.1	Document Requirements Traceability matrix	17 days	Mon 10/8/18	Tue 10/30/18	
300	1.3.4.1.2	Review & Submit Document	17 days	Mon 10/8/18	Tue 10/30/18	
301	1.3.4.1.3	Baseline Requirements	17 days	Mon 10/8/18	Tue 10/30/18	
302	1.3.4.2	M: Requirements Validation Complete	0 days	Tue 10/30/18	Tue 10/30/18	
303	1.3.5	M: PHASE 3 (REQUIREMENTS VALIDATION) COMPLETE	0 days	Tue 10/30/18	Tue 10/30/18	
304	**1.4**	**PHASE 4 - Design**	**218 days**	**Mon 10/29/18**	**Wed 8/28/19**	
305	**1.4.1**	**Environment Planning**	**111 days**	**Mon 10/29/18**	**Mon 4/1/19**	
306	**1.4.1.1**	**4.8.3.1 - Business Continuity and Disaster Recovery Plan**	**22 days**	**Mon 10/29/18**	**Tue 11/27/18**	
307	1.4.1.1.1	Create Draft Plan	1 day	Mon 10/29/18	Mon 10/29/18	
308	1.4.1.1.2	Review & Submit Plan	1 day	Mon 10/29/18	Mon 10/29/18	
309	1.4.1.1.3	Finalize & Complete Plan	1 day	Mon 10/29/18	Mon 10/29/18	
310	**1.4.1.2**	**4.8.3.2 - Successful Execution of the Business Continuity and Disaster Recove**	**15 days**	**Wed 11/28/18**	**Tue 12/18/18**	
311	1.4.1.2.1	Create Report	1 day	Wed 11/28/18	Wed 11/28/18	
312	1.4.1.2.2	Review & Submit Report	1 day	Wed 11/28/18	Wed 11/28/18	
313	1.4.1.2.3	State Review and Approve Report	1 day	Wed 11/28/18	Wed 11/28/18	
314	**1.4.1.3**	**4.9.3.1 - System Capacity Plan**	**22 days**	**Fri 11/30/18**	**Mon 12/31/18**	
315	1.4.1.3.1	Create Draft Plan	1 day	Fri 11/30/18	Fri 11/30/18	
316	1.4.1.3.2	Review & Submit Plan	1 day	Fri 11/30/18	Fri 11/30/18	
317	1.4.1.3.3	Finalize & Complete Plan	1 day	Fri 11/30/18	Fri 11/30/18	
318	**1.4.1.4**	**4.10.3.1 - Development Hardware and Software Purchase Plan**	**22 days**	**Mon 12/31/18**	**Tue 1/29/19**	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
319	1.4.1.4.1	Create Draft Plan	1 day	Mon 12/31/18	Mon 12/31/18	
320	1.4.1.4.2	Review & Submit Plan	1 day	Mon 12/31/18	Mon 12/31/18	
321	1.4.1.4.3	Finalize & Complete Plan	1 day	Mon 12/31/18	Mon 12/31/18	
322	**1.4.1.5**	**4.15.3.1 - Database Configuration Management Plan**	**22 days**	**Tue 1/29/19**	**Wed 2/27/19**	
323	1.4.1.5.1	Create Draft Plan	1 day	Tue 1/29/19	Tue 1/29/19	
324	1.4.1.5.2	Review & Submit Plan	1 day	Tue 1/29/19	Tue 1/29/19	
325	1.4.1.5.3	Finalize & Complete Plan	1 day	Tue 1/29/19	Tue 1/29/19	
326	**1.4.1.6**	**4.11.3.1 - Production Hardware and Software Configuration Plan**	**21 days**	**Mon 3/4/19**	**Mon 4/1/19**	
327	1.4.1.6.1	Create Draft Plan	1 day	Mon 3/4/19	Mon 3/4/19	
328	1.4.1.6.2	Review & Submit Plan	1 day	Mon 3/4/19	Mon 3/4/19	
329	1.4.1.6.3	Finalize & Complete Plan	1 day	Mon 3/4/19	Mon 3/4/19	
330	1.4.1.7	M: Environment Planning - Complete	0 days	Mon 4/1/19	Mon 4/1/19	
331	**1.4.2**	**Design Planning**	**140 days**	**Mon 10/29/18**	**Fri 5/10/19**	
332	**1.4.2.1**	**4.7.3.1 - Technical Approach Plan**	**20 days**	**Mon 10/29/18**	**Fri 11/23/18**	
333	1.4.2.1.1	Create Draft Plan	1 day	Mon 10/29/18	Mon 10/29/18	
334	1.4.2.1.2	Review & Submit Plan	1 day	Mon 10/29/18	Mon 10/29/18	
335	1.4.2.1.3	Finalize & Complete Plan	1 day	Mon 10/29/18	Mon 10/29/18	
336	**1.4.2.2**	**4.12.3.1 - Database Development Plan**	**20 days**	**Mon 11/26/18**	**Fri 12/21/18**	
337	1.4.2.2.1	Create Draft Plan	1 day	Mon 11/26/18	Mon 11/26/18	
338	1.4.2.2.2	Review & Submit Plan	1 day	Mon 11/26/18	Mon 11/26/18	
339	1.4.2.2.3	Finalize & Complete Plan	1 day	Mon 11/26/18	Mon 11/26/18	
340	**1.4.2.3**	**4.13.3.1 - Application Development Plan**	**20 days**	**Mon 12/24/18**	**Fri 1/18/19**	
341	1.4.2.3.1	Create Draft Plan	1 day	Mon 12/24/18	Mon 12/24/18	
342	1.4.2.3.2	Review & Submit Plan	1 day	Mon 12/24/18	Mon 12/24/18	
343	1.4.2.3.3	Finalize & Complete Plan	1 day	Mon 12/24/18	Mon 12/24/18	
344	**1.4.2.4**	**4.14.3.1 - Ease of Use Management Plan**	**20 days**	**Mon 2/18/19**	**Fri 3/15/19**	
345	1.4.2.4.1	Create Draft Plan	1 day	Mon 2/18/19	Mon 2/18/19	
346	1.4.2.4.2	Review & Submit Plan	1 day	Mon 2/18/19	Mon 2/18/19	
347	1.4.2.4.3	Finalize & Complete Plan	1 day	Mon 2/18/19	Mon 2/18/19	
348	**1.4.2.5**	**4.16.3.1 - Data Governance Plan**	**20 days**	**Mon 3/18/19**	**Fri 4/12/19**	
349	1.4.2.5.1	Create Draft Plan	1 day	Mon 3/18/19	Mon 3/18/19	
350	1.4.2.5.2	Review & Submit Plan	1 day	Mon 3/18/19	Mon 3/18/19	
351	1.4.2.5.3	Finalize & Complete Plan	1 day	Mon 3/18/19	Mon 3/18/19	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
352	**1.4.2.6**	**4.22.3.1 - Security Management Plan**	**20 days**	**Mon 4/15/19**	**Fri 5/10/19**	
353	1.4.2.6.1	Create Draft Plan	1 day	Mon 4/15/19	Mon 4/15/19	
354	1.4.2.6.2	Review & Submit Plan	1 day	Mon 4/15/19	Mon 4/15/19	
355	1.4.2.6.3	Finalize & Complete Plan	1 day	Mon 4/15/19	Mon 4/15/19	
356	1.4.2.7	M: Design Planning - Complete	0 days	Fri 5/10/19	Fri 5/10/19	
357	**1.4.3**	**Hardware / Software Procurement**	**90 days**	**Tue 1/29/19**	**Mon 6/3/19**	
358	**1.4.3.1**	**Development Environment**	**90 days**	**Tue 1/29/19**	**Mon 6/3/19**	
359	1.4.3.1.1	Finalize HW / SW list for Procurement	90 days	Tue 1/29/19	Mon 6/3/19	
360	1.4.3.1.2	Obtain Approvals from State	90 days	Tue 1/29/19	Mon 6/3/19	
361	1.4.3.1.3	Place Order for procurement	90 days	Tue 1/29/19	Mon 6/3/19	
362	1.4.3.1.4	Receive Order from Vendor	90 days	Tue 1/29/19	Mon 6/3/19	
363	1.4.3.1.5	M: DEV Hardware and Software Procurement - Complete	0 days	Mon 6/3/19	Mon 6/3/19	
364	**1.4.3.2**	**Test & Training Environment**	**90 days**	**Tue 1/29/19**	**Mon 6/3/19**	
365	1.4.3.2.1	Finalize HW / SW list for Procurement	90 days	Tue 1/29/19	Mon 6/3/19	
366	1.4.3.2.2	Obtain Approvals from State	90 days	Tue 1/29/19	Mon 6/3/19	
367	1.4.3.2.3	Place Order for procurement	90 days	Tue 1/29/19	Mon 6/3/19	
368	1.4.3.2.4	Receive Order from Vendor	90 days	Tue 1/29/19	Mon 6/3/19	
369	1.4.3.2.5	M: TEST Hardware and Software Procurement - Complete	0 days	Mon 6/3/19	Mon 6/3/19	
370	**1.4.3.3**	**Production Environment**	**90 days**	**Tue 1/29/19**	**Mon 6/3/19**	
371	1.4.3.3.1	Finalize HW / SW list for Procurement	90 days	Tue 1/29/19	Mon 6/3/19	
372	1.4.3.3.2	Obtain Approvals from State	90 days	Tue 1/29/19	Mon 6/3/19	
373	1.4.3.3.3	Place Order for procurement	90 days	Tue 1/29/19	Mon 6/3/19	
374	1.4.3.3.4	Receive Order from Vendor	90 days	Tue 1/29/19	Mon 6/3/19	
375	1.4.3.3.5	M: Operation Hardware and Software Procurement - Complete	0 days	Mon 6/3/19	Mon 6/3/19	
376	1.4.3.4	M: ALL Hardware and Software Procurement - Complete	0 days	Mon 6/3/19	Mon 6/3/19	
377	**1.4.4**	**4.9.3.2 - Successful Execution of the System Capacity Plan**	**15 days**	**Tue 6/4/19**	**Mon 6/24/19**	
378	1.4.4.1	Create Report	1 day	Tue 6/4/19	Tue 6/4/19	
379	1.4.4.2	Review & Submit Report	1 day	Tue 6/4/19	Tue 6/4/19	
380	1.4.4.3	State Review and Approve Report	1 day	Tue 6/4/19	Tue 6/4/19	
381	**1.4.5**	**4.10.3.2 - Successful Execution of the Development Hardware and Software Pu**	**15 days**	**Tue 6/4/19**	**Mon 6/24/19**	
382	1.4.5.1	Create Report	1 day	Tue 6/4/19	Tue 6/4/19	
383	1.4.5.2	Review & Submit Report	1 day	Tue 6/4/19	Tue 6/4/19	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
384	1.4.5.3	State Review and Approve Report	1 day	Tue 6/4/19	Tue 6/4/19	
385	**1.4.6**	**4.11.3.2 - Successful Execution of the Production Hardware and Software Confi**	**15 days**	**Tue 6/4/19**	**Mon 6/24/19**	
386	1.4.6.1	Create Report	1 day	Tue 6/4/19	Tue 6/4/19	
387	1.4.6.2	Review & Submit Report	1 day	Tue 6/4/19	Tue 6/4/19	
388	1.4.6.3	State Review and Approve Report	1 day	Tue 6/4/19	Tue 6/4/19	
389	**1.4.7**	**Functional Design Execution**	**180 days**	**Mon 10/29/18**	**Fri 7/5/19**	
390	**1.4.7.1**	**Case Initiation**	**20 days**	**Mon 10/29/18**	**Fri 11/23/18**	**2.1**
391	1.4.7.1.1	Automated Referral Processing	1 day	Mon 10/29/18	Mon 10/29/18	2.1.1
392	1.4.7.1.2	Online Pending Referral Function	1 day	Mon 10/29/18	Mon 10/29/18	2.1.2
393	1.4.7.1.3	Client Databases	1 day	Mon 10/29/18	Mon 10/29/18	2.1.3
394	1.4.7.1.4	Automatic Case Setup	1 day	Mon 10/29/18	Mon 10/29/18	2.1.4
395	1.4.7.1.5	Automatic Editing of Referral Data	1 day	Mon 10/29/18	Mon 10/29/18	2.1.5
396	1.4.7.1.6	Automated Case Record	1 day	Mon 10/29/18	Mon 10/29/18	2.1.6
397	1.4.7.1.7	Limited Services	1 day	Mon 10/29/18	Mon 10/29/18	2.1.7
398	1.4.7.1.8	Case Tracking	1 day	Mon 10/29/18	Mon 10/29/18	2.1.8
399	1.4.7.1.9	Participant Entity Management Capability	1 day	Mon 10/29/18	Mon 10/29/18	2.1.9
400	1.4.7.1.10	Participant Demographic Data Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.10
401	1.4.7.1.11	Participant Status Data Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.11
402	1.4.7.1.12	Participant Occupation Data Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.12
403	1.4.7.1.13	Participant Interface Number Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.13
404	1.4.7.1.14	Participant Address Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.14
405	1.4.7.1.15	Participant License Data Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.15
406	1.4.7.1.16	Participant Asset Data Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.16
407	1.4.7.1.17	Participant Employer Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.17
408	1.4.7.1.18	Participant Employment Income Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.18
409	1.4.7.1.19	Participant Self-Employment Income Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.19
410	1.4.7.1.20	Participant Other Income Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.20
411	1.4.7.1.21	Participant Expense Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.21
412	1.4.7.1.22	Participant Medical Support Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.22
413	1.4.7.1.23	Employer Management	1 day	Mon 10/29/18	Mon 10/29/18	2.1.23
414	1.4.7.1.24	Non-Public Assistance (NPA) Applications	1 day	Mon 10/29/18	Mon 10/29/18	2.1.24
415	1.4.7.1.25	Application Form Generation	1 day	Mon 10/29/18	Mon 10/29/18	2.1.25

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
416	1.4.7.1.26	IV-A Referrals	1 day	Mon 10/29/18	Mon 10/29/18	2.1.26
417	1.4.7.1.27	Title XIX Referrals	1 day	Mon 10/29/18	Mon 10/29/18	2.1.27
418	1.4.7.1.28	IV-E Referrals	1 day	Mon 10/29/18	Mon 10/29/18	2.1.28
419	1.4.7.1.29	Interstate, Tribal, and International Referrals	1 day	Mon 10/29/18	Mon 10/29/18	2.1.29
420	1.4.7.1.30	Case Data	1 day	Mon 10/29/18	Mon 10/29/18	2.1.30
421	1.4.7.1.31	Court Interface	1 day	Mon 10/29/18	Mon 10/29/18	2.1.31
422	1.4.7.1.32	Intake Case Monitoring	1 day	Mon 10/29/18	Mon 10/29/18	2.1.32
423	1.4.7.1.33	Case Types	1 day	Mon 10/29/18	Mon 10/29/18	2.1.33
424	1.4.7.1.34	Assistance Status	1 day	Mon 10/29/18	Mon 10/29/18	2.1.34
425	1.4.7.1.35	Order Status	1 day	Mon 10/29/18	Mon 10/29/18	2.1.35
426	1.4.7.1.36	Functional Area Status	1 day	Mon 10/29/18	Mon 10/29/18	2.1.36
427	1.4.7.1.37	Intergovernmental Status	1 day	Mon 10/29/18	Mon 10/29/18	2.1.37
428	1.4.7.1.38	Child Welfare IV-E Status	1 day	Mon 10/29/18	Mon 10/29/18	2.1.38
429	1.4.7.1.39	State Case Registry	1 day	Mon 10/29/18	Mon 10/29/18	2.1.39
430	1.4.7.1.40	Non IV-D Court Orders	1 day	Mon 10/29/18	Mon 10/29/18	2.1.40
431	1.4.7.1.41	Federal Case Registry Interface	1 day	Mon 10/29/18	Mon 10/29/18	2.1.41
432	1.4.7.1.42	Create Preliminary Design	1 day	Mon 10/29/18	Mon 10/29/18	
433	1.4.7.1.43	Conduct Joint Application Design	1 day	Mon 10/29/18	Mon 10/29/18	
434	1.4.7.1.44	Refine Detailed Design	1 day	Mon 10/29/18	Mon 10/29/18	
435	1.4.7.1.45	Complete detailed Design	1 day	Mon 10/29/18	Mon 10/29/18	
436	**1.4.7.2**	**Locate**	**20 days**	**Mon 11/26/18**	**Fri 12/21/18**	**2.2**
437	1.4.7.2.1	Basic Locate Functionality	1 day	Mon 11/26/18	Mon 11/26/18	2.2.1
438	1.4.7.2.2	Locate Case Monitoring	1 day	Mon 11/26/18	Mon 11/26/18	2.2.2
439	1.4.7.2.3	Secure Exchange of Data	1 day	Mon 11/26/18	Mon 11/26/18	2.2.3
440	1.4.7.2.4	Locate Interfaces	1 day	Mon 11/26/18	Mon 11/26/18	2.2.4
441	1.4.7.2.5	Federal Parent Locator Service (FPLS)	1 day	Mon 11/26/18	Mon 11/26/18	2.2.5
442	1.4.7.2.6	Locate Workflow	1 day	Mon 11/26/18	Mon 11/26/18	2.2.6
443	1.4.7.2.7	Quick Locate	1 day	Mon 11/26/18	Mon 11/26/18	2.2.7
444	1.4.7.2.8	National Directory of New Hires (NDNH)	1 day	Mon 11/26/18	Mon 11/26/18	2.2.8
445	1.4.7.2.9	Federal Case Registry (FCR)	1 day	Mon 11/26/18	Mon 11/26/18	2.2.9
446	1.4.7.2.10	Driver and Motor Vehicle Services Division (DMV)	1 day	Mon 11/26/18	Mon 11/26/18	2.2.10
447	1.4.7.2.11	Department of Wildlife	1 day	Mon 11/26/18	Mon 11/26/18	2.2.11
448	1.4.7.2.12	DETR	1 day	Mon 11/26/18	Mon 11/26/18	2.2.12

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
449	1.4.7.2.13	Vital Statistics	1 day	Mon 11/26/18	Mon 11/26/18	2.2.13
450	1.4.7.2.14	Department of Corrections	1 day	Mon 11/26/18	Mon 11/26/18	2.2.14
451	1.4.7.2.15	Credit Reporting Agencies	1 day	Mon 11/26/18	Mon 11/26/18	2.2.15
452	1.4.7.2.16	Postal Service	1 day	Mon 11/26/18	Mon 11/26/18	2.2.16
453	1.4.7.2.17	Nevada Department of Taxation	1 day	Mon 11/26/18	Mon 11/26/18	2.2.17
454	1.4.7.2.18	State IV-A Agency	1 day	Mon 11/26/18	Mon 11/26/18	2.2.18
455	1.4.7.2.19	Title XIX Agency	1 day	Mon 11/26/18	Mon 11/26/18	2.2.19
456	1.4.7.2.20	State Child Welfare (IV-E) Agency	1 day	Mon 11/26/18	Mon 11/26/18	2.2.20
457	1.4.7.2.21	General Assistance System	1 day	Mon 11/26/18	Mon 11/26/18	2.2.21
458	1.4.7.2.22	State Directory of New Hires (SDNH)	1 day	Mon 11/26/18	Mon 11/26/18	2.2.22
459	1.4.7.2.23	Public Utilities	1 day	Mon 11/26/18	Mon 11/26/18	2.2.23
460	1.4.7.2.24	Financial Institutions	1 day	Mon 11/26/18	Mon 11/26/18	2.2.24
461	1.4.7.2.25	State Licensing Entities	1 day	Mon 11/26/18	Mon 11/26/18	2.2.25
462	1.4.7.2.26	Real and Personal Property Ownership Agencies	1 day	Mon 11/26/18	Mon 11/26/18	2.2.26
463	1.4.7.2.27	Tribal IV-D Programs	1 day	Mon 11/26/18	Mon 11/26/18	2.2.27
464	1.4.7.2.28	Food Stamps	1 day	Mon 11/26/18	Mon 11/26/18	2.2.28
465	1.4.7.2.29	Additional Locate Information	1 day	Mon 11/26/18	Mon 11/26/18	2.2.29
466	1.4.7.2.30	Create Preliminary Design	1 day	Mon 11/26/18	Mon 11/26/18	
467	1.4.7.2.31	Conduct Joint Application Design	1 day	Mon 11/26/18	Mon 11/26/18	
468	1.4.7.2.32	Refine Detailed Design	1 day	Mon 11/26/18	Mon 11/26/18	
469	1.4.7.2.33	Complete detailed Design	1 day	Mon 11/26/18	Mon 11/26/18	
470	**1.4.7.3**	**Establishment**	**20 days**	**Mon 12/24/18**	**Fri 1/18/19**	**2.3**
471	1.4.7.3.1	Paternity Establishment	1 day	Mon 12/24/18	Mon 12/24/18	2.3.1
472	1.4.7.3.2	Support Establishment	1 day	Mon 12/24/18	Mon 12/24/18	2.3.2
473	1.4.7.3.3	Medical Support Services	1 day	Mon 12/24/18	Mon 12/24/18	2.3.3
474	1.4.7.3.4	Legal Process Monitoring	1 day	Mon 12/24/18	Mon 12/24/18	2.3.4
475	1.4.7.3.5	Paternity Acknowledgement Access	1 day	Mon 12/24/18	Mon 12/24/18	2.3.5
476	1.4.7.3.6	Multiple Putative Fathers	1 day	Mon 12/24/18	Mon 12/24/18	2.3.6
477	1.4.7.3.7	Genetic Testing	1 day	Mon 12/24/18	Mon 12/24/18	2.3.7
478	1.4.7.3.8	Hearing Calendar	1 day	Mon 12/24/18	Mon 12/24/18	2.3.8
479	1.4.7.3.9	Service of Process	1 day	Mon 12/24/18	Mon 12/24/18	2.3.9
480	1.4.7.3.10	Guideline Support Calculation	1 day	Mon 12/24/18	Mon 12/24/18	2.3.10
481	1.4.7.3.11	Hearing Results	1 day	Mon 12/24/18	Mon 12/24/18	2.3.11

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
482	1.4.7.3.12	Create Preliminary Design	1 day	Mon 12/24/18	Mon 12/24/18	
483	1.4.7.3.13	Conduct Joint Application Design	1 day	Mon 12/24/18	Mon 12/24/18	
484	1.4.7.3.14	Refine Detailed Design	1 day	Mon 12/24/18	Mon 12/24/18	
485	1.4.7.3.15	Complete detailed Design	1 day	Mon 12/24/18	Mon 12/24/18	
486	**1.4.7.4**	**Case Management**	**20 days**	**Mon 1/21/19**	**Fri 2/15/19**	**2.4**
487	1.4.7.4.1	Data Maintenance	1 day	Mon 1/21/19	Mon 1/21/19	2.4.1
488	1.4.7.4.2	Third Party Data Maintenance	1 day	Mon 1/21/19	Mon 1/21/19	2.4.2
489	1.4.7.4.3	Case Management Monitoring	1 day	Mon 1/21/19	Mon 1/21/19	2.4.3
490	1.4.7.4.4	Case Update Processing	1 day	Mon 1/21/19	Mon 1/21/19	2.4.4
491	1.4.7.4.5	IV-A Updates	1 day	Mon 1/21/19	Mon 1/21/19	2.4.5
492	1.4.7.4.6	Title XIX Updates	1 day	Mon 1/21/19	Mon 1/21/19	2.4.6
493	1.4.7.4.7	Child Welfare (IV-E) Updates	1 day	Mon 1/21/19	Mon 1/21/19	2.4.7
494	1.4.7.4.8	Case Action History	1 day	Mon 1/21/19	Mon 1/21/19	2.4.8
495	1.4.7.4.9	Workflow Management	1 day	Mon 1/21/19	Mon 1/21/19	2.4.9
496	1.4.7.4.10	Alert Management	1 day	Mon 1/21/19	Mon 1/21/19	2.4.10
497	1.4.7.4.11	Document Management	1 day	Mon 1/21/19	Mon 1/21/19	2.4.11
498	1.4.7.4.12	Obligation Review and Adjustment	1 day	Mon 1/21/19	Mon 1/21/19	2.4.12
499	1.4.7.4.13	Case Closure Management	1 day	Mon 1/21/19	Mon 1/21/19	2.4.13
500	1.4.7.4.14	Intergovernmental Case Management	1 day	Mon 1/21/19	Mon 1/21/19	2.4.14
501	1.4.7.4.15	Initiating Intergovernmental Case Management	1 day	Mon 1/21/19	Mon 1/21/19	2.4.15
502	1.4.7.4.16	Responding Intergovernmental Case Management	1 day	Mon 1/21/19	Mon 1/21/19	2.4.16
503	1.4.7.4.17	Intergovernmental Document Generation	1 day	Mon 1/21/19	Mon 1/21/19	2.4.17
504	1.4.7.4.18	FIPS Management	1 day	Mon 1/21/19	Mon 1/21/19	2.4.18
505	1.4.7.4.19	Tribal Case Management	1 day	Mon 1/21/19	Mon 1/21/19	2.4.19
506	1.4.7.4.20	Create Preliminary Design	1 day	Mon 1/21/19	Mon 1/21/19	
507	1.4.7.4.21	Conduct Joint Application Design	1 day	Mon 1/21/19	Mon 1/21/19	
508	1.4.7.4.22	Refine Detailed Design	1 day	Mon 1/21/19	Mon 1/21/19	
509	1.4.7.4.23	Complete detailed Design	1 day	Mon 1/21/19	Mon 1/21/19	
510	**1.4.7.5**	**Enforcement**	**20 days**	**Mon 3/18/19**	**Fri 4/12/19**	**2.5**
511	1.4.7.5.1	Account Enforcement Monitoring	1 day	Mon 3/18/19	Mon 3/18/19	2.5.1
512	1.4.7.5.2	Enforcement Remedy Exemptions	1 day	Mon 3/18/19	Mon 3/18/19	2.5.2
513	1.4.7.5.3	Income Withholding	1 day	Mon 3/18/19	Mon 3/18/19	2.5.3
514	1.4.7.5.4	Federal Tax Refund Offset	1 day	Mon 3/18/19	Mon 3/18/19	2.5.4

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
515	1.4.7.5.5	Liens	1 day	Mon 3/18/19	Mon 3/18/19	2.5.5
516	1.4.7.5.6	Bonds	1 day	Mon 3/18/19	Mon 3/18/19	2.5.6
517	1.4.7.5.7	Unemployment Intercept	1 day	Mon 3/18/19	Mon 3/18/19	2.5.7
518	1.4.7.5.8	Credit Reporting	1 day	Mon 3/18/19	Mon 3/18/19	2.5.8
519	1.4.7.5.9	IRS Full Collection Services	1 day	Mon 3/18/19	Mon 3/18/19	2.5.9
520	1.4.7.5.10	National Medical Support Notice & Medical Enforcement	1 day	Mon 3/18/19	Mon 3/18/19	2.5.10
521	1.4.7.5.11	License Suspension and Non-renewal	1 day	Mon 3/18/19	Mon 3/18/19	2.5.11
522	1.4.7.5.12	Contempt and Bench Warrant Processing	1 day	Mon 3/18/19	Mon 3/18/19	2.5.12
523	1.4.7.5.13	Passport Denial	1 day	Mon 3/18/19	Mon 3/18/19	2.5.13
524	1.4.7.5.14	Financial Institution Data Match	1 day	Mon 3/18/19	Mon 3/18/19	2.5.14
525	1.4.7.5.15	Administrative Offset	1 day	Mon 3/18/19	Mon 3/18/19	2.5.15
526	1.4.7.5.16	Child Support Lien Network and Other Claim Matching	1 day	Mon 3/18/19	Mon 3/18/19	2.5.16
527	1.4.7.5.17	Federal / State Criminal Non Support Referral Tracking	1 day	Mon 3/18/19	Mon 3/18/19	2.5.17
528	1.4.7.5.18	Administrative Enforcement-Interstate	1 day	Mon 3/18/19	Mon 3/18/19	2.5.18
529	1.4.7.5.19	Create Preliminary Design	1 day	Mon 3/18/19	Mon 3/18/19	
530	1.4.7.5.20	Conduct Joint Application Design	1 day	Mon 3/18/19	Mon 3/18/19	
531	1.4.7.5.21	Refine Detailed Design	1 day	Mon 3/18/19	Mon 3/18/19	
532	1.4.7.5.22	Complete detailed Design	1 day	Mon 3/18/19	Mon 3/18/19	
533	**1.4.7.6**	**Financials**	**20 days**	**Mon 2/18/19**	**Fri 3/15/19**	**2.6**
534	1.4.7.6.1	Order Entry and Obligation Maintenance	1 day	Mon 2/18/19	Mon 2/18/19	2.6.1
535	1.4.7.6.2	Future Obligation Setup	1 day	Mon 2/18/19	Mon 2/18/19	2.6.2
536	1.4.7.6.3	Retroactive Obligation Management	1 day	Mon 2/18/19	Mon 2/18/19	2.6.3
537	1.4.7.6.4	Debt Types	1 day	Mon 2/18/19	Mon 2/18/19	2.6.4
538	1.4.7.6.5	Account Charging	1 day	Mon 2/18/19	Mon 2/18/19	2.6.5
539	1.4.7.6.6	Obligor Billing	1 day	Mon 2/18/19	Mon 2/18/19	2.6.6
540	1.4.7.6.7	Payment Processing	1 day	Mon 2/18/19	Mon 2/18/19	2.6.7
541	1.4.7.6.8	Held Collections Management	1 day	Mon 2/18/19	Mon 2/18/19	2.6.8
542	1.4.7.6.9	Escheatment Management	1 day	Mon 2/18/19	Mon 2/18/19	2.6.9
543	1.4.7.6.10	Financial Distribution	1 day	Mon 2/18/19	Mon 2/18/19	2.6.10
544	1.4.7.6.11	Electronic Fund Transfer Management	1 day	Mon 2/18/19	Mon 2/18/19	2.6.11
545	1.4.7.6.12	Bank Account Reconciliation	1 day	Mon 2/18/19	Mon 2/18/19	2.6.12
546	1.4.7.6.13	Account Adjustments	1 day	Mon 2/18/19	Mon 2/18/19	2.6.13
547	1.4.7.6.14	Recovery of Misapplied Pymts & NSF Fin. Instruments	1 day	Mon 2/18/19	Mon 2/18/19	2.6.14

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
548	1.4.7.6.15	Account Audit Capability	1 day	Mon 2/18/19	Mon 2/18/19	2.6.15
549	1.4.7.6.16	Account Statements and Financial Reports	1 day	Mon 2/18/19	Mon 2/18/19	2.6.16
550	1.4.7.6.17	IV-A Updates and Notification	1 day	Mon 2/18/19	Mon 2/18/19	2.6.17
551	1.4.7.6.18	Title XIX and Child Welfare Recovery Account Mgmt	1 day	Mon 2/18/19	Mon 2/18/19	2.6.18
552	1.4.7.6.19	Statewide Accounting and Fee Management	1 day	Mon 2/18/19	Mon 2/18/19	2.6.19
553	1.4.7.6.20	Create Preliminary Design	1 day	Mon 2/18/19	Mon 2/18/19	
554	1.4.7.6.21	Conduct Joint Application Design	1 day	Mon 2/18/19	Mon 2/18/19	
555	1.4.7.6.22	Refine Detailed Design	1 day	Mon 2/18/19	Mon 2/18/19	
556	1.4.7.6.23	Complete detailed Design	1 day	Mon 2/18/19	Mon 2/18/19	
557	**1.4.7.7**	**Reporting**	**20 days**	**Mon 4/15/19**	**Fri 5/10/19**	**2.7**
558	1.4.7.7.1	OCSE-34A Reporting	1 day	Mon 4/15/19	Mon 4/15/19	2.7.1
559	1.4.7.7.2	OCSE-157 Reporting	1 day	Mon 4/15/19	Mon 4/15/19	2.7.2
560	1.4.7.7.3	OCSE-396A Reporting	1 day	Mon 4/15/19	Mon 4/15/19	2.7.3
561	1.4.7.7.4	Data Reliability Monitoring and Reporting	1 day	Mon 4/15/19	Mon 4/15/19	2.7.4
562	1.4.7.7.5	Self-Assessment Sample Selection	1 day	Mon 4/15/19	Mon 4/15/19	2.7.5
563	1.4.7.7.6	Self-Assessment Analysis Reporting	1 day	Mon 4/15/19	Mon 4/15/19	2.7.6
564	1.4.7.7.7	Accounting Management Reporting	1 day	Mon 4/15/19	Mon 4/15/19	2.7.7
565	1.4.7.7.8	Case Management Reporting	1 day	Mon 4/15/19	Mon 4/15/19	2.7.8
566	1.4.7.7.9	Business Intelligence Reporting	1 day	Mon 4/15/19	Mon 4/15/19	2.7.9
567	1.4.7.7.10	Data Warehouse	1 day	Mon 4/15/19	Mon 4/15/19	2.7.10
568	1.4.7.7.11	Management Analysis Reporting	1 day	Mon 4/15/19	Mon 4/15/19	2.7.11
569	1.4.7.7.12	Ad Hoc Reporting	1 day	Mon 4/15/19	Mon 4/15/19	2.7.12
570	1.4.7.7.13	Program Compliance Monitoring and Reporting	1 day	Mon 4/15/19	Mon 4/15/19	2.7.13
571	1.4.7.7.14	Create Preliminary Design	1 day	Mon 4/15/19	Mon 4/15/19	
572	1.4.7.7.15	Conduct Joint Application Design	1 day	Mon 4/15/19	Mon 4/15/19	
573	1.4.7.7.16	Refine Detailed Design	1 day	Mon 4/15/19	Mon 4/15/19	
574	1.4.7.7.17	Complete detailed Design	1 day	Mon 4/15/19	Mon 4/15/19	
575	**1.4.7.8**	**Customer Service**	**20 days**	**Mon 5/13/19**	**Fri 6/7/19**	**2.8**
576	1.4.7.8.1	Interactive Voice Response Unit (IVR) Accessibility	1 day	Mon 5/13/19	Mon 5/13/19	2.8.1
577	1.4.7.8.2	Website Accessibility	1 day	Mon 5/13/19	Mon 5/13/19	2.8.2
578	1.4.7.8.3	Interstate Caseworker Web Services (QUICK)	1 day	Mon 5/13/19	Mon 5/13/19	2.8.3
579	1.4.7.8.4	Employer Website	1 day	Mon 5/13/19	Mon 5/13/19	2.8.4
580	1.4.7.8.5	Call Center Functionality	1 day	Mon 5/13/19	Mon 5/13/19	2.8.5

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
581	1.4.7.8.6	Imaging and Document Generation	1 day	Mon 5/13/19	Mon 5/13/19	2.8.6
582	1.4.7.8.7	Client Communication Facility	1 day	Mon 5/13/19	Mon 5/13/19	2.8.7
583	1.4.7.8.8	Create Preliminary Design	1 day	Mon 5/13/19	Mon 5/13/19	
584	1.4.7.8.9	Conduct Joint Application Design	1 day	Mon 5/13/19	Mon 5/13/19	
585	1.4.7.8.10	Refine Detailed Design	1 day	Mon 5/13/19	Mon 5/13/19	
586	1.4.7.8.11	Complete detailed Design	1 day	Mon 5/13/19	Mon 5/13/19	
587	**1.4.7.9**	**Ease of Use**	**20 days**	**Mon 6/10/19**	**Fri 7/5/19**	**2.9**
588	1.4.7.9.1	Screen Standards	1 day	Mon 6/10/19	Mon 6/10/19	2.9.1
589	1.4.7.9.2	Screen Navigation Standards	1 day	Mon 6/10/19	Mon 6/10/19	2.9.2
590	1.4.7.9.3	Lists of Values for Data Type Designations	1 day	Mon 6/10/19	Mon 6/10/19	2.9.3
591	1.4.7.9.4	Data Validation	1 day	Mon 6/10/19	Mon 6/10/19	2.9.4
592	1.4.7.9.5	Data Exceptions	1 day	Mon 6/10/19	Mon 6/10/19	2.9.5
593	1.4.7.9.6	Filter and Sort Functionality	1 day	Mon 6/10/19	Mon 6/10/19	2.9.6
594	1.4.7.9.7	Recall Cases	1 day	Mon 6/10/19	Mon 6/10/19	2.9.7
595	1.4.7.9.8	Online Help	1 day	Mon 6/10/19	Mon 6/10/19	2.9.8
596	1.4.7.9.9	Calendar Support for Date Entry	1 day	Mon 6/10/19	Mon 6/10/19	2.9.9
597	1.4.7.9.10	Case Data Review	1 day	Mon 6/10/19	Mon 6/10/19	2.9.10
598	1.4.7.9.11	Contact Documentation	1 day	Mon 6/10/19	Mon 6/10/19	2.9.11
599	1.4.7.9.12	Case and Participant Special Attention Alerts	1 day	Mon 6/10/19	Mon 6/10/19	2.9.12
600	1.4.7.9.13	Appointment Scheduling	1 day	Mon 6/10/19	Mon 6/10/19	2.9.13
601	1.4.7.9.14	Specialization Management	1 day	Mon 6/10/19	Mon 6/10/19	2.9.14
602	1.4.7.9.15	Caseload Assignment	1 day	Mon 6/10/19	Mon 6/10/19	2.9.15
603	1.4.7.9.16	Parameter File Management	1 day	Mon 6/10/19	Mon 6/10/19	2.9.16
604	1.4.7.9.17	Create Preliminary Design	1 day	Mon 6/10/19	Mon 6/10/19	
605	1.4.7.9.18	Conduct Joint Application Design	1 day	Mon 6/10/19	Mon 6/10/19	
606	1.4.7.9.19	Refine Detailed Design	1 day	Mon 6/10/19	Mon 6/10/19	
607	1.4.7.9.20	Complete detailed Design	1 day	Mon 6/10/19	Mon 6/10/19	
608	1.4.7.10	M: Functional Design Planning - Complete	0 days	Fri 7/5/19	Fri 7/5/19	
609	**1.4.8**	**Technical Design Execution**	**70 days**	**Mon 5/13/19**	**Fri 8/16/19**	
610	**1.4.8.1**	**Core Architecture, Tiered and Modular Architecture**	**15 days**	**Mon 5/13/19**	**Fri 5/31/19**	
611	1.4.8.1.1	Create Preliminary Design	1 day	Mon 5/13/19	Mon 5/13/19	
612	1.4.8.1.2	Conduct Joint Application Design	1 day	Mon 5/13/19	Mon 5/13/19	
613	1.4.8.1.3	Refine Detailed Design	1 day	Mon 5/13/19	Mon 5/13/19	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
614	1.4.8.1.4	Complete detailed Design	1 day	Mon 5/13/19	Mon 5/13/19	
615	**1.4.8.2**	**Archive & Purge, Languages, Performance, Communications**	**15 days**	**Mon 5/27/19**	**Fri 6/14/19**	
616	1.4.8.2.1	Create Preliminary Design	1 day	Mon 5/27/19	Mon 5/27/19	
617	1.4.8.2.2	Conduct Joint Application Design	1 day	Mon 5/27/19	Mon 5/27/19	
618	1.4.8.2.3	Refine Detailed Design	1 day	Mon 5/27/19	Mon 5/27/19	
619	1.4.8.2.4	Complete detailed Design	1 day	Mon 5/27/19	Mon 5/27/19	
620	**1.4.8.3**	**Database, Security**	**15 days**	**Mon 6/10/19**	**Fri 6/28/19**	
621	1.4.8.3.1	Create Preliminary Design	1 day	Mon 6/10/19	Mon 6/10/19	
622	1.4.8.3.2	Conduct Joint Application Design	1 day	Mon 6/10/19	Mon 6/10/19	
623	1.4.8.3.3	Refine Detailed Design	1 day	Mon 6/10/19	Mon 6/10/19	
624	1.4.8.3.4	Complete detailed Design	1 day	Mon 6/10/19	Mon 6/10/19	
625	**1.4.8.4**	**Interfaces, User Interface, Calendar Management, Alerts Management**	**15 days**	**Mon 6/24/19**	**Fri 7/12/19**	
626	1.4.8.4.1	Create Preliminary Design	1 day	Mon 6/24/19	Mon 6/24/19	
627	1.4.8.4.2	Conduct Joint Application Design	1 day	Mon 6/24/19	Mon 6/24/19	
628	1.4.8.4.3	Refine Detailed Design	1 day	Mon 6/24/19	Mon 6/24/19	
629	1.4.8.4.4	Complete detailed Design	1 day	Mon 6/24/19	Mon 6/24/19	
630	**1.4.8.5**	**Document Generation & Management , Datawarehouse**	**15 days**	**Mon 7/8/19**	**Fri 7/26/19**	
631	1.4.8.5.1	Create Preliminary Design	1 day	Mon 7/8/19	Mon 7/8/19	
632	1.4.8.5.2	Conduct Joint Application Design	1 day	Mon 7/8/19	Mon 7/8/19	
633	1.4.8.5.3	Refine Detailed Design	1 day	Mon 7/8/19	Mon 7/8/19	
634	1.4.8.5.4	Complete detailed Design	1 day	Mon 7/8/19	Mon 7/8/19	
635	1.4.8.6	M: Technical Design Planning - Complete	0 days	Fri 7/26/19	Fri 7/26/19	
636	**1.4.8.7**	**4.15.3.2 - Successful Execution of the Database Configuration Management F**	**15 days**	**Mon 7/29/19**	**Fri 8/16/19**	
637	1.4.8.7.1	Create Report	1 day	Mon 7/29/19	Mon 7/29/19	
638	1.4.8.7.2	Review & Submit Report	1 day	Mon 7/29/19	Mon 7/29/19	
639	1.4.8.7.3	State Review and Approve Report	1 day	Mon 7/29/19	Mon 7/29/19	
640	**1.4.9**	**Design Closeout**	**38 days**	**Mon 7/8/19**	**Wed 8/28/19**	
641	**1.4.9.1**	**4.27.3.1 - Functional Requirements / Design**	**20 days**	**Mon 7/8/19**	**Fri 8/2/19**	
642	1.4.9.1.1	Complete Functional Solution Design (SD) document	20 days	Mon 7/8/19	Fri 8/2/19	
643	1.4.9.1.2	Review Deliverable	20 days	Mon 7/8/19	Fri 8/2/19	
644	1.4.9.1.3	Final updates for Approval	20 days	Mon 7/8/19	Fri 8/2/19	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
645	1.4.9.1.4	M: Functional Design Complete	0 days	Fri 8/2/19	Fri 8/2/19	
646	**1.4.9.2**	**4.27.3.2 - Technical Requirements / Design**	**20 days**	**Mon 7/29/19**	**Fri 8/23/19**	
647	1.4.9.2.1	Complete Technical Solution Design (SD) document	20 days	Mon 7/29/19	Fri 8/23/19	
648	1.4.9.2.2	Review Deliverable	20 days	Mon 7/29/19	Fri 8/23/19	
649	1.4.9.2.3	Final updates for Approval	20 days	Mon 7/29/19	Fri 8/23/19	
650	1.4.9.2.4	M: Techncial Design Complete	0 days	Fri 8/23/19	Fri 8/23/19	
651	**1.4.9.3**	**4.27.3.4 - Detailed Design**	**18 days**	**Mon 8/5/19**	**Wed 8/28/19**	
652	1.4.9.3.1	Complete Detailed Design Specifications (DSD)	18 days	Mon 8/5/19	Wed 8/28/19	
653	1.4.9.3.2	Review Deliverable	18 days	Mon 8/5/19	Wed 8/28/19	
654	1.4.9.3.3	Final updates for Approval	18 days	Mon 8/5/19	Wed 8/28/19	
655	1.4.9.3.4	M: Detailed Design (DSD) Complete	0 days	Wed 8/28/19	Wed 8/28/19	
656	1.4.9.4	M: Design Closeout - Complete	0 days	Wed 8/28/19	Wed 8/28/19	
657	1.4.10	M: PHASE 4 (DESIGN) COMPLETE	0 days	Wed 8/28/19	Wed 8/28/19	
658	**1.5**	**PHASE 5 - Development and Unit Test**	**325 days**	**Tue 6/4/19**	**Mon 8/31/20**	
659	**1.5.1**	**Development and Unit Test Planning**	**20 days**	**Thu 8/1/19**	**Wed 8/28/19**	
660	1.5.1.1	Create/Submit Development and Unit Test template	10 days	Thu 8/1/19	Wed 8/14/19	
661	1.5.1.2	Review Unit Test Plan	4 days	Thu 8/15/19	Tue 8/20/19	
662	1.5.1.3	Resubmit for final approval	6 days	Wed 8/21/19	Wed 8/28/19	
663	1.5.1.4	M: Development and Unit Testing Plan complete	0 days	Wed 8/28/19	Wed 8/28/19	
664	**1.5.2**	**Environment(s) Establishment**	**195 days**	**Tue 6/4/19**	**Mon 3/2/20**	
665	**1.5.2.1**	**Development, Conversion Environment**	**45 days**	**Tue 6/4/19**	**Mon 8/5/19**	
666	1.5.2.1.1	Prepare Development Network	45 days	Tue 6/4/19	Mon 8/5/19	
667	1.5.2.1.2	Install and Configure Hardware	45 days	Tue 6/4/19	Mon 8/5/19	
668	1.5.2.1.3	Install and Configure Software	45 days	Tue 6/4/19	Mon 8/5/19	
669	1.5.2.1.4	Test Environment Configuration	45 days	Tue 6/4/19	Mon 8/5/19	
670	1.5.2.1.5	M: Development Environment Configuration Complete	0 days	Mon 8/5/19	Mon 8/5/19	
671	**1.5.2.2**	**System Testing Environment**	**30 days**	**Tue 8/6/19**	**Mon 9/16/19**	
672	1.5.2.2.1	Prepare Testing Environment Network	30 days	Tue 8/6/19	Mon 9/16/19	
673	1.5.2.2.2	Install and Configure Hardware	30 days	Tue 8/6/19	Mon 9/16/19	
674	1.5.2.2.3	Install and Configure Software	30 days	Tue 8/6/19	Mon 9/16/19	
675	1.5.2.2.4	Test Environment Configuration	30 days	Tue 8/6/19	Mon 9/16/19	
676	1.5.2.2.5	M: Testing Environment Configuration Complete	0 days	Mon 9/16/19	Mon 9/16/19	
677	**1.5.2.3**	**User Acceptance Testing Environment**	**45 days**	**Tue 9/17/19**	**Mon 11/18/19**	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
678	1.5.2.3.1	Prepare UAT Environment Network	45 days	Tue 9/17/19	Mon 11/18/19	
679	1.5.2.3.2	Install and Configure Hardware	45 days	Tue 9/17/19	Mon 11/18/19	
680	1.5.2.3.3	Install and Configure Software	45 days	Tue 9/17/19	Mon 11/18/19	
681	1.5.2.3.4	Test Environment Configuration	45 days	Tue 9/17/19	Mon 11/18/19	
682	1.5.2.3.5	M: Testing Environment Configuration Complete	0 days	Mon 11/18/19	Mon 11/18/19	
683	**1.5.2.4**	**Training Environment**	**60 days**	**Tue 11/19/19**	**Mon 2/10/20**	
684	1.5.2.4.1	Prepare Training Environment Network	30 days	Tue 11/19/19	Mon 12/30/19	
685	1.5.2.4.2	Install and Configure Hardware	30 days	Tue 11/19/19	Mon 12/30/19	
686	1.5.2.4.3	Install and Configure Software	30 days	Tue 11/19/19	Mon 12/30/19	
687	1.5.2.4.4	Test Environment Configuration	30 days	Tue 11/19/19	Mon 12/30/19	
688	1.5.2.4.5	M: Training Environment Configuration Complete	30 days	Tue 12/31/19	Mon 2/10/20	
689	1.5.2.5	M: Development, Testing and Training Environment(s) Complete	0 days	Mon 2/10/20	Mon 2/10/20	
690	**1.5.2.6**	**4.12.3.2 - Successful Execution of the Database Development Plan**	**15 days**	**Tue 2/11/20**	**Mon 3/2/20**	
691	1.5.2.6.1	Create Report	1 day	Tue 2/11/20	Tue 2/11/20	
692	1.5.2.6.2	Review & Submit Report	1 day	Tue 2/11/20	Tue 2/11/20	
693	1.5.2.6.3	State Review and Approve Report	1 day	Tue 2/11/20	Tue 2/11/20	
694	**1.5.3**	**Development and Unit Test Execution**	**260 days**	**Mon 9/2/19**	**Fri 8/28/20**	
695	**1.5.3.1**	**Iteration # 1 - Development**	**60 days**	**Mon 9/2/19**	**Fri 11/22/19**	
696	**1.5.3.1.1**	**Ease of Use**	**60 days**	**Mon 9/2/19**	**Fri 11/22/19**	**2.9**
697	1.5.3.1.1.1	Screen Standards	1 day	Mon 9/2/19	Mon 9/2/19	2.9.1
698	1.5.3.1.1.2	Screen Navigation Standards	1 day	Mon 9/2/19	Mon 9/2/19	2.9.2
699	1.5.3.1.1.3	Lists of Values for Data Type Designations	1 day	Mon 9/2/19	Mon 9/2/19	2.9.3
700	1.5.3.1.1.4	Data Validation	1 day	Mon 9/2/19	Mon 9/2/19	2.9.4
701	1.5.3.1.1.5	Data Exceptions	1 day	Mon 9/2/19	Mon 9/2/19	2.9.5
702	1.5.3.1.1.6	Filter and Sort Functionality	1 day	Mon 9/2/19	Mon 9/2/19	2.9.6
703	1.5.3.1.1.7	Recall Cases	1 day	Mon 9/2/19	Mon 9/2/19	2.9.7
704	1.5.3.1.1.8	Online Help	1 day	Mon 9/2/19	Mon 9/2/19	2.9.8
705	1.5.3.1.1.9	Calendar Support for Date Entry	1 day	Mon 9/2/19	Mon 9/2/19	2.9.9
706	1.5.3.1.1.10	Case Data Review	1 day	Mon 9/2/19	Mon 9/2/19	2.9.10
707	1.5.3.1.1.11	Contact Documentation	1 day	Mon 9/2/19	Mon 9/2/19	2.9.11
708	1.5.3.1.1.12	Case and Participant Special Attention Alerts	1 day	Mon 9/2/19	Mon 9/2/19	2.9.12
709	1.5.3.1.1.13	Appointment Scheduling	1 day	Mon 9/2/19	Mon 9/2/19	2.9.13
710	1.5.3.1.1.14	Specialization Management	1 day	Mon 9/2/19	Mon 9/2/19	2.9.14

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
711	1.5.3.1.1.15	Caseload Assignment	1 day	Mon 9/2/19	Mon 9/2/19	2.9.15
712	1.5.3.1.1.16	Parameter File Management	1 day	Mon 9/2/19	Mon 9/2/19	2.9.16
713	1.5.3.1.1.17	Develop Presentation Layer Code	1 day	Mon 9/2/19	Mon 9/2/19	
714	1.5.3.1.1.18	Develop Business Layer Code	1 day	Mon 9/2/19	Mon 9/2/19	
715	1.5.3.1.1.19	Conduct Peer Review	1 day	Mon 9/2/19	Mon 9/2/19	
716	1.5.3.1.1.20	Code Review Rework	1 day	Mon 9/2/19	Mon 9/2/19	
717	1.5.3.1.1.21	M: Ease of Use Coding Complete	1 day	Mon 9/2/19	Mon 9/2/19	
718	**1.5.3.1.2**	**Security**	**60 days**	**Mon 9/2/19**	**Fri 11/22/19**	
719	1.5.3.1.2.1	Develop Presentation Layer Code	1 day	Mon 9/2/19	Mon 9/2/19	
720	1.5.3.1.2.2	Develop Business Layer Code	1 day	Mon 9/2/19	Mon 9/2/19	
721	1.5.3.1.2.3	Conduct Peer Review	1 day	Mon 9/2/19	Mon 9/2/19	
722	1.5.3.1.2.4	Code Review Rework	1 day	Mon 9/2/19	Mon 9/2/19	
723	1.5.3.1.2.5	M: Security Development Coding Complete	1 day	Mon 9/2/19	Mon 9/2/19	
724	**1.5.3.1.3**	**Common Software Components**	**60 days**	**Mon 9/2/19**	**Fri 11/22/19**	
725	1.5.3.1.3.1	Develop Presentation Layer Code	1 day	Mon 9/2/19	Mon 9/2/19	
726	1.5.3.1.3.2	Develop Business Layer Code	1 day	Mon 9/2/19	Mon 9/2/19	
727	1.5.3.1.3.3	Conduct Peer Review	1 day	Mon 9/2/19	Mon 9/2/19	
728	1.5.3.1.3.4	Code Review Rework	1 day	Mon 9/2/19	Mon 9/2/19	
729	1.5.3.1.3.5	M: Common Software Components Development Complete	1 day	Mon 9/2/19	Mon 9/2/19	
730	**1.5.3.1.4**	**Case Initiation**	**60 days**	**Mon 9/2/19**	**Fri 11/22/19**	**2.1**
731	1.5.3.1.4.1	Automated Referral Processing	1 day	Mon 9/2/19	Mon 9/2/19	2.1.1
732	1.5.3.1.4.2	Online Pending Referral Function	1 day	Mon 9/2/19	Mon 9/2/19	2.1.2
733	1.5.3.1.4.3	Client Databases	1 day	Mon 9/2/19	Mon 9/2/19	2.1.3
734	1.5.3.1.4.4	Automatic Case Setup	1 day	Mon 9/2/19	Mon 9/2/19	2.1.4
735	1.5.3.1.4.5	Automatic Editing of Referral Data	1 day	Mon 9/2/19	Mon 9/2/19	2.1.5
736	1.5.3.1.4.6	Automated Case Record	1 day	Mon 9/2/19	Mon 9/2/19	2.1.6
737	1.5.3.1.4.7	Limited Services	1 day	Mon 9/2/19	Mon 9/2/19	2.1.7
738	1.5.3.1.4.8	Case Tracking	1 day	Mon 9/2/19	Mon 9/2/19	2.1.8
739	1.5.3.1.4.9	Participant Entity Management Capability	1 day	Mon 9/2/19	Mon 9/2/19	2.1.9
740	1.5.3.1.4.10	Participant Demographic Data Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.10
741	1.5.3.1.4.11	Participant Status Data Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.11
742	1.5.3.1.4.12	Participant Occupation Data Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.12
743	1.5.3.1.4.13	Participant Interface Number Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.13

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
744	1.5.3.1.4.14	Participant Address Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.14
745	1.5.3.1.4.15	Participant License Data Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.15
746	1.5.3.1.4.16	Participant Asset Data Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.16
747	1.5.3.1.4.17	Participant Employer Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.17
748	1.5.3.1.4.18	Participant Employment Income Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.18
749	1.5.3.1.4.19	Participant Self-Employment Income Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.19
750	1.5.3.1.4.20	Participant Other Income Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.20
751	1.5.3.1.4.21	Participant Expense Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.21
752	1.5.3.1.4.22	Participant Medical Support Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.22
753	1.5.3.1.4.23	Employer Management	1 day	Mon 9/2/19	Mon 9/2/19	2.1.23
754	1.5.3.1.4.24	Non-Public Assistance (NPA) Applications	1 day	Mon 9/2/19	Mon 9/2/19	2.1.24
755	1.5.3.1.4.25	Application Form Generation	1 day	Mon 9/2/19	Mon 9/2/19	2.1.25
756	1.5.3.1.4.26	IV-A Referrals	1 day	Mon 9/2/19	Mon 9/2/19	2.1.26
757	1.5.3.1.4.27	Title XIX Referrals	1 day	Mon 9/2/19	Mon 9/2/19	2.1.27
758	1.5.3.1.4.28	IV-E Referrals	1 day	Mon 9/2/19	Mon 9/2/19	2.1.28
759	1.5.3.1.4.29	Interstate, Tribal, and International Referrals	1 day	Mon 9/2/19	Mon 9/2/19	2.1.29
760	1.5.3.1.4.30	Case Data	1 day	Mon 9/2/19	Mon 9/2/19	2.1.30
761	1.5.3.1.4.31	Court Interface	1 day	Mon 9/2/19	Mon 9/2/19	2.1.31
762	1.5.3.1.4.32	Intake Case Monitoring	1 day	Mon 9/2/19	Mon 9/2/19	2.1.32
763	1.5.3.1.4.33	Case Types	1 day	Mon 9/2/19	Mon 9/2/19	2.1.33
764	1.5.3.1.4.34	Assistance Status	1 day	Mon 9/2/19	Mon 9/2/19	2.1.34
765	1.5.3.1.4.35	Order Status	1 day	Mon 9/2/19	Mon 9/2/19	2.1.35
766	1.5.3.1.4.36	Functional Area Status	1 day	Mon 9/2/19	Mon 9/2/19	2.1.36
767	1.5.3.1.4.37	Intergovernmental Status	1 day	Mon 9/2/19	Mon 9/2/19	2.1.37
768	1.5.3.1.4.38	Child Welfare IV-E Status	1 day	Mon 9/2/19	Mon 9/2/19	2.1.38
769	1.5.3.1.4.39	State Case Registry	1 day	Mon 9/2/19	Mon 9/2/19	2.1.39
770	1.5.3.1.4.40	Non IV-D Court Orders	1 day	Mon 9/2/19	Mon 9/2/19	2.1.40
771	1.5.3.1.4.41	Federal Case Registry Interface	1 day	Mon 9/2/19	Mon 9/2/19	2.1.41
772	1.5.3.1.4.42	Develop Presentation Layer Code	1 day	Mon 9/2/19	Mon 9/2/19	
773	1.5.3.1.4.43	Develop Business Layer Code	1 day	Mon 9/2/19	Mon 9/2/19	
774	1.5.3.1.4.44	Conduct Peer Review	1 day	Mon 9/2/19	Mon 9/2/19	
775	1.5.3.1.4.45	Code Review Rework	1 day	Mon 9/2/19	Mon 9/2/19	
776	1.5.3.1.4.46	M: Case Initiation Development Coding Complete	1 day	Mon 9/2/19	Mon 9/2/19	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
777	**1.5.3.1.5**	**Document Generation - Group 1**	**60 days**	**Mon 9/2/19**	**Fri 11/22/19**	
778	1.5.3.1.5.1	Develop Presentation Layer Code	1 day	Mon 9/2/19	Mon 9/2/19	
779	1.5.3.1.5.2	Develop Business Layer Code	1 day	Mon 9/2/19	Mon 9/2/19	
780	1.5.3.1.5.3	Conduct Peer Review	1 day	Mon 9/2/19	Mon 9/2/19	
781	1.5.3.1.5.4	Code Review Rework	1 day	Mon 9/2/19	Mon 9/2/19	
782	1.5.3.1.5.5	M: Document Generation - Set 1 - Coding Complete	0 days	Mon 9/2/19	Mon 9/2/19	
783	1.5.3.1.6	M: Iteration # 1 - Development Complete	0 days	Fri 11/22/19	Fri 11/22/19	
784	**1.5.3.2**	**Iteration # 1 - Unit Test**	**15 days**	**Mon 11/25/19**	**Fri 12/13/19**	
785	**1.5.3.2.1**	**Ease of Use**	**15 days**	**Mon 11/25/19**	**Fri 12/13/19**	**2.9**
786	1.5.3.2.1.1	Prepare Unit Test Scripts	1 day	Mon 11/25/19	Mon 11/25/19	
787	1.5.3.2.1.2	Execute Unit Test Scripts	1 day	Mon 11/25/19	Mon 11/25/19	
788	1.5.3.2.1.3	Rework from Unit Test	1 day	Mon 11/25/19	Mon 11/25/19	
789	1.5.3.2.1.4	Document Unit Test Results	1 day	Mon 11/25/19	Mon 11/25/19	
790	1.5.3.2.1.5	M: Ease of Use Unit Testing Complete	1 day	Mon 11/25/19	Mon 11/25/19	
791	**1.5.3.2.2**	**Security**	**15 days**	**Mon 11/25/19**	**Fri 12/13/19**	
792	1.5.3.2.2.1	Prepare Unit Test Scripts	1 day	Mon 11/25/19	Mon 11/25/19	
793	1.5.3.2.2.2	Execute Unit Test Scripts	1 day	Mon 11/25/19	Mon 11/25/19	
794	1.5.3.2.2.3	Rework from Unit Test	1 day	Mon 11/25/19	Mon 11/25/19	
795	1.5.3.2.2.4	Document Unit Test Results	1 day	Mon 11/25/19	Mon 11/25/19	
796	1.5.3.2.2.5	M: Security Unit Testing Complete	1 day	Mon 11/25/19	Mon 11/25/19	
797	**1.5.3.2.3**	**Common Software Components**	**15 days**	**Mon 11/25/19**	**Fri 12/13/19**	
798	1.5.3.2.3.1	Prepare Unit Test Scripts	1 day	Mon 11/25/19	Mon 11/25/19	
799	1.5.3.2.3.2	Execute Unit Test Scripts	1 day	Mon 11/25/19	Mon 11/25/19	
800	1.5.3.2.3.3	Rework from Unit Test	1 day	Mon 11/25/19	Mon 11/25/19	
801	1.5.3.2.3.4	Document Unit Test Results	1 day	Mon 11/25/19	Mon 11/25/19	
802	1.5.3.2.3.5	M: Common Software Components Unit Testing Complete	1 day	Mon 11/25/19	Mon 11/25/19	
803	**1.5.3.2.4**	**Case Initiation**	**15 days**	**Mon 11/25/19**	**Fri 12/13/19**	**2.1**
804	1.5.3.2.4.1	Prepare Unit Test Scripts	1 day	Mon 11/25/19	Mon 11/25/19	
805	1.5.3.2.4.2	Execute Unit Test Scripts	1 day	Mon 11/25/19	Mon 11/25/19	
806	1.5.3.2.4.3	Rework from Unit Test	1 day	Mon 11/25/19	Mon 11/25/19	
807	1.5.3.2.4.4	Document Unit Test Results	1 day	Mon 11/25/19	Mon 11/25/19	
808	1.5.3.2.4.5	M: Case Initiation Unit Testing Complete	1 day	Mon 11/25/19	Mon 11/25/19	
809	**1.5.3.2.5**	**Document Generation - Group 1**	**15 days**	**Mon 11/25/19**	**Fri 12/13/19**	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
810	1.5.3.2.5.1	Prepare Unit Test Scripts	1 day	Mon 11/25/19	Mon 11/25/19	
811	1.5.3.2.5.2	Execute Unit Test Scripts	1 day	Mon 11/25/19	Mon 11/25/19	
812	1.5.3.2.5.3	Rework from Unit Test	1 day	Mon 11/25/19	Mon 11/25/19	
813	1.5.3.2.5.4	Document Unit Test Results	1 day	Mon 11/25/19	Mon 11/25/19	
814	1.5.3.2.5.5	M: Document Generation - Set 1 - Unit Testing Complete	1 day	Mon 11/25/19	Mon 11/25/19	
815	1.5.3.2.6	M: Iteration # 1 - Unit Testing Complete	0 days	Fri 12/13/19	Fri 12/13/19	
816	**1.5.3.3**	**Iteration # 2 - Development**	**60 days**	**Mon 12/16/19**	**Fri 3/6/20**	
817	**1.5.3.3.1**	**Locate**	**60 days**	**Mon 12/16/19**	**Fri 3/6/20**	**2.2**
818	1.5.3.3.1.1	Basic Locate Functionality	1 day	Mon 12/16/19	Mon 12/16/19	2.2.1
819	1.5.3.3.1.2	Locate Case Monitoring	1 day	Mon 12/16/19	Mon 12/16/19	2.2.2
820	1.5.3.3.1.3	Secure Exchange of Data	1 day	Mon 12/16/19	Mon 12/16/19	2.2.3
821	1.5.3.3.1.4	Locate Interfaces	1 day	Mon 12/16/19	Mon 12/16/19	2.2.4
822	1.5.3.3.1.5	Federal Parent Locator Service (FPLS)	1 day	Mon 12/16/19	Mon 12/16/19	2.2.5
823	1.5.3.3.1.6	Locate Workflow	1 day	Mon 12/16/19	Mon 12/16/19	2.2.6
824	1.5.3.3.1.7	Quick Locate	1 day	Mon 12/16/19	Mon 12/16/19	2.2.7
825	1.5.3.3.1.8	National Directory of New Hires (NDNH)	1 day	Mon 12/16/19	Mon 12/16/19	2.2.8
826	1.5.3.3.1.9	Federal Case Registry (FCR)	1 day	Mon 12/16/19	Mon 12/16/19	2.2.9
827	1.5.3.3.1.10	Driver and Motor Vehicle Services Division (DMV)	1 day	Mon 12/16/19	Mon 12/16/19	2.2.10
828	1.5.3.3.1.11	Department of Wildlife	1 day	Mon 12/16/19	Mon 12/16/19	2.2.11
829	1.5.3.3.1.12	DETR	1 day	Mon 12/16/19	Mon 12/16/19	2.2.12
830	1.5.3.3.1.13	Vital Statistics	1 day	Mon 12/16/19	Mon 12/16/19	2.2.13
831	1.5.3.3.1.14	Department of Corrections	1 day	Mon 12/16/19	Mon 12/16/19	2.2.14
832	1.5.3.3.1.15	Credit Reporting Agencies	1 day	Mon 12/16/19	Mon 12/16/19	2.2.15
833	1.5.3.3.1.16	Postal Service	1 day	Mon 12/16/19	Mon 12/16/19	2.2.16
834	1.5.3.3.1.17	Nevada Department of Taxation	1 day	Mon 12/16/19	Mon 12/16/19	2.2.17
835	1.5.3.3.1.18	State IV-A Agency	1 day	Mon 12/16/19	Mon 12/16/19	2.2.18
836	1.5.3.3.1.19	Title XIX Agency	1 day	Mon 12/16/19	Mon 12/16/19	2.2.19
837	1.5.3.3.1.20	State Child Welfare (IV-E) Agency	1 day	Mon 12/16/19	Mon 12/16/19	2.2.20
838	1.5.3.3.1.21	General Assistance System	1 day	Mon 12/16/19	Mon 12/16/19	2.2.21
839	1.5.3.3.1.22	State Directory of New Hires (SDNH)	1 day	Mon 12/16/19	Mon 12/16/19	2.2.22
840	1.5.3.3.1.23	Public Utilities	1 day	Mon 12/16/19	Mon 12/16/19	2.2.23
841	1.5.3.3.1.24	Financial Institutions	1 day	Mon 12/16/19	Mon 12/16/19	2.2.24
842	1.5.3.3.1.25	State Licensing Entities	1 day	Mon 12/16/19	Mon 12/16/19	2.2.25

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
843	1.5.3.3.1.26	Real and Personal Property Ownership Agencies	1 day	Mon 12/16/19	Mon 12/16/19	2.2.26
844	1.5.3.3.1.27	Tribal IV-D Programs	1 day	Mon 12/16/19	Mon 12/16/19	2.2.27
845	1.5.3.3.1.28	Food Stamps	1 day	Mon 12/16/19	Mon 12/16/19	2.2.28
846	1.5.3.3.1.29	Additional Locate Information	1 day	Mon 12/16/19	Mon 12/16/19	2.2.29
847	1.5.3.3.1.30	Develop Presentation Layer Code	1 day	Mon 12/16/19	Mon 12/16/19	
848	1.5.3.3.1.31	Develop Business Layer Code	1 day	Mon 12/16/19	Mon 12/16/19	
849	1.5.3.3.1.32	Conduct Peer Review	1 day	Mon 12/16/19	Mon 12/16/19	
850	1.5.3.3.1.33	Code Review Rework	1 day	Mon 12/16/19	Mon 12/16/19	
851	1.5.3.3.1.34	M: Locate Development Coding Complete	1 day	Mon 12/16/19	Mon 12/16/19	
852	**1.5.3.3.2**	**Establishment**	**60 days**	**Mon 12/16/19**	**Fri 3/6/20**	**2.3**
853	1.5.3.3.2.1	Paternity Establishment	1 day	Mon 12/16/19	Mon 12/16/19	2.3.1
854	1.5.3.3.2.2	Support Establishment	1 day	Mon 12/16/19	Mon 12/16/19	2.3.2
855	1.5.3.3.2.3	Medical Support Services	1 day	Mon 12/16/19	Mon 12/16/19	2.3.3
856	1.5.3.3.2.4	Legal Process Monitoring	1 day	Mon 12/16/19	Mon 12/16/19	2.3.4
857	1.5.3.3.2.5	Paternity Acknowledgement Access	1 day	Mon 12/16/19	Mon 12/16/19	2.3.5
858	1.5.3.3.2.6	Multiple Putative Fathers	1 day	Mon 12/16/19	Mon 12/16/19	2.3.6
859	1.5.3.3.2.7	Genetic Testing	1 day	Mon 12/16/19	Mon 12/16/19	2.3.7
860	1.5.3.3.2.8	Hearing Calendar	1 day	Mon 12/16/19	Mon 12/16/19	2.3.8
861	1.5.3.3.2.9	Service of Process	1 day	Mon 12/16/19	Mon 12/16/19	2.3.9
862	1.5.3.3.2.10	Guideline Support Calculation	1 day	Mon 12/16/19	Mon 12/16/19	2.3.10
863	1.5.3.3.2.11	Hearing Results	1 day	Mon 12/16/19	Mon 12/16/19	2.3.11
864	1.5.3.3.2.12	Develop Presentation Layer Code	1 day	Mon 12/16/19	Mon 12/16/19	
865	1.5.3.3.2.13	Develop Business Layer Code	1 day	Mon 12/16/19	Mon 12/16/19	
866	1.5.3.3.2.14	Conduct Peer Review	1 day	Mon 12/16/19	Mon 12/16/19	
867	1.5.3.3.2.15	Code Review Rework	1 day	Mon 12/16/19	Mon 12/16/19	
868	1.5.3.3.2.16	M: Establishment Coding Complete	1 day	Mon 12/16/19	Mon 12/16/19	
869	**1.5.3.3.3**	**Case Management**	**60 days**	**Mon 12/16/19**	**Fri 3/6/20**	**2.4**
870	1.5.3.3.3.1	Data Maintenance	1 day	Mon 12/16/19	Mon 12/16/19	2.4.1
871	1.5.3.3.3.2	Third Party Data Maintenance	1 day	Mon 12/16/19	Mon 12/16/19	2.4.2
872	1.5.3.3.3.3	Case Management Monitoring	1 day	Mon 12/16/19	Mon 12/16/19	2.4.3
873	1.5.3.3.3.4	Case Update Processing	1 day	Mon 12/16/19	Mon 12/16/19	2.4.4
874	1.5.3.3.3.5	IV-A Updates	1 day	Mon 12/16/19	Mon 12/16/19	2.4.5
875	1.5.3.3.3.6	Title XIX Updates	1 day	Mon 12/16/19	Mon 12/16/19	2.4.6

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
876	1.5.3.3.3.7	Child Welfare (IV-E) Updates	1 day	Mon 12/16/19	Mon 12/16/19	2.4.7
877	1.5.3.3.3.8	Case Action History	1 day	Mon 12/16/19	Mon 12/16/19	2.4.8
878	1.5.3.3.3.9	Workflow Management	1 day	Mon 12/16/19	Mon 12/16/19	2.4.9
879	1.5.3.3.3.10	Alert Management	1 day	Mon 12/16/19	Mon 12/16/19	2.4.10
880	1.5.3.3.3.11	Document Management	1 day	Mon 12/16/19	Mon 12/16/19	2.4.11
881	1.5.3.3.3.12	Obligation Review and Adjustment	1 day	Mon 12/16/19	Mon 12/16/19	2.4.12
882	1.5.3.3.3.13	Case Closure Management	1 day	Mon 12/16/19	Mon 12/16/19	2.4.13
883	1.5.3.3.3.14	Intergovernmental Case Management	1 day	Mon 12/16/19	Mon 12/16/19	2.4.14
884	1.5.3.3.3.15	Initiating Intergovernmental Case Management	1 day	Mon 12/16/19	Mon 12/16/19	2.4.15
885	1.5.3.3.3.16	Responding Intergovernmental Case Management	1 day	Mon 12/16/19	Mon 12/16/19	2.4.16
886	1.5.3.3.3.17	Intergovernmental Document Generation	1 day	Mon 12/16/19	Mon 12/16/19	2.4.17
887	1.5.3.3.3.18	FIPS Management	1 day	Mon 12/16/19	Mon 12/16/19	2.4.18
888	1.5.3.3.3.19	Tribal Case Management	1 day	Mon 12/16/19	Mon 12/16/19	2.4.19
889	1.5.3.3.3.20	Develop Presentation Layer Code	1 day	Mon 12/16/19	Mon 12/16/19	
890	1.5.3.3.3.21	Develop Business Layer Code	1 day	Mon 12/16/19	Mon 12/16/19	
891	1.5.3.3.3.22	Conduct Peer Review	1 day	Mon 12/16/19	Mon 12/16/19	
892	1.5.3.3.3.23	Code Review Rework	1 day	Mon 12/16/19	Mon 12/16/19	
893	1.5.3.3.3.24	M: Case Management Development Complete	1 day	Mon 12/16/19	Mon 12/16/19	
894	**1.5.3.3.4**	**Customer Service**	**60 days**	**Mon 12/16/19**	**Fri 3/6/20**	
895	1.5.3.3.4.1	Interactive Voice Response Unit (IVR) Accessibility	1 day	Mon 12/16/19	Mon 12/16/19	2.8.1
896	1.5.3.3.4.2	Website Accessibility	1 day	Mon 12/16/19	Mon 12/16/19	2.8.2
897	1.5.3.3.4.3	Interstate Caseworker Web Services (QUICK)	1 day	Mon 12/16/19	Mon 12/16/19	2.8.3
898	1.5.3.3.4.4	Employer Website	1 day	Mon 12/16/19	Mon 12/16/19	2.8.4
899	1.5.3.3.4.5	Call Center Functionality	1 day	Mon 12/16/19	Mon 12/16/19	2.8.5
900	1.5.3.3.4.6	Imaging and Document Generation	1 day	Mon 12/16/19	Mon 12/16/19	2.8.6
901	1.5.3.3.4.7	Client Communication Facility	1 day	Mon 12/16/19	Mon 12/16/19	2.8.7
902	1.5.3.3.4.8	Develop Presentation Layer Code	1 day	Mon 12/16/19	Mon 12/16/19	
903	1.5.3.3.4.9	Develop Business Layer Code	1 day	Mon 12/16/19	Mon 12/16/19	
904	1.5.3.3.4.10	Conduct Peer Review	1 day	Mon 12/16/19	Mon 12/16/19	
905	1.5.3.3.4.11	Code Review Rework	1 day	Mon 12/16/19	Mon 12/16/19	
906	1.5.3.3.4.12	M: Customer Service Development Coding Complete	1 day	Mon 12/16/19	Mon 12/16/19	
907	**1.5.3.3.5**	**Document Generation - Group 2**	**60 days**	**Mon 12/16/19**	**Fri 3/6/20**	
908	1.5.3.3.5.1	Develop Presentation Layer Code	1 day	Mon 12/16/19	Mon 12/16/19	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
909	1.5.3.3.5.2	Develop Business Layer Code	1 day	Mon 12/16/19	Mon 12/16/19	
910	1.5.3.3.5.3	Conduct Peer Review	1 day	Mon 12/16/19	Mon 12/16/19	
911	1.5.3.3.5.4	Code Review Rework	1 day	Mon 12/16/19	Mon 12/16/19	
912	1.5.3.3.5.5	M: Document Generation - Set 2 - Coding Complete	1 day	Mon 12/16/19	Mon 12/16/19	
913	1.5.3.3.6	M: Iteration # 2 - Development Complete	0 days	Fri 3/6/20	Fri 3/6/20	
914	**1.5.3.4**	**Iteration # 2 - Unit Test**	**15 days**	**Mon 3/9/20**	**Fri 3/27/20**	
915	**1.5.3.4.1**	**Locate**	**15 days**	**Mon 3/9/20**	**Fri 3/27/20**	**2.2**
916	1.5.3.4.1.1	Prepare Unit Test Scripts	1 day	Mon 3/9/20	Mon 3/9/20	
917	1.5.3.4.1.2	Execute Unit Test Scripts	1 day	Mon 3/9/20	Mon 3/9/20	
918	1.5.3.4.1.3	Rework from Unit Test	1 day	Mon 3/9/20	Mon 3/9/20	
919	1.5.3.4.1.4	Document Unit Test Results	1 day	Mon 3/9/20	Mon 3/9/20	
920	1.5.3.4.1.5	M: Locate Unit Testing Complete	1 day	Mon 3/9/20	Mon 3/9/20	
921	**1.5.3.4.2**	**Establishment**	**15 days**	**Mon 3/9/20**	**Fri 3/27/20**	**2.3**
922	1.5.3.4.2.1	Prepare Unit Test Scripts	1 day	Mon 3/9/20	Mon 3/9/20	
923	1.5.3.4.2.2	Execute Unit Test Scripts	1 day	Mon 3/9/20	Mon 3/9/20	
924	1.5.3.4.2.3	Rework from Unit Test	1 day	Mon 3/9/20	Mon 3/9/20	
925	1.5.3.4.2.4	Document Unit Test Results	1 day	Mon 3/9/20	Mon 3/9/20	
926	1.5.3.4.2.5	M: Establishment Unit Testing Complete	1 day	Mon 3/9/20	Mon 3/9/20	
927	**1.5.3.4.3**	**Case Management**	**15 days**	**Mon 3/9/20**	**Fri 3/27/20**	**2.4**
928	1.5.3.4.3.1	Prepare Unit Test Scripts	1 day	Mon 3/9/20	Mon 3/9/20	
929	1.5.3.4.3.2	Execute Unit Test Scripts	1 day	Mon 3/9/20	Mon 3/9/20	
930	1.5.3.4.3.3	Rework from Unit Test	1 day	Mon 3/9/20	Mon 3/9/20	
931	1.5.3.4.3.4	Document Unit Test Results	1 day	Mon 3/9/20	Mon 3/9/20	
932	1.5.3.4.3.5	M: Case Management Unit Testing Complete	1 day	Mon 3/9/20	Mon 3/9/20	
933	**1.5.3.4.4**	**Customer Service**	**15 days**	**Mon 3/9/20**	**Fri 3/27/20**	**2.8**
934	1.5.3.4.4.1	Prepare Unit Test Scripts	1 day	Mon 3/9/20	Mon 3/9/20	
935	1.5.3.4.4.2	Execute Unit Test Scripts	1 day	Mon 3/9/20	Mon 3/9/20	
936	1.5.3.4.4.3	Rework from Unit Test	1 day	Mon 3/9/20	Mon 3/9/20	
937	1.5.3.4.4.4	Document Unit Test Results	1 day	Mon 3/9/20	Mon 3/9/20	
938	1.5.3.4.4.5	M: Customer Service Unit Testing Complete	1 day	Mon 3/9/20	Mon 3/9/20	
939	**1.5.3.4.5**	**Document Generation - Group 2**	**15 days**	**Mon 3/9/20**	**Fri 3/27/20**	
940	1.5.3.4.5.1	Prepare Unit Test Scripts	1 day	Mon 3/9/20	Mon 3/9/20	
941	1.5.3.4.5.2	Execute Unit Test Scripts	1 day	Mon 3/9/20	Mon 3/9/20	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
942	1.5.3.4.5.3	Rework from Unit Test	1 day	Mon 3/9/20	Mon 3/9/20	
943	1.5.3.4.5.4	Document Unit Test Results	1 day	Mon 3/9/20	Mon 3/9/20	
944	1.5.3.4.5.5	M: Document Generation - Set 2- Unit Testing Complete	1 day	Mon 3/9/20	Mon 3/9/20	
945	1.5.3.4.6	M: Iteration # 2 - Unit Testing Complete	0 days	Fri 3/27/20	Fri 3/27/20	
946	**1.5.3.5**	**Iteration # 3 - Development**	**75 days**	**Mon 3/30/20**	**Fri 7/10/20**	
947	**1.5.3.5.1**	**Enforcement**	**75 days**	**Mon 3/30/20**	**Fri 7/10/20**	**2.5**
948	1.5.3.5.1.1	Account Enforcement Monitoring	1 day	Mon 3/30/20	Mon 3/30/20	2.5.1
949	1.5.3.5.1.2	Enforcement Remedy Exemptions	1 day	Mon 3/30/20	Mon 3/30/20	2.5.2
950	1.5.3.5.1.3	Income Withholding	1 day	Mon 3/30/20	Mon 3/30/20	2.5.3
951	1.5.3.5.1.4	Federal Tax Refund Offset	1 day	Mon 3/30/20	Mon 3/30/20	2.5.4
952	1.5.3.5.1.5	Liens	1 day	Mon 3/30/20	Mon 3/30/20	2.5.5
953	1.5.3.5.1.6	Bonds	1 day	Mon 3/30/20	Mon 3/30/20	2.5.6
954	1.5.3.5.1.7	Unemployment Intercept	1 day	Mon 3/30/20	Mon 3/30/20	2.5.7
955	1.5.3.5.1.8	Credit Reporting	1 day	Mon 3/30/20	Mon 3/30/20	2.5.8
956	1.5.3.5.1.9	IRS Full Collection Services	1 day	Mon 3/30/20	Mon 3/30/20	2.5.9
957	1.5.3.5.1.10	National Medical Support Notice & Medical Enforcement	1 day	Mon 3/30/20	Mon 3/30/20	2.5.10
958	1.5.3.5.1.11	License Suspension and Non-renewal	1 day	Mon 3/30/20	Mon 3/30/20	2.5.11
959	1.5.3.5.1.12	Contempt and Bench Warrant Processing	1 day	Mon 3/30/20	Mon 3/30/20	2.5.12
960	1.5.3.5.1.13	Passport Denial	1 day	Mon 3/30/20	Mon 3/30/20	2.5.13
961	1.5.3.5.1.14	Financial Institution Data Match	1 day	Mon 3/30/20	Mon 3/30/20	2.5.14
962	1.5.3.5.1.15	Administrative Offset	1 day	Mon 3/30/20	Mon 3/30/20	2.5.15
963	1.5.3.5.1.16	Child Support Lien Network and Other Claim Matching	1 day	Mon 3/30/20	Mon 3/30/20	2.5.16
964	1.5.3.5.1.17	Federal / State Criminal Non Support Referral Tracking	1 day	Mon 3/30/20	Mon 3/30/20	2.5.17
965	1.5.3.5.1.18	Administrative Enforcement-Interstate	1 day	Mon 3/30/20	Mon 3/30/20	2.5.18
966	1.5.3.5.1.19	Develop Presentation Layer Code	1 day	Mon 3/30/20	Mon 3/30/20	
967	1.5.3.5.1.20	Develop Business Layer Code	1 day	Mon 3/30/20	Mon 3/30/20	
968	1.5.3.5.1.21	Conduct Peer Review	1 day	Mon 3/30/20	Mon 3/30/20	
969	1.5.3.5.1.22	Code Review Rework	1 day	Mon 3/30/20	Mon 3/30/20	
970	1.5.3.5.1.23	M: Enforcement Development Coding Complete	1 day	Mon 3/30/20	Mon 3/30/20	
971	**1.5.3.5.2**	**Financials**	**75 days**	**Mon 3/30/20**	**Fri 7/10/20**	**2.6**
972	1.5.3.5.2.1	Order Entry and Obligation Maintenance	1 day	Mon 3/30/20	Mon 3/30/20	2.6.1
973	1.5.3.5.2.2	Future Obligation Setup	1 day	Mon 3/30/20	Mon 3/30/20	2.6.2
974	1.5.3.5.2.3	Retroactive Obligation Management	1 day	Mon 3/30/20	Mon 3/30/20	2.6.3

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
975	1.5.3.5.2.4	Debt Types	1 day	Mon 3/30/20	Mon 3/30/20	2.6.4
976	1.5.3.5.2.5	Account Charging	1 day	Mon 3/30/20	Mon 3/30/20	2.6.5
977	1.5.3.5.2.6	Obligor Billing	1 day	Mon 3/30/20	Mon 3/30/20	2.6.6
978	1.5.3.5.2.7	Payment Processing	1 day	Mon 3/30/20	Mon 3/30/20	2.6.7
979	1.5.3.5.2.8	Held Collections Management	1 day	Mon 3/30/20	Mon 3/30/20	2.6.8
980	1.5.3.5.2.9	Escheatment Management	1 day	Mon 3/30/20	Mon 3/30/20	2.6.9
981	1.5.3.5.2.10	Financial Distribution	1 day	Mon 3/30/20	Mon 3/30/20	2.6.10
982	1.5.3.5.2.11	Electronic Fund Transfer Management	1 day	Mon 3/30/20	Mon 3/30/20	2.6.11
983	1.5.3.5.2.12	Bank Account Reconciliation	1 day	Mon 3/30/20	Mon 3/30/20	2.6.12
984	1.5.3.5.2.13	Account Adjustments	1 day	Mon 3/30/20	Mon 3/30/20	2.6.13
985	1.5.3.5.2.14	Recovery of Misapplied Pymts & NSF Fin. Instruments	1 day	Mon 3/30/20	Mon 3/30/20	2.6.14
986	1.5.3.5.2.15	Account Audit Capability	1 day	Mon 3/30/20	Mon 3/30/20	2.6.15
987	1.5.3.5.2.16	Account Statements and Financial Reports	1 day	Mon 3/30/20	Mon 3/30/20	2.6.16
988	1.5.3.5.2.17	IV-A Updates and Notification	1 day	Mon 3/30/20	Mon 3/30/20	2.6.17
989	1.5.3.5.2.18	Title XIX and Child Welfare Recovery Account Mgmt	1 day	Mon 3/30/20	Mon 3/30/20	2.6.18
990	1.5.3.5.2.19	Statewide Accounting and Fee Management	1 day	Mon 3/30/20	Mon 3/30/20	2.6.19
991	1.5.3.5.2.20	Develop Presentation Layer Code	1 day	Mon 3/30/20	Mon 3/30/20	
992	1.5.3.5.2.21	Develop Business Layer Code	1 day	Mon 3/30/20	Mon 3/30/20	
993	1.5.3.5.2.22	Conduct Peer Review	1 day	Mon 3/30/20	Mon 3/30/20	
994	1.5.3.5.2.23	Code Review Rework	1 day	Mon 3/30/20	Mon 3/30/20	
995	1.5.3.5.2.24	M: Financials Development Complete	1 day	Mon 3/30/20	Mon 3/30/20	
996	**1.5.3.5.3**	**Document Generation - Group 3**	**75 days**	**Mon 3/30/20**	**Fri 7/10/20**	
997	1.5.3.5.3.1	Develop Presentation Layer Code	1 day	Mon 3/30/20	Mon 3/30/20	
998	1.5.3.5.3.2	Develop Business Layer Code	1 day	Mon 3/30/20	Mon 3/30/20	
999	1.5.3.5.3.3	Conduct Peer Review	1 day	Mon 3/30/20	Mon 3/30/20	
1000	1.5.3.5.3.4	Code Review Rework	1 day	Mon 3/30/20	Mon 3/30/20	
1001	1.5.3.5.3.5	M: Document Generation - Set 3 - Coding Complete	1 day	Mon 3/30/20	Mon 3/30/20	
1002	**1.5.3.5.4**	**Reporting**	**75 days**	**Mon 3/30/20**	**Fri 7/10/20**	**2.7**
1003	1.5.3.5.4.1	OCSE-34A Reporting	1 day	Mon 3/30/20	Mon 3/30/20	2.7.1
1004	1.5.3.5.4.2	OCSE-157 Reporting	1 day	Mon 3/30/20	Mon 3/30/20	2.7.2
1005	1.5.3.5.4.3	OCSE-396A Reporting	1 day	Mon 3/30/20	Mon 3/30/20	2.7.3
1006	1.5.3.5.4.4	Data Reliability Monitoring and Reporting	1 day	Mon 3/30/20	Mon 3/30/20	2.7.4
1007	1.5.3.5.4.5	Self-Assessment Sample Selection	1 day	Mon 3/30/20	Mon 3/30/20	2.7.5

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1008	1.5.3.5.4.6	Self-Assessment Analysis Reporting	1 day	Mon 3/30/20	Mon 3/30/20	2.7.6
1009	1.5.3.5.4.7	Accounting Management Reporting	1 day	Mon 3/30/20	Mon 3/30/20	2.7.7
1010	1.5.3.5.4.8	Case Management Reporting	1 day	Mon 3/30/20	Mon 3/30/20	2.7.8
1011	1.5.3.5.4.9	Business Intelligence Reporting	1 day	Mon 3/30/20	Mon 3/30/20	2.7.9
1012	1.5.3.5.4.10	Data Warehouse	1 day	Mon 3/30/20	Mon 3/30/20	2.7.10
1013	1.5.3.5.4.11	Management Analysis Reporting	1 day	Mon 3/30/20	Mon 3/30/20	2.7.11
1014	1.5.3.5.4.12	Ad Hoc Reporting	1 day	Mon 3/30/20	Mon 3/30/20	2.7.12
1015	1.5.3.5.4.13	Program Compliance Monitoring and Reporting	1 day	Mon 3/30/20	Mon 3/30/20	2.7.13
1016	1.5.3.5.4.14	Develop Presentation Layer Code	1 day	Mon 3/30/20	Mon 3/30/20	
1017	1.5.3.5.4.15	Develop Business Layer Code	1 day	Mon 3/30/20	Mon 3/30/20	
1018	1.5.3.5.4.16	Conduct Peer Review	1 day	Mon 3/30/20	Mon 3/30/20	
1019	1.5.3.5.4.17	Code Review Rework	1 day	Mon 3/30/20	Mon 3/30/20	
1020	1.5.3.5.4.18	M: Reporting Development Coding Complete	1 day	Mon 3/30/20	Mon 3/30/20	
1021	**1.5.3.5.5**	**Document Imaging**	**75 days**	**Mon 3/30/20**	**Fri 7/10/20**	
1022	1.5.3.5.5.1	Develop Presentation Layer Code	1 day	Mon 3/30/20	Mon 3/30/20	
1023	1.5.3.5.5.2	Develop Business Layer Code	1 day	Mon 3/30/20	Mon 3/30/20	
1024	1.5.3.5.5.3	Conduct Peer Review	1 day	Mon 3/30/20	Mon 3/30/20	
1025	1.5.3.5.5.4	Code Review Rework	1 day	Mon 3/30/20	Mon 3/30/20	
1026	1.5.3.5.5.5	M: Document Imaging Development Complete	1 day	Mon 3/30/20	Mon 3/30/20	
1027	1.5.3.5.6	M: Iteration # 3 - Development Complete	0 days	Fri 7/10/20	Fri 7/10/20	
1028	**1.5.3.6**	**Iteration # 3 - Unit Test**	**20 days**	**Mon 7/13/20**	**Fri 8/7/20**	
1029	**1.5.3.6.1**	**Enforcement**	**20 days**	**Mon 7/13/20**	**Fri 8/7/20**	**2.5**
1030	1.5.3.6.1.1	Prepare Unit Test Scripts	1 day	Mon 7/13/20	Mon 7/13/20	
1031	1.5.3.6.1.2	Execute Unit Test Scripts	1 day	Mon 7/13/20	Mon 7/13/20	
1032	1.5.3.6.1.3	Rework from Unit Test	1 day	Mon 7/13/20	Mon 7/13/20	
1033	1.5.3.6.1.4	Document Unit Test Results	1 day	Mon 7/13/20	Mon 7/13/20	
1034	1.5.3.6.1.5	M: Enforcement Unit Testing Complete	1 day	Mon 7/13/20	Mon 7/13/20	
1035	**1.5.3.6.2**	**Financials**	**20 days**	**Mon 7/13/20**	**Fri 8/7/20**	**2.6**
1036	1.5.3.6.2.1	Prepare Unit Test Scripts	1 day	Mon 7/13/20	Mon 7/13/20	
1037	1.5.3.6.2.2	Execute Unit Test Scripts	1 day	Mon 7/13/20	Mon 7/13/20	
1038	1.5.3.6.2.3	Rework from Unit Test	1 day	Mon 7/13/20	Mon 7/13/20	
1039	1.5.3.6.2.4	Document Unit Test Results	1 day	Mon 7/13/20	Mon 7/13/20	
1040	1.5.3.6.2.5	M: Financials Unit Testing Complete	1 day	Mon 7/13/20	Mon 7/13/20	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1041	**1.5.3.6.3**	**Document Generation - Group 3**	**20 days**	**Mon 7/13/20**	**Fri 8/7/20**	
1042	1.5.3.6.3.1	Prepare Unit Test Scripts	1 day	Mon 7/13/20	Mon 7/13/20	
1043	1.5.3.6.3.2	Execute Unit Test Scripts	1 day	Mon 7/13/20	Mon 7/13/20	
1044	1.5.3.6.3.3	Rework from Unit Test	1 day	Mon 7/13/20	Mon 7/13/20	
1045	1.5.3.6.3.4	Document Unit Test Results	1 day	Mon 7/13/20	Mon 7/13/20	
1046	1.5.3.6.3.5	M: Document Generation - Set 3- Unit Testing Complete	1 day	Mon 7/13/20	Mon 7/13/20	
1047	**1.5.3.6.4**	**Reporting**	**20 days**	**Mon 7/13/20**	**Fri 8/7/20**	**2.7**
1048	1.5.3.6.4.1	Prepare Unit Test Scripts	1 day	Mon 7/13/20	Mon 7/13/20	
1049	1.5.3.6.4.2	Execute Unit Test Scripts	1 day	Mon 7/13/20	Mon 7/13/20	
1050	1.5.3.6.4.3	Rework from Unit Test	1 day	Mon 7/13/20	Mon 7/13/20	
1051	1.5.3.6.4.4	Document Unit Test Results	1 day	Mon 7/13/20	Mon 7/13/20	
1052	1.5.3.6.4.5	M: Reporting Unit Testing Complete	1 day	Mon 7/13/20	Mon 7/13/20	
1053	**1.5.3.6.5**	**Document Imaging**	**20 days**	**Mon 7/13/20**	**Fri 8/7/20**	
1054	1.5.3.6.5.1	Prepare Unit Test Scripts	1 day	Mon 7/13/20	Mon 7/13/20	
1055	1.5.3.6.5.2	Execute Unit Test Scripts	1 day	Mon 7/13/20	Mon 7/13/20	
1056	1.5.3.6.5.3	Rework from Unit Test	1 day	Mon 7/13/20	Mon 7/13/20	
1057	1.5.3.6.5.4	Document Unit Test Results	1 day	Mon 7/13/20	Mon 7/13/20	
1058	1.5.3.6.5.5	M: Document Imaging Unit Testing Complete	1 day	Mon 7/13/20	Mon 7/13/20	
1059	1.5.3.6.6	M: Iteration # 3 - Unit Testing Complete	0 days	Fri 8/7/20	Fri 8/7/20	
1060	1.5.3.7	M: Development and Unit Test Execution - Complete	0 days	Fri 8/7/20	Fri 8/7/20	
1061	**1.5.3.8**	**4.13.3.2 - Successful Execution of the Application Development Plan**	**15 days**	**Mon 8/10/20**	**Fri 8/28/20**	
1062	1.5.3.8.1	Create Report	1 day	Mon 8/10/20	Mon 8/10/20	
1063	1.5.3.8.2	Review & Submit Report	1 day	Mon 8/10/20	Mon 8/10/20	
1064	1.5.3.8.3	State Review and Approve Report	1 day	Mon 8/10/20	Mon 8/10/20	
1065	**1.5.4**	**Development and Unit Test Closeout**	**16 days**	**Mon 8/10/20**	**Mon 8/31/20**	
1066	**1.5.4.1**	**4.26.3.1 - Development and Operations Hardware and Software**	**16 days**	**Mon 8/10/20**	**Mon 8/31/20**	
1067	1.5.4.1.1	Submit Development Hardware Software Purchase Report	1 day	Mon 8/10/20	Mon 8/10/20	
1068	1.5.4.1.2	Review Development Hardware Software Purchase Report	1 day	Mon 8/10/20	Mon 8/10/20	
1069	1.5.4.1.3	Finalize Development Hardware Software Purchase Report	1 day	Mon 8/10/20	Mon 8/10/20	
1070	1.5.4.1.4	M: Development Hardware Software Purchase Report Accepted	0 days	Mon 8/10/20	Mon 8/10/20	
1071	**1.5.4.2**	**4.28.3.1 - Development, Modification and Conversion of System Software**	**16 days**	**Mon 8/10/20**	**Mon 8/31/20**	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1072	1.5.4.2.1	Submit Development Completion Report	1 day	Mon 8/10/20	Mon 8/10/20	
1073	1.5.4.2.2	Review Development Completion Report	1 day	Mon 8/10/20	Mon 8/10/20	
1074	1.5.4.2.3	Finalize Development Completion Report	1 day	Mon 8/10/20	Mon 8/10/20	
1075	1.5.4.2.4	M: Development Completion Report Accepted	0 days	Mon 8/10/20	Mon 8/10/20	
1076	**1.5.4.3**	**4.28.3.2 - Module Inventory**	**16 days**	**Mon 8/10/20**	**Mon 8/31/20**	
1077	1.5.4.3.1	Submit Module Inventory Report	1 day	Mon 8/10/20	Mon 8/10/20	
1078	1.5.4.3.2	Review Module Inventory Report	1 day	Mon 8/10/20	Mon 8/10/20	
1079	1.5.4.3.3	Finalize Module Inventory Report	1 day	Mon 8/10/20	Mon 8/10/20	
1080	1.5.4.3.4	M: Module Inventory Report Accepted	0 days	Mon 8/10/20	Mon 8/10/20	
1081	**1.5.4.4**	**4.28.3.3 - Development, Testing and Training Environments**	**16 days**	**Mon 8/10/20**	**Mon 8/31/20**	
1082	1.5.4.4.1	Submit Environment(s) Completion Report	1 day	Mon 8/10/20	Mon 8/10/20	
1083	1.5.4.4.2	M: Environment(s) Completion Report Accepted	0 days	Mon 8/10/20	Mon 8/10/20	
1084	**1.5.4.5**	**4.28.3.4 - Unit Test Results**	**16 days**	**Mon 8/10/20**	**Mon 8/31/20**	
1085	1.5.4.5.1	Submit Unit Test Results	1 day	Mon 8/10/20	Mon 8/10/20	
1086	1.5.4.5.2	Review Unit Test Results	1 day	Mon 8/10/20	Mon 8/10/20	
1087	1.5.4.5.3	Finalize Unit Test Results	1 day	Mon 8/10/20	Mon 8/10/20	
1088	1.5.4.5.4	M: Unit Test Results Accepted	0 days	Mon 8/10/20	Mon 8/10/20	
1089	1.5.4.6	M: Development and Unit Test Closeout - Complete	0 days	Mon 8/31/20	Mon 8/31/20	
1090	1.5.5	M: PHASE 5 (DEVELOPMENT AND UNIT TESTING) COMPLETE	0 days	Mon 8/31/20	Mon 8/31/20	
1091	**1.6**	**PHASE 6 - Data Conversion**	**1064 days**	**Tue 5/1/18**	**Fri 5/27/22**	
1092	**1.6.1**	**Data Conversion Planning**	**46 days**	**Mon 6/4/18**	**Mon 8/6/18**	
1093	**1.6.1.1**	**4.18.3.1 - Data Conversion Management Plan**	**45 days**	**Mon 6/4/18**	**Fri 8/3/18**	
1094	1.6.1.1.1	Create Draft Data Conversion Plan	1 day	Mon 6/4/18	Mon 6/4/18	
1095	1.6.1.1.2	Submit Data Conversion Plan to State for Review	1 day	Mon 6/4/18	Mon 6/4/18	
1096	1.6.1.1.3	Resubmit Data Conversion Plan to State for Approval	1 day	Mon 6/4/18	Mon 6/4/18	
1097	1.6.1.1.4	M: Data Conversion Plan -Complete	1 day	Mon 6/4/18	Mon 6/4/18	
1098	1.6.1.2	M: Data Conversion Planning - Complete	1 day	Mon 8/6/18	Mon 8/6/18	
1099	**1.6.2**	**Data Conversion Execution**	**1059 days**	**Tue 5/1/18**	**Fri 5/20/22**	
1100	**1.6.2.1**	**Data Conversion Requirements Analysis and Design**	**285 days**	**Mon 8/6/18**	**Fri 9/6/19**	
1101	**1.6.2.1.1**	**Understanding Source Data**	**30 days**	**Mon 8/6/18**	**Fri 9/14/18**	
1102	1.6.2.1.1.1	Conduct Source Data Understnding sessions	1 day	Tue 8/7/18	Tue 8/7/18	
1103	1.6.2.1.1.2	Identify Data Sources	1 day	Mon 8/6/18	Mon 8/6/18	
1104	1.6.2.1.1.3	Analyze Source System Data Model	1 day	Mon 8/6/18	Mon 8/6/18	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1105	1.6.2.1.1.4	M: Understanding Source Data Complete	1 day	Mon 8/6/18	Mon 8/6/18	
1106	**1.6.2.1.2**	**Key Field Analysis**	**45 days**	**Mon 9/17/18**	**Fri 11/16/18**	
1107	1.6.2.1.2.1	Conduct Key Field Identification	1 day	Mon 9/17/18	Mon 9/17/18	
1108	1.6.2.1.2.2	Develop Key Field Business Rule Definition	1 day	Mon 9/17/18	Mon 9/17/18	
1109	1.6.2.1.2.3	M: Key Field Analysis Complete	1 day	Mon 9/17/18	Mon 9/17/18	
1110	**1.6.2.1.3**	**Source to Target System Table Level Design Mapping**	**45 days**	**Mon 11/19/18**	**Fri 1/18/19**	
1111	1.6.2.1.3.1	Conduct Source Data Identification	1 day	Mon 11/19/18	Mon 11/19/18	
1112	1.6.2.1.3.2	Develop Table Level Mapping Analysis	1 day	Mon 11/19/18	Mon 11/19/18	
1113	1.6.2.1.3.3	Finalize Table Level Mapping Analysis	1 day	Mon 11/19/18	Mon 11/19/18	
1114	1.6.2.1.3.4	M: Table Level Mapping Complete	1 day	Mon 11/19/18	Mon 11/19/18	
1115	**1.6.2.1.4**	**Source to Target System Field Level Data Design Mapping**	**60 days**	**Mon 1/21/19**	**Fri 4/12/19**	
1116	1.6.2.1.4.1	Transfer System Field Level Data Mapping	1 day	Mon 1/21/19	Mon 1/21/19	
1117	1.6.2.1.4.2	Develop Field Level Mapping	1 day	Mon 1/21/19	Mon 1/21/19	
1118	1.6.2.1.4.3	Source and Target Gap Analysis	1 day	Mon 1/21/19	Mon 1/21/19	
1119	1.6.2.1.4.4	M: Source and Target Gap Analysis Complete	1 day	Mon 1/21/19	Mon 1/21/19	
1120	**1.6.2.1.5**	**Source Data Analysis**	**45 days**	**Mon 4/15/19**	**Fri 6/14/19**	
1121	1.6.2.1.5.1	Identify and Document Source Data issues	1 day	Mon 4/15/19	Mon 4/15/19	
1122	1.6.2.1.5.2	Categorize and Prioritize for Data Cleansing	1 day	Mon 4/15/19	Mon 4/15/19	
1123	1.6.2.1.5.3	M: Source Data Analysis including identifying data clean up issues comple	1 day	Mon 4/15/19	Mon 4/15/19	
1124	**1.6.2.1.6**	**4.29.3.2 - Conversion and Testing Plan**	**60 days**	**Mon 6/17/19**	**Fri 9/6/19**	
1125	1.6.2.1.6.1	Create Final Data Conversion Specifications	1 day	Mon 6/17/19	Mon 6/17/19	
1126	1.6.2.1.6.2	Create Draft Conversion and Testing Plan	1 day	Mon 6/17/19	Mon 6/17/19	
1127	1.6.2.1.6.3	Submit Conversion and Testing Plan to State for Review	1 day	Mon 6/17/19	Mon 6/17/19	
1128	1.6.2.1.6.4	Resubmit Conversion and Testing Plan to State for Approval	1 day	Mon 6/17/19	Mon 6/17/19	
1129	1.6.2.1.6.5	M: Conversion and Testing Plan -Complete	1 day	Mon 6/17/19	Mon 6/17/19	
1130	1.6.2.1.7	M: Data Conversion Requirements Analysis and Design Complete	0 days	Fri 9/6/19	Fri 9/6/19	
1131	**1.6.2.2**	**Conversion Development Environment Setup**	**30 days**	**Tue 8/6/19**	**Mon 9/16/19**	
1132	1.6.2.2.1	Install and Configure Conversion Databases	1 day	Tue 8/6/19	Tue 8/6/19	
1133	1.6.2.2.2	Setup Network for data transfer between Source and Target environment	1 day	Tue 8/6/19	Tue 8/6/19	
1134	1.6.2.2.3	Configure Conversion Tools	1 day	Tue 8/6/19	Tue 8/6/19	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1135	1.6.2.2.4	Test Conversion Development Environment	1 day	Tue 8/6/19	Tue 8/6/19	
1136	1.6.2.2.5	M: Data Conversion Environment Setup Complete	1 day	Tue 8/6/19	Tue 8/6/19	
1137	**1.6.2.3**	**Data Conversion Development and Unit Testing**	**260 days**	**Mon 9/9/19**	**Fri 9/4/20**	
1138	**1.6.2.3.1**	**Develop Conversion Routines**	**215 days**	**Mon 9/9/19**	**Fri 7/3/20**	
1139	1.6.2.3.1.1	Develop Conversion Routines - Iteration # 1	60 days	Mon 9/9/19	Fri 11/29/19	
1140	1.6.2.3.1.2	Develop Conversion Routines - Iteration # 2	60 days	Mon 12/2/19	Fri 2/21/20	
1141	1.6.2.3.1.3	Develop Conversion Routines - Iteration # 3	60 days	Mon 2/24/20	Fri 5/15/20	
1142	1.6.2.3.1.4	Develop Conversion Scheduler	15 days	Mon 5/18/20	Fri 6/5/20	
1143	**1.6.2.3.1.5**	**Develop Validation Scripts**	**20 days**	**Mon 6/8/20**	**Fri 7/3/20**	
1144	1.6.2.3.1.5.1	Develop Validation Scripts for Data Integrity Testing	10 days	Mon 6/8/20	Fri 6/19/20	
1145	1.6.2.3.1.5.2	Develop Validation Scripts for Counts and balances	10 days	Mon 6/22/20	Fri 7/3/20	
1146	**1.6.2.3.2**	**Conversion Unit Testing**	**200 days**	**Mon 12/2/19**	**Fri 9/4/20**	
1147	1.6.2.3.2.1	Execute Conversion Schedule	1 day	Mon 12/2/19	Mon 12/2/19	
1148	1.6.2.3.2.2	Verify Conversion Job Completeness	1 day	Mon 12/2/19	Mon 12/2/19	
1149	1.6.2.3.2.3	Review Converted data using NCSEAS Online Screens	1 day	Mon 12/2/19	Mon 12/2/19	
1150	1.6.2.3.2.4	Verify using Validation Scripts	1 day	Mon 12/2/19	Mon 12/2/19	
1151	1.6.2.3.2.5	Rework Conversion routines based on test results	1 day	Mon 12/2/19	Mon 12/2/19	
1152	1.6.2.3.2.6	Document Conversion Unit test results	1 day	Mon 12/2/19	Mon 12/2/19	
1153	1.6.2.3.3	M: Data Conversion Coding and Unit Testing Complete	0 days	Fri 9/4/20	Fri 9/4/20	
1154	**1.6.2.4**	**Data Conversion System Testing**	**120 days**	**Mon 9/7/20**	**Fri 2/19/21**	
1155	1.6.2.4.1	Execute Conversion Schedule	1 day	Mon 9/7/20	Mon 9/7/20	
1156	1.6.2.4.2	Verify Conversion Job Completeness	1 day	Mon 9/7/20	Mon 9/7/20	
1157	1.6.2.4.3	Review Converted data using NCSEAS Online Screens	1 day	Mon 9/7/20	Mon 9/7/20	
1158	1.6.2.4.4	Verify using Validation Scripts	1 day	Mon 9/7/20	Mon 9/7/20	
1159	1.6.2.4.5	Rework Conversion routines based on test results	1 day	Mon 9/7/20	Mon 9/7/20	
1160	1.6.2.4.6	Document Conversion Unit test results	1 day	Mon 9/7/20	Mon 9/7/20	
1161	1.6.2.4.7	M: Conversion System Testing Complete	1 day	Mon 9/7/20	Mon 9/7/20	
1162	**1.6.2.5**	**Provide Ongoing Conversion Data for Development, System Test and UAT**	**500 days**	**Mon 12/2/19**	**Fri 10/29/21**	
1163	1.6.2.5.1	Provide Ongoing Conversion Data for Development (multiple iterations)	200 days	Mon 12/2/19	Fri 9/4/20	
1164	1.6.2.5.2	Provide Ongoing Conversion Data for System Testing (multiple iterations)	150 days	Mon 9/7/20	Fri 4/2/21	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1165	1.6.2.5.3	Provide Ongoing Conversion Data for UAT (multiple iterations)	150 days	Mon 4/5/21	Fri 10/29/21	
1166	**1.6.2.6**	**Data Cleanup in Source System**	**500 days**	**Mon 12/2/19**	**Fri 10/29/21**	
1167	1.6.2.6.1	Develop Data Cleanup alogorithm	1 day	Mon 12/2/19	Mon 12/2/19	
1168	1.6.2.6.2	Perform Manual Data Cleanup	1 day	Mon 12/2/19	Mon 12/2/19	
1169	1.6.2.6.3	Execute Cleanup Scripts in multiple iterations	1 day	Mon 12/2/19	Mon 12/2/19	
1170	1.6.2.6.4	M: Data Cleansing Complete	1 day	Mon 12/2/19	Mon 12/2/19	
1171	**1.6.2.7**	**Data Conversion Mock Runs**	**180 days**	**Tue 8/31/21**	**Mon 5/9/22**	
1172	1.6.2.7.1	Mock Run Conversion Environment	1 day	Tue 8/31/21	Tue 8/31/21	
1173	**1.6.2.7.2**	**Mock Run for Pilot Rollout**	**1 day?**	**Tue 8/31/21**	**Tue 8/31/21**	
1174	1.6.2.7.2.1	Execute Mock Run #1	1 day	Tue 8/31/21	Tue 8/31/21	
1175	1.6.2.7.2.2	Execute Mock Run #2	1 day	Tue 8/31/21	Tue 8/31/21	
1176	1.6.2.7.2.3	Execute Mock Run #3	1 day	Tue 8/31/21	Tue 8/31/21	
1177	1.6.2.7.2.4	Verify and Validate Mock Runs	1 day	Tue 8/31/21	Tue 8/31/21	
1178	**1.6.2.7.3**	**Mock Run for Region 1 Rollout**	**1 day?**	**Tue 5/1/18**	**Tue 5/1/18**	
1179	1.6.2.7.3.1	Execute Mock Run	1 day	Tue 5/1/18	Tue 5/1/18	
1180	1.6.2.7.3.2	Verify and Validate Mock Run	1 day	Tue 5/1/18	Tue 5/1/18	
1181	**1.6.2.7.4**	**Mock Run for Region 2 Rollout**	**1 day?**	**Tue 8/31/21**	**Tue 8/31/21**	
1182	1.6.2.7.4.1	Execute Mock Run	1 day	Tue 8/31/21	Tue 8/31/21	
1183	1.6.2.7.4.2	Verify and Validate Mock Run	1 day	Tue 8/31/21	Tue 8/31/21	
1184	**1.6.2.7.5**	**Mock Run for Region 3 (Statewide) Rollout**	**1 day?**	**Tue 8/31/21**	**Tue 8/31/21**	
1185	1.6.2.7.5.1	Execute Mock Run	1 day	Tue 8/31/21	Tue 8/31/21	
1186	1.6.2.7.5.2	Verify and Validate Mock Run	1 day	Tue 8/31/21	Tue 8/31/21	
1187	**1.6.2.8**	**Data Conversion Go-Live Runs**	**135 days**	**Mon 10/25/21**	**Fri 4/29/22**	
1188	**1.6.2.8.1**	**Data Conversion Region 1 Rollout**	**3 days**	**Mon 10/25/21**	**Wed 10/27/21**	
1189	1.6.2.8.1.1	Execute Final Data Conversion for Region 1	1 day	Mon 10/25/21	Mon 10/25/21	
1190	1.6.2.8.1.2	Execute Validation scripts	1 day	Mon 10/25/21	Mon 10/25/21	
1191	1.6.2.8.1.3	Verify application	1 day	Mon 10/25/21	Mon 10/25/21	
1192	1.6.2.8.1.4	M: Conversion Region 1 Go-Live Complete	1 day	Mon 10/25/21	Mon 10/25/21	
1193	**1.6.2.8.2**	**Data Conversion Region 2 Rollout**	**3 days**	**Mon 12/27/21**	**Wed 12/29/21**	
1194	1.6.2.8.2.1	Execute Final Data Conversion for Region 2	1 day	Mon 12/27/21	Mon 12/27/21	
1195	1.6.2.8.2.2	Execute Validation scripts	1 day	Mon 12/27/21	Mon 12/27/21	
1196	1.6.2.8.2.3	Verify application	1 day	Mon 12/27/21	Mon 12/27/21	
1197	1.6.2.8.2.4	M: Conversion Region 2 Go-Live Complete	1 day	Mon 12/27/21	Mon 12/27/21	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1198	**1.6.2.8.3**	**Data Conversion Region 3 (Statewide) Rollout**	**46 days**	**Fri 2/25/22**	**Fri 4/29/22**	
1199	1.6.2.8.3.1	Execute Final Data Conversion for Region 3 (Statewide)	1 day	Fri 2/25/22	Fri 2/25/22	
1200	1.6.2.8.3.2	Execute Validation scripts	1 day	Fri 2/25/22	Fri 2/25/22	
1201	1.6.2.8.3.3	Verify application	1 day	Fri 2/25/22	Fri 2/25/22	
1202	1.6.2.8.3.4	M: Conversion Region 3 (Statewide) Go-Live Complete	1 day	Fri 2/25/22	Fri 2/25/22	
1203	1.6.2.9	M: Data Conversion Execution - Complete	0 days	Fri 4/29/22	Fri 4/29/22	
1204	**1.6.2.10**	**4.18.3.2 - Successful Execution of the Data Conversion Management Plan**	**15 days**	**Mon 5/2/22**	**Fri 5/20/22**	
1205	1.6.2.10.1	Create Report	1 day	Mon 5/2/22	Mon 5/2/22	
1206	1.6.2.10.2	Review & Submit Report	1 day	Mon 5/2/22	Mon 5/2/22	
1207	1.6.2.10.3	State Review and Approve Report	1 day	Mon 5/2/22	Mon 5/2/22	
1208	**1.6.3**	**Data Conversion Closeout**	**20 days**	**Mon 5/2/22**	**Fri 5/27/22**	
1209	**1.6.3.1**	**4.29.3.1 - Data Conversion Acceptance**	**20 days**	**Mon 5/2/22**	**Fri 5/27/22**	
1210	1.6.3.1.1	Submit Data Conversion Acceptance Report	20 days	Mon 5/2/22	Fri 5/27/22	
1211	1.6.3.1.2	Review Deliverable	20 days	Mon 5/2/22	Fri 5/27/22	
1212	1.6.3.1.3	Data Conversion Acceptance Report Accepted	20 days	Mon 5/2/22	Fri 5/27/22	
1213	1.6.3.1.4	M: Data Conversion Acceptance Report - Complete	0 days	Fri 5/27/22	Fri 5/27/22	
1214	**1.6.3.2**	**4.29.3.3 - Data Conversion Testing Report**	**20 days**	**Mon 5/2/22**	**Fri 5/27/22**	
1215	1.6.3.2.1	Submit Data Conversion Testing Report	20 days	Mon 5/2/22	Fri 5/27/22	
1216	1.6.3.2.2	Review Test Results	20 days	Mon 5/2/22	Fri 5/27/22	
1217	1.6.3.2.3	Data Conversion Testing Report Approved	20 days	Mon 5/2/22	Fri 5/27/22	
1218	1.6.3.2.4	M: Data Conversion Testing Report Accepted	0 days	Fri 5/27/22	Fri 5/27/22	
1219	1.6.3.3	M: Data Conversion Closeout - Complete	0 days	Fri 5/27/22	Fri 5/27/22	
1220	1.6.4	M: PHASE 6 (DATA CONVERSION) COMPLETE	0 days	Fri 5/27/22	Fri 5/27/22	
1221	**1.7**	**4.30.3.1 - PHASE 7 - Integration, System, and Performance Testing**	**312 days**	**Tue 2/11/20**	**Wed 4/21/21**	
1222	**1.7.1**	**Integration, System, and Performance Test Planning**	**91 days**	**Tue 2/11/20**	**Tue 6/16/20**	
1223	**1.7.1.1**	**4.19.3.1 - Testing Management Plan**	**20 days**	**Tue 2/11/20**	**Mon 3/9/20**	
1224	1.7.1.1.1	Create Draft Test Management Plan	20 days	Tue 2/11/20	Mon 3/9/20	
1225	1.7.1.1.2	Submit Test Management Plan to State for Review	20 days	Tue 2/11/20	Mon 3/9/20	
1226	1.7.1.1.3	Resubmit Test Management Plan to State for Approval	20 days	Tue 2/11/20	Mon 3/9/20	
1227	1.7.1.1.4	M: Test Management Plan - Accepted	0 days	Mon 3/9/20	Mon 3/9/20	
1228	**1.7.1.2**	**Test Environment(s) Establishment**	**71 days**	**Tue 3/10/20**	**Tue 6/16/20**	
1229	**1.7.1.2.1**	**System Testing Environment**	**20 days**	**Tue 3/10/20**	**Mon 4/6/20**	

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1230	1.7.1.2.1.1	Configure System Testing Environment	1 day	Tue 3/10/20	Tue 3/10/20	
1231	1.7.1.2.1.2	Configure Application	1 day	Tue 3/10/20	Tue 3/10/20	
1232	1.7.1.2.1.3	Configure multiple database instances	1 day	Tue 3/10/20	Tue 3/10/20	
1233	1.7.1.2.1.4	Test Environment Configuration	1 day	Tue 3/10/20	Tue 3/10/20	
1234	1.7.1.2.1.5	M: System Testing Environment Configuration Complete	1 day	Tue 3/10/20	Tue 3/10/20	
1235	**1.7.1.2.2**	**Performance Testing Environment**	**20 days**	**Tue 4/7/20**	**Mon 5/4/20**	
1236	1.7.1.2.2.1	Configure Performance Testing Environment	1 day	Tue 4/7/20	Tue 4/7/20	
1237	1.7.1.2.2.2	Configure Application	1 day	Tue 4/7/20	Tue 4/7/20	
1238	1.7.1.2.2.3	Test Environment Configuration	1 day	Tue 4/7/20	Tue 4/7/20	
1239	1.7.1.2.2.4	M: Performance Testing Environment Configuration Complete	1 day	Tue 4/7/20	Tue 4/7/20	
1240	**1.7.1.2.3**	**User Acceptance Testing Environment**	**20 days**	**Tue 5/5/20**	**Mon 6/1/20**	
1241	1.7.1.2.3.1	Configure UAT Testing Environment	1 day	Tue 5/5/20	Tue 5/5/20	
1242	1.7.1.2.3.2	Configure Application	1 day	Tue 5/5/20	Tue 5/5/20	
1243	1.7.1.2.3.3	Test Environment Configuration	1 day	Tue 5/5/20	Tue 5/5/20	
1244	1.7.1.2.3.4	M: UAT Testing Environment Configuration Complete	1 day	Tue 5/5/20	Tue 5/5/20	
1245	1.7.1.2.4	M: Testing Environment(s) Complete	0 days	Tue 5/5/20	Tue 5/5/20	
1246	**1.7.1.2.5**	**Test Tool Establishment**	**30 days**	**Wed 5/6/20**	**Tue 6/16/20**	
1247	1.7.1.2.5.1	Intall & Configure Defect Management Tool	30 days	Wed 5/6/20	Tue 6/16/20	
1248	1.7.1.2.5.2	Install & Configure Rational Functional Tester	30 days	Wed 5/6/20	Tue 6/16/20	
1249	1.7.1.2.5.3	Install & Configure Rational Policy Tester	30 days	Wed 5/6/20	Tue 6/16/20	
1250	1.7.1.2.5.4	Configure Defect Management tool for System Testing	30 days	Wed 5/6/20	Tue 6/16/20	
1251	1.7.1.2.5.5	Training / Orientation on tools	30 days	Wed 5/6/20	Tue 6/16/20	
1252	1.7.1.2.5.6	M: Test Tools Establishment - Complete	0 days	Tue 6/16/20	Tue 6/16/20	
1253	**1.7.1.3**	**4.30.3.1 - Test Plan(s)**	**30 days**	**Tue 3/10/20**	**Mon 4/20/20**	
1254	1.7.1.3.1	Integration, System Test Plan	30 days	Tue 3/10/20	Mon 4/20/20	
1255	1.7.1.3.2	Performance Test Plan	30 days	Tue 3/10/20	Mon 4/20/20	
1256	1.7.1.3.3	Regression Test Plan	30 days	Tue 3/10/20	Mon 4/20/20	
1257	1.7.1.3.4	Submit Test Plan(s) to State for Review	30 days	Tue 3/10/20	Mon 4/20/20	
1258	1.7.1.3.5	Resubmit Test Plan(s) to State for Approval	30 days	Tue 3/10/20	Mon 4/20/20	
1259	1.7.1.3.6	M: Test Plan(s) - Accepted	0 days	Mon 4/20/20	Mon 4/20/20	
1260	**1.7.1.4**	**Functional Test Plan(s)**	**30 days**	**Tue 4/21/20**	**Mon 6/1/20**	
1261	1.7.1.4.1	Submit Functional Test Plan(s) to State for Review	30 days	Tue 4/21/20	Mon 6/1/20	

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1262	1.7.1.4.2	Resubmit Functional Test Plan(s) to State for Approval	30 days	Tue 4/21/20	Mon 6/1/20	
1263	1.7.1.4.3	M: Functional Test Plan(s) - Accepted	0 days	Mon 6/1/20	Mon 6/1/20	
1264	1.7.1.5	M: Integration, System, and Performance Test Planning - Complete	1 day	Tue 6/2/20	Tue 6/2/20	
1265	**1.7.2**	**Integration, System Test and Performance Testing Execution**	**195 days**	**Fri 6/5/20**	**Thu 3/4/21**	
1266	**1.7.2.1**	**Iteration # 1 - Prepare SIT Scripts & Data**	**30 days**	**Fri 6/5/20**	**Thu 7/16/20**	
1267	**1.7.2.1.1**	**Ease of Use**	**1 day?**	**Fri 6/5/20**	**Fri 6/5/20**	**2.9**
1268	1.7.2.1.1.1	Screen Standards	1 day	Fri 6/5/20	Fri 6/5/20	2.9.1
1269	1.7.2.1.1.2	Screen Navigation Standards	1 day	Fri 6/5/20	Fri 6/5/20	2.9.2
1270	1.7.2.1.1.3	Lists of Values for Data Type Designations	1 day	Fri 6/5/20	Fri 6/5/20	2.9.3
1271	1.7.2.1.1.4	Data Validation	1 day	Fri 6/5/20	Fri 6/5/20	2.9.4
1272	1.7.2.1.1.5	Data Exceptions	1 day	Fri 6/5/20	Fri 6/5/20	2.9.5
1273	1.7.2.1.1.6	Filter and Sort Functionality	1 day	Fri 6/5/20	Fri 6/5/20	2.9.6
1274	1.7.2.1.1.7	Recall Cases	1 day	Fri 6/5/20	Fri 6/5/20	2.9.7
1275	1.7.2.1.1.8	Online Help	1 day	Fri 6/5/20	Fri 6/5/20	2.9.8
1276	1.7.2.1.1.9	Calendar Support for Date Entry	1 day	Fri 6/5/20	Fri 6/5/20	2.9.9
1277	1.7.2.1.1.10	Case Data Review	1 day	Fri 6/5/20	Fri 6/5/20	2.9.10
1278	1.7.2.1.1.11	Contact Documentation	1 day	Fri 6/5/20	Fri 6/5/20	2.9.11
1279	1.7.2.1.1.12	Case and Participant Special Attention Alerts	1 day	Fri 6/5/20	Fri 6/5/20	2.9.12
1280	1.7.2.1.1.13	Appointment Scheduling	1 day	Fri 6/5/20	Fri 6/5/20	2.9.13
1281	1.7.2.1.1.14	Specialization Management	1 day	Fri 6/5/20	Fri 6/5/20	2.9.14
1282	1.7.2.1.1.15	Caseload Assignment	1 day	Fri 6/5/20	Fri 6/5/20	2.9.15
1283	1.7.2.1.1.16	Parameter File Management	1 day	Fri 6/5/20	Fri 6/5/20	2.9.16
1284	1.7.2.1.2	Security	1 day	Fri 6/5/20	Fri 6/5/20	
1285	**1.7.2.1.3**	**Case Initiation**	**1 day?**	**Fri 6/5/20**	**Fri 6/5/20**	**2.1**
1286	1.7.2.1.3.1	Automated Referral Processing	1 day	Fri 6/5/20	Fri 6/5/20	2.1.1
1287	1.7.2.1.3.2	Online Pending Referral Function	1 day	Fri 6/5/20	Fri 6/5/20	2.1.2
1288	1.7.2.1.3.3	Client Databases	1 day	Fri 6/5/20	Fri 6/5/20	2.1.3
1289	1.7.2.1.3.4	Automatic Case Setup	1 day	Fri 6/5/20	Fri 6/5/20	2.1.4
1290	1.7.2.1.3.5	Automatic Editing of Referral Data	1 day	Fri 6/5/20	Fri 6/5/20	2.1.5
1291	1.7.2.1.3.6	Automated Case Record	1 day	Fri 6/5/20	Fri 6/5/20	2.1.6
1292	1.7.2.1.3.7	Limited Services	1 day	Fri 6/5/20	Fri 6/5/20	2.1.7
1293	1.7.2.1.3.8	Case Tracking	1 day	Fri 6/5/20	Fri 6/5/20	2.1.8
1294	1.7.2.1.3.9	Participant Entity Management Capability	1 day	Fri 6/5/20	Fri 6/5/20	2.1.9

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1295	1.7.2.1.3.10	Participant Demographic Data Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.10
1296	1.7.2.1.3.11	Participant Status Data Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.11
1297	1.7.2.1.3.12	Participant Occupation Data Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.12
1298	1.7.2.1.3.13	Participant Interface Number Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.13
1299	1.7.2.1.3.14	Participant Address Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.14
1300	1.7.2.1.3.15	Participant License Data Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.15
1301	1.7.2.1.3.16	Participant Asset Data Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.16
1302	1.7.2.1.3.17	Participant Employer Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.17
1303	1.7.2.1.3.18	Participant Employment Income Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.18
1304	1.7.2.1.3.19	Participant Self-Employment Income Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.19
1305	1.7.2.1.3.20	Participant Other Income Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.20
1306	1.7.2.1.3.21	Participant Expense Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.21
1307	1.7.2.1.3.22	Participant Medical Support Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.22
1308	1.7.2.1.3.23	Employer Management	1 day	Fri 6/5/20	Fri 6/5/20	2.1.23
1309	1.7.2.1.3.24	Non-Public Assistance (NPA) Applications	1 day	Fri 6/5/20	Fri 6/5/20	2.1.24
1310	1.7.2.1.3.25	Application Form Generation	1 day	Fri 6/5/20	Fri 6/5/20	2.1.25
1311	1.7.2.1.3.26	IV-A Referrals	1 day	Fri 6/5/20	Fri 6/5/20	2.1.26
1312	1.7.2.1.3.27	Title XIX Referrals	1 day	Fri 6/5/20	Fri 6/5/20	2.1.27
1313	1.7.2.1.3.28	IV-E Referrals	1 day	Fri 6/5/20	Fri 6/5/20	2.1.28
1314	1.7.2.1.3.29	Interstate, Tribal, and International Referrals	1 day	Fri 6/5/20	Fri 6/5/20	2.1.29
1315	1.7.2.1.3.30	Case Data	1 day	Fri 6/5/20	Fri 6/5/20	2.1.30
1316	1.7.2.1.3.31	Court Interface	1 day	Fri 6/5/20	Fri 6/5/20	2.1.31
1317	1.7.2.1.3.32	Intake Case Monitoring	1 day	Fri 6/5/20	Fri 6/5/20	2.1.32
1318	1.7.2.1.3.33	Case Types	1 day	Fri 6/5/20	Fri 6/5/20	2.1.33
1319	1.7.2.1.3.34	Assistance Status	1 day	Fri 6/5/20	Fri 6/5/20	2.1.34
1320	1.7.2.1.3.35	Order Status	1 day	Fri 6/5/20	Fri 6/5/20	2.1.35
1321	1.7.2.1.3.36	Functional Area Status	1 day	Fri 6/5/20	Fri 6/5/20	2.1.36
1322	1.7.2.1.3.37	Intergovernmental Status	1 day	Fri 6/5/20	Fri 6/5/20	2.1.37
1323	1.7.2.1.3.38	Child Welfare IV-E Status	1 day	Fri 6/5/20	Fri 6/5/20	2.1.38
1324	1.7.2.1.3.39	State Case Registry	1 day	Fri 6/5/20	Fri 6/5/20	2.1.39
1325	1.7.2.1.3.40	Non IV-D Court Orders	1 day	Fri 6/5/20	Fri 6/5/20	2.1.40
1326	1.7.2.1.3.41	Federal Case Registry Interface	1 day	Fri 6/5/20	Fri 6/5/20	2.1.41
1327	**1.7.2.2**	**Iteration # 2 - Prepare SIT Scripts & Data**	**30 days**	**Fri 7/17/20**	**Thu 8/27/20**	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1328	**1.7.2.2.1**	**Locate**	**1 day?**	**Fri 7/17/20**	**Fri 7/17/20**	**2.2**
1329	1.7.2.2.1.1	Basic Locate Functionality	1 day	Fri 7/17/20	Fri 7/17/20	2.2.1
1330	1.7.2.2.1.2	Locate Case Monitoring	1 day	Fri 7/17/20	Fri 7/17/20	2.2.2
1331	1.7.2.2.1.3	Secure Exchange of Data	1 day	Fri 7/17/20	Fri 7/17/20	2.2.3
1332	1.7.2.2.1.4	Locate Interfaces	1 day	Fri 7/17/20	Fri 7/17/20	2.2.4
1333	1.7.2.2.1.5	Federal Parent Locator Service (FPLS)	1 day	Fri 7/17/20	Fri 7/17/20	2.2.5
1334	1.7.2.2.1.6	Locate Workflow	1 day	Fri 7/17/20	Fri 7/17/20	2.2.6
1335	1.7.2.2.1.7	Quick Locate	1 day	Fri 7/17/20	Fri 7/17/20	2.2.7
1336	1.7.2.2.1.8	National Directory of New Hires (NDNH)	1 day	Fri 7/17/20	Fri 7/17/20	2.2.8
1337	1.7.2.2.1.9	Federal Case Registry (FCR)	1 day	Fri 7/17/20	Fri 7/17/20	2.2.9
1338	1.7.2.2.1.10	Driver and Motor Vehicle Services Division (DMV)	1 day	Fri 7/17/20	Fri 7/17/20	2.2.10
1339	1.7.2.2.1.11	Department of Wildlife	1 day	Fri 7/17/20	Fri 7/17/20	2.2.11
1340	1.7.2.2.1.12	DETR	1 day	Fri 7/17/20	Fri 7/17/20	2.2.12
1341	1.7.2.2.1.13	Vital Statistics	1 day	Fri 7/17/20	Fri 7/17/20	2.2.13
1342	1.7.2.2.1.14	Department of Corrections	1 day	Fri 7/17/20	Fri 7/17/20	2.2.14
1343	1.7.2.2.1.15	Credit Reporting Agencies	1 day	Fri 7/17/20	Fri 7/17/20	2.2.15
1344	1.7.2.2.1.16	Postal Service	1 day	Fri 7/17/20	Fri 7/17/20	2.2.16
1345	1.7.2.2.1.17	Nevada Department of Taxation	1 day	Fri 7/17/20	Fri 7/17/20	2.2.17
1346	1.7.2.2.1.18	State IV-A Agency	1 day	Fri 7/17/20	Fri 7/17/20	2.2.18
1347	1.7.2.2.1.19	Title XIX Agency	1 day	Fri 7/17/20	Fri 7/17/20	2.2.19
1348	1.7.2.2.1.20	State Child Welfare (IV-E) Agency	1 day	Fri 7/17/20	Fri 7/17/20	2.2.20
1349	1.7.2.2.1.21	General Assistance System	1 day	Fri 7/17/20	Fri 7/17/20	2.2.21
1350	1.7.2.2.1.22	State Directory of New Hires (SDNH)	1 day	Fri 7/17/20	Fri 7/17/20	2.2.22
1351	1.7.2.2.1.23	Public Utilities	1 day	Fri 7/17/20	Fri 7/17/20	2.2.23
1352	1.7.2.2.1.24	Financial Institutions	1 day	Fri 7/17/20	Fri 7/17/20	2.2.24
1353	1.7.2.2.1.25	State Licensing Entities	1 day	Fri 7/17/20	Fri 7/17/20	2.2.25
1354	1.7.2.2.1.26	Real and Personal Property Ownership Agencies	1 day	Fri 7/17/20	Fri 7/17/20	2.2.26
1355	1.7.2.2.1.27	Tribal IV-D Programs	1 day	Fri 7/17/20	Fri 7/17/20	2.2.27
1356	1.7.2.2.1.28	Food Stamps	1 day	Fri 7/17/20	Fri 7/17/20	2.2.28
1357	1.7.2.2.1.29	Additional Locate Information	1 day	Fri 7/17/20	Fri 7/17/20	2.2.29
1358	**1.7.2.2.2**	**Establishment**	**1 day?**	**Fri 7/17/20**	**Fri 7/17/20**	**2.3**
1359	1.7.2.2.2.1	Paternity Establishment	1 day	Fri 7/17/20	Fri 7/17/20	2.3.1
1360	1.7.2.2.2.2	Support Establishment	1 day	Fri 7/17/20	Fri 7/17/20	2.3.2

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1361	1.7.2.2.2.3	Medical Support Services	1 day	Fri 7/17/20	Fri 7/17/20	2.3.3
1362	1.7.2.2.2.4	Legal Process Monitoring	1 day	Fri 7/17/20	Fri 7/17/20	2.3.4
1363	1.7.2.2.2.5	Paternity Acknowledgement Access	1 day	Fri 7/17/20	Fri 7/17/20	2.3.5
1364	1.7.2.2.2.6	Multiple Putative Fathers	1 day	Fri 7/17/20	Fri 7/17/20	2.3.6
1365	1.7.2.2.2.7	Genetic Testing	1 day	Fri 7/17/20	Fri 7/17/20	2.3.7
1366	1.7.2.2.2.8	Hearing Calendar	1 day	Fri 7/17/20	Fri 7/17/20	2.3.8
1367	1.7.2.2.2.9	Service of Process	1 day	Fri 7/17/20	Fri 7/17/20	2.3.9
1368	1.7.2.2.2.10	Guideline Support Calculation	1 day	Fri 7/17/20	Fri 7/17/20	2.3.10
1369	1.7.2.2.2.11	Hearing Results	1 day	Fri 7/17/20	Fri 7/17/20	2.3.11
1370	**1.7.2.2.3**	**Case Management**	**1 day?**	**Fri 7/17/20**	**Fri 7/17/20**	**2.4**
1371	1.7.2.2.3.1	Data Maintenance	1 day	Fri 7/17/20	Fri 7/17/20	2.4.1
1372	1.7.2.2.3.2	Third Party Data Maintenance	1 day	Fri 7/17/20	Fri 7/17/20	2.4.2
1373	1.7.2.2.3.3	Case Management Monitoring	1 day	Fri 7/17/20	Fri 7/17/20	2.4.3
1374	1.7.2.2.3.4	Case Update Processing	1 day	Fri 7/17/20	Fri 7/17/20	2.4.4
1375	1.7.2.2.3.5	IV-A Updates	1 day	Fri 7/17/20	Fri 7/17/20	2.4.5
1376	1.7.2.2.3.6	Title XIX Updates	1 day	Fri 7/17/20	Fri 7/17/20	2.4.6
1377	1.7.2.2.3.7	Child Welfare (IV-E) Updates	1 day	Fri 7/17/20	Fri 7/17/20	2.4.7
1378	1.7.2.2.3.8	Case Action History	1 day	Fri 7/17/20	Fri 7/17/20	2.4.8
1379	1.7.2.2.3.9	Workflow Management	1 day	Fri 7/17/20	Fri 7/17/20	2.4.9
1380	1.7.2.2.3.10	Alert Management	1 day	Fri 7/17/20	Fri 7/17/20	2.4.10
1381	1.7.2.2.3.11	Document Management	1 day	Fri 7/17/20	Fri 7/17/20	2.4.11
1382	1.7.2.2.3.12	Obligation Review and Adjustment	1 day	Fri 7/17/20	Fri 7/17/20	2.4.12
1383	1.7.2.2.3.13	Case Closure Management	1 day	Fri 7/17/20	Fri 7/17/20	2.4.13
1384	1.7.2.2.3.14	Intergovernmental Case Management	1 day	Fri 7/17/20	Fri 7/17/20	2.4.14
1385	1.7.2.2.3.15	Initiating Intergovernmental Case Management	1 day	Fri 7/17/20	Fri 7/17/20	2.4.15
1386	1.7.2.2.3.16	Responding Intergovernmental Case Management	1 day	Fri 7/17/20	Fri 7/17/20	2.4.16
1387	1.7.2.2.3.17	Intergovernmental Document Generation	1 day	Fri 7/17/20	Fri 7/17/20	2.4.17
1388	1.7.2.2.3.18	FIPS Management	1 day	Fri 7/17/20	Fri 7/17/20	2.4.18
1389	1.7.2.2.3.19	Tribal Case Management	1 day	Fri 7/17/20	Fri 7/17/20	2.4.19
1390	**1.7.2.2.4**	**Customer Service**	**1 day?**	**Fri 7/17/20**	**Fri 7/17/20**	**2.8**
1391	1.7.2.2.4.1	Interactive Voice Response Unit (IVR) Accessibility	1 day	Fri 7/17/20	Fri 7/17/20	2.8.1
1392	1.7.2.2.4.2	Website Accessibility	1 day	Fri 7/17/20	Fri 7/17/20	2.8.2
1393	1.7.2.2.4.3	Interstate Caseworker Web Services (QUICK)	1 day	Fri 7/17/20	Fri 7/17/20	2.8.3

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1394	1.7.2.2.4.4	Employer Website	1 day	Fri 7/17/20	Fri 7/17/20	2.8.4
1395	1.7.2.2.4.5	Call Center Functionality	1 day	Fri 7/17/20	Fri 7/17/20	2.8.5
1396	1.7.2.2.4.6	Imaging and Document Generation	1 day	Fri 7/17/20	Fri 7/17/20	2.8.6
1397	1.7.2.2.4.7	Client Communication Facility	1 day	Fri 7/17/20	Fri 7/17/20	2.8.7
1398	**1.7.2.3**	**Iteration # 3 - Prepare SIT Scripts & Data**	**30 days**	**Fri 8/28/20**	**Thu 10/8/20**	
1399	**1.7.2.3.1**	**Enforcement**	**1 day?**	**Fri 8/28/20**	**Fri 8/28/20**	**2.5**
1400	1.7.2.3.1.1	Account Enforcement Monitoring	1 day	Fri 8/28/20	Fri 8/28/20	2.5.1
1401	1.7.2.3.1.2	Enforcement Remedy Exemptions	1 day	Fri 8/28/20	Fri 8/28/20	2.5.2
1402	1.7.2.3.1.3	Income Withholding	1 day	Fri 8/28/20	Fri 8/28/20	2.5.3
1403	1.7.2.3.1.4	Federal Tax Refund Offset	1 day	Fri 8/28/20	Fri 8/28/20	2.5.4
1404	1.7.2.3.1.5	Liens	1 day	Fri 8/28/20	Fri 8/28/20	2.5.5
1405	1.7.2.3.1.6	Bonds	1 day	Fri 8/28/20	Fri 8/28/20	2.5.6
1406	1.7.2.3.1.7	Unemployment Intercept	1 day	Fri 8/28/20	Fri 8/28/20	2.5.7
1407	1.7.2.3.1.8	Credit Reporting	1 day	Fri 8/28/20	Fri 8/28/20	2.5.8
1408	1.7.2.3.1.9	IRS Full Collection Services	1 day	Fri 8/28/20	Fri 8/28/20	2.5.9
1409	1.7.2.3.1.10	National Medical Support Notice & Medical Enforcement	1 day	Fri 8/28/20	Fri 8/28/20	2.5.10
1410	1.7.2.3.1.11	License Suspension and Non-renewal	1 day	Fri 8/28/20	Fri 8/28/20	2.5.11
1411	1.7.2.3.1.12	Contempt and Bench Warrant Processing	1 day	Fri 8/28/20	Fri 8/28/20	2.5.12
1412	1.7.2.3.1.13	Passport Denial	1 day	Fri 8/28/20	Fri 8/28/20	2.5.13
1413	1.7.2.3.1.14	Financial Institution Data Match	1 day	Fri 8/28/20	Fri 8/28/20	2.5.14
1414	1.7.2.3.1.15	Administrative Offset	1 day	Fri 8/28/20	Fri 8/28/20	2.5.15
1415	1.7.2.3.1.16	Child Support Lien Network and Other Claim Matching	1 day	Fri 8/28/20	Fri 8/28/20	2.5.16
1416	1.7.2.3.1.17	Federal / State Criminal Non Support Referral Tracking	1 day	Fri 8/28/20	Fri 8/28/20	2.5.17
1417	1.7.2.3.1.18	Administrative Enforcement-Interstate	1 day	Fri 8/28/20	Fri 8/28/20	2.5.18
1418	**1.7.2.3.2**	**Financials**	**1 day?**	**Fri 8/28/20**	**Fri 8/28/20**	**2.6**
1419	1.7.2.3.2.1	Order Entry and Obligation Maintenance	1 day	Fri 8/28/20	Fri 8/28/20	2.6.1
1420	1.7.2.3.2.2	Future Obligation Setup	1 day	Fri 8/28/20	Fri 8/28/20	2.6.2
1421	1.7.2.3.2.3	Retroactive Obligation Management	1 day	Fri 8/28/20	Fri 8/28/20	2.6.3
1422	1.7.2.3.2.4	Debt Types	1 day	Fri 8/28/20	Fri 8/28/20	2.6.4
1423	1.7.2.3.2.5	Account Charging	1 day	Fri 8/28/20	Fri 8/28/20	2.6.5
1424	1.7.2.3.2.6	Obligor Billing	1 day	Fri 8/28/20	Fri 8/28/20	2.6.6
1425	1.7.2.3.2.7	Payment Processing	1 day	Fri 8/28/20	Fri 8/28/20	2.6.7
1426	1.7.2.3.2.8	Held Collections Management	1 day	Fri 8/28/20	Fri 8/28/20	2.6.8

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1427	1.7.2.3.2.9	Escheatment Management	1 day	Fri 8/28/20	Fri 8/28/20	2.6.9
1428	1.7.2.3.2.10	Financial Distribution	1 day	Fri 8/28/20	Fri 8/28/20	2.6.10
1429	1.7.2.3.2.11	Electronic Fund Transfer Management	1 day	Fri 8/28/20	Fri 8/28/20	2.6.11
1430	1.7.2.3.2.12	Bank Account Reconciliation	1 day	Fri 8/28/20	Fri 8/28/20	2.6.12
1431	1.7.2.3.2.13	Account Adjustments	1 day	Fri 8/28/20	Fri 8/28/20	2.6.13
1432	1.7.2.3.2.14	Recovery of Misapplied Pymts & NSF Fin. Instruments	1 day	Fri 8/28/20	Fri 8/28/20	2.6.14
1433	1.7.2.3.2.15	Account Audit Capability	1 day	Fri 8/28/20	Fri 8/28/20	2.6.15
1434	1.7.2.3.2.16	Account Statements and Financial Reports	1 day	Fri 8/28/20	Fri 8/28/20	2.6.16
1435	1.7.2.3.2.17	IV-A Updates and Notification	1 day	Fri 8/28/20	Fri 8/28/20	2.6.17
1436	1.7.2.3.2.18	Title XIX and Child Welfare Recovery Account Mgmt	1 day	Fri 8/28/20	Fri 8/28/20	2.6.18
1437	1.7.2.3.2.19	Statewide Accounting and Fee Management	1 day	Fri 8/28/20	Fri 8/28/20	2.6.19
1438	**1.7.2.3.3**	**Reporting**	**1 day?**	**Fri 8/28/20**	**Fri 8/28/20**	**2.7**
1439	1.7.2.3.3.1	OCSE-34A Reporting	1 day	Fri 8/28/20	Fri 8/28/20	2.7.1
1440	1.7.2.3.3.2	OCSE-157 Reporting	1 day	Fri 8/28/20	Fri 8/28/20	2.7.2
1441	1.7.2.3.3.3	OCSE-396A Reporting	1 day	Fri 8/28/20	Fri 8/28/20	2.7.3
1442	1.7.2.3.3.4	Data Reliability Monitoring and Reporting	1 day	Fri 8/28/20	Fri 8/28/20	2.7.4
1443	1.7.2.3.3.5	Self-Assessment Sample Selection	1 day	Fri 8/28/20	Fri 8/28/20	2.7.5
1444	1.7.2.3.3.6	Self-Assessment Analysis Reporting	1 day	Fri 8/28/20	Fri 8/28/20	2.7.6
1445	1.7.2.3.3.7	Accounting Management Reporting	1 day	Fri 8/28/20	Fri 8/28/20	2.7.7
1446	1.7.2.3.3.8	Case Management Reporting	1 day	Fri 8/28/20	Fri 8/28/20	2.7.8
1447	1.7.2.3.3.9	Business Intelligence Reporting	1 day	Fri 8/28/20	Fri 8/28/20	2.7.9
1448	1.7.2.3.3.10	Data Warehouse	1 day	Fri 8/28/20	Fri 8/28/20	2.7.10
1449	1.7.2.3.3.11	Management Analysis Reporting	1 day	Fri 8/28/20	Fri 8/28/20	2.7.11
1450	1.7.2.3.3.12	Ad Hoc Reporting	1 day	Fri 8/28/20	Fri 8/28/20	2.7.12
1451	1.7.2.3.3.13	Program Compliance Monitoring and Reporting	1 day	Fri 8/28/20	Fri 8/28/20	2.7.13
1452	1.7.2.3.4	Document Imaging	1 day	Fri 8/28/20	Fri 8/28/20	
1453	**1.7.2.4**	**Iteration # 1 - Conduct SIT**	**60 days**	**Fri 7/17/20**	**Thu 10/8/20**	
1454	1.7.2.4.1	Ease of Use	1 day	Fri 7/17/20	Fri 7/17/20	2.9
1455	1.7.2.4.2	Security	1 day	Fri 7/17/20	Fri 7/17/20	
1456	1.7.2.4.3	Case Initiation	1 day	Fri 7/17/20	Fri 7/17/20	2.1
1457	**1.7.2.5**	**4.14.3.2 - Successful Execution of the Ease of Use Management Plan**	**15 days**	**Mon 7/20/20**	**Fri 8/7/20**	
1458	1.7.2.5.1	Create Report		Mon 7/20/20		

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1459	1.7.2.5.2	Review & Submit Report		Mon 7/20/20		
1460	1.7.2.5.3	State Review and Approve Report		Mon 7/20/20		
1461	**1.7.2.6**	**4.22.3.2 - Successful Execution of the Security Management Plan**	**15 days**	**Mon 7/20/20**	**Fri 8/7/20**	
1462	1.7.2.6.1	Create Report		Mon 7/20/20		
1463	1.7.2.6.2	Review & Submit Report		Mon 7/20/20		
1464	1.7.2.6.3	State Review and Approve Report		Mon 7/20/20		
1465	**1.7.2.7**	**Iteration # 2 - Conduct SIT**	**60 days**	**Fri 8/28/20**	**Thu 11/19/20**	
1466	1.7.2.7.1	Locate	1 day	Fri 8/28/20	Fri 8/28/20	2.2
1467	1.7.2.7.2	Establishment	1 day	Fri 8/28/20	Fri 8/28/20	2.3
1468	1.7.2.7.3	Case Management	1 day	Fri 8/28/20	Fri 8/28/20	2.4
1469	1.7.2.7.4	Customer Service	1 day	Fri 8/28/20	Fri 8/28/20	2.8
1470	**1.7.2.8**	**Iteration # 3 - Conduct SIT**	**60 days**	**Fri 10/9/20**	**Thu 12/31/20**	
1471	1.7.2.8.1	Enforcement	1 day	Fri 10/9/20	Fri 10/9/20	2.5
1472	1.7.2.8.2	Financials	1 day	Fri 10/9/20	Fri 10/9/20	2.6
1473	1.7.2.8.3	Reporting	1 day	Fri 10/9/20	Fri 10/9/20	2.7
1474	1.7.2.8.4	Document Imaging	1 day	Fri 10/9/20	Fri 10/9/20	
1475	**1.7.2.9**	**Performance Test Execution**	**45 days**	**Fri 1/1/21**	**Thu 3/4/21**	
1476	1.7.2.9.1	Setup LoadRunner Tool on the Workstation	1 day	Fri 1/1/21	Fri 1/1/21	
1477	1.7.2.9.2	Execute Performance Test - Cycle 1	1 day	Fri 1/1/21	Fri 1/1/21	
1478	1.7.2.9.3	Fix Performance Defects	1 day	Fri 1/1/21	Fri 1/1/21	
1479	1.7.2.9.4	Execute Performance Test - Cycle 2	1 day	Fri 1/1/21	Fri 1/1/21	
1480	1.7.2.9.5	Fix Performance Defects	1 day	Fri 1/1/21	Fri 1/1/21	
1481	1.7.2.9.6	Execute Performance Test - Cycle 3	1 day	Fri 1/1/21	Fri 1/1/21	
1482	1.7.2.9.7	Fix Performance Defects	1 day	Fri 1/1/21	Fri 1/1/21	
1483	1.7.2.9.8	Execute Performance Test - Final Run	1 day	Fri 1/1/21	Fri 1/1/21	
1484	1.7.2.9.9	M: Performance Test Complete	1 day	Fri 1/1/21	Fri 1/1/21	
1485	**1.7.2.10**	**Regression & End to End (E2E) Test Execution**	**45 days**	**Fri 1/1/21**	**Thu 3/4/21**	
1486	1.7.2.10.1	Test Set up & Preparation - Regression & End to End Testing	1 day	Fri 1/1/21	Fri 1/1/21	
1487	1.7.2.10.2	Execute Regression Suite (EoU, Security, Case Initiation, Case Management,	1 day	Fri 1/1/21	Fri 1/1/21	
1488	1.7.2.10.3	Fix Defects & Re-Test Regression	1 day	Fri 1/1/21	Fri 1/1/21	
1489	1.7.2.10.4	Execute Regression Suite (Customer Service, & Enforcement)	1 day	Fri 1/1/21	Fri 1/1/21	
1490	1.7.2.10.5	Fix Defects & Re-Test Regression	1 day	Fri 1/1/21	Fri 1/1/21	

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1491	1.7.2.10.6	Execute Regression Suite (Finance, Imaging & Reporting)	1 day	Fri 1/1/21	Fri 1/1/21	
1492	1.7.2.10.7	Fixing Defects & Re-Test - Regression Testing	1 day	Fri 1/1/21	Fri 1/1/21	
1493	1.7.2.10.8	Execute End to End Testing	1 day	Fri 1/1/21	Fri 1/1/21	
1494	1.7.2.10.9	Fix Defects & Re-Test End to End Testing	1 day	Fri 1/1/21	Fri 1/1/21	
1495	1.7.2.10.10	M: Regression & End to End Testing Complete	1 day	Fri 1/1/21	Fri 1/1/21	
1496	1.7.2.11	M: Integration, System, and Performance Testing Execution - Complete	0 days	Thu 3/4/21	Thu 3/4/21	
1497	**1.7.3**	**Integration, System Test and Performance Testing Closeout**	**22 days**	**Wed 3/3/21**	**Thu 4/1/21**	
1498	**1.7.3.1**	**4.30.3.2 - Acceptance Testing**	**20 days**	**Fri 3/5/21**	**Thu 4/1/21**	
1499	1.7.3.1.1	Submit Integration, System Test and Performance Test Results	1 day	Fri 3/5/21	Fri 3/5/21	
1500	1.7.3.1.2	Review Test Execution Completion	1 day	Fri 3/5/21	Fri 3/5/21	
1501	1.7.3.1.3	Test Execution Completion Accepted	1 day	Fri 3/5/21	Fri 3/5/21	
1502	1.7.3.1.4	M: Integration, System Test and Performance Test - Complete	1 day	Fri 3/5/21	Fri 3/5/21	
1503	**1.7.3.2**	**4.30.3.4 - Acceptance Test Reports**	**20 days**	**Wed 3/3/21**	**Tue 3/30/21**	
1504	1.7.3.2.1	Create Integration, System and Performance Acceptance Test Reports	1 day	Wed 3/3/21	Wed 3/3/21	
1505	1.7.3.2.2	Submit Acceptance Test Reports for State Review	1 day	Wed 3/3/21	Wed 3/3/21	
1506	1.7.3.2.3	Re-submit Acceptance Test Reports for Approval	1 day	Wed 3/3/21	Wed 3/3/21	
1507	1.7.3.2.4	M: Acceptance Test Reports - Accepted	0 days	Wed 3/3/21	Wed 3/3/21	
1508	1.7.3.3	M: Integration, System Test and Performance Testing Closeout - Complete	0 days	Tue 3/30/21	Tue 3/30/21	
1509	1.7.4	M: PHASE 7 (INTEGRATION, SYSTEM TEST and PERFORMANCE TEST) COMPLETE	0 days	Tue 3/30/21	Tue 3/30/21	
1510	**1.7.5**	**4.16.3.2 - Successful Execution of the Database Governance Plan**	**15 days**	**Thu 4/1/21**	**Wed 4/21/21**	
1511	1.7.5.1	Create Report	1 day	Thu 4/1/21	Thu 4/1/21	
1512	1.7.5.2	Review & Submit Report	1 day	Thu 4/1/21	Thu 4/1/21	
1513	1.7.5.3	State Review and Approve Report	1 day	Thu 4/1/21	Thu 4/1/21	
1514	**1.7.6**	**4.17.3.2 - Successful Execution of the Release Management Plan**	**15 days**	**Thu 4/1/21**	**Wed 4/21/21**	
1515	1.7.6.1	Create Report	1 day	Thu 4/1/21	Thu 4/1/21	
1516	1.7.6.2	Review & Submit Report	1 day	Thu 4/1/21	Thu 4/1/21	
1517	1.7.6.3	State Review and Approve Report	1 day	Thu 4/1/21	Thu 4/1/21	
1518	**1.8**	**PHASE 8 - User Acceptance Testing**	**165 days**	**Fri 3/5/21**	**Thu 10/21/21**	
1519	**1.8.1**	**User Acceptance Test Planning**	**20 days**	**Fri 3/5/21**	**Thu 4/1/21**	

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1520	**1.8.1.1**	**4.30.3.6 - User Acceptance Test Plan Template**	**20 days**	**Fri 3/5/21**	**Thu 4/1/21**	
1521	1.8.1.1.1	Prepare UAT Plan Template	1 day	Fri 3/5/21	Fri 3/5/21	
1522	1.8.1.1.2	Submit UAT Plan template for State review	1 day	Fri 3/5/21	Fri 3/5/21	
1523	1.8.1.1.3	Resubmit UAT Plan template for acceptance	1 day	Fri 3/5/21	Fri 3/5/21	
1524	1.8.1.1.4	M: UAT Test Plan Template - Accepted	1 day	Fri 3/5/21	Fri 3/5/21	
1525	1.8.1.2	M: User Acceptance Testing Planning - Complete	0 days	Thu 4/1/21	Thu 4/1/21	
1526	**1.8.2**	**User Acceptance Testing Execution**	**120 days**	**Fri 4/2/21**	**Thu 9/16/21**	
1527	**1.8.2.1**	**Iteration # 1 - Prepare UAT Scripts & Data**	**120 days**	**Fri 4/2/21**	**Thu 9/16/21**	
1528	**1.8.2.1.1**	**Ease of Use**	**1 day?**	**Fri 4/2/21**	**Fri 4/2/21**	**2.9**
1529	1.8.2.1.1.1	Screen Standards	1 day	Fri 4/2/21	Fri 4/2/21	2.9.1
1530	1.8.2.1.1.2	Screen Navigation Standards	1 day	Fri 4/2/21	Fri 4/2/21	2.9.2
1531	1.8.2.1.1.3	Lists of Values for Data Type Designations	1 day	Fri 4/2/21	Fri 4/2/21	2.9.3
1532	1.8.2.1.1.4	Data Validation	1 day	Fri 4/2/21	Fri 4/2/21	2.9.4
1533	1.8.2.1.1.5	Data Exceptions	1 day	Fri 4/2/21	Fri 4/2/21	2.9.5
1534	1.8.2.1.1.6	Filter and Sort Functionality	1 day	Fri 4/2/21	Fri 4/2/21	2.9.6
1535	1.8.2.1.1.7	Recall Cases	1 day	Fri 4/2/21	Fri 4/2/21	2.9.7
1536	1.8.2.1.1.8	Online Help	1 day	Fri 4/2/21	Fri 4/2/21	2.9.8
1537	1.8.2.1.1.9	Calendar Support for Date Entry	1 day	Fri 4/2/21	Fri 4/2/21	2.9.9
1538	1.8.2.1.1.10	Case Data Review	1 day	Fri 4/2/21	Fri 4/2/21	2.9.10
1539	1.8.2.1.1.11	Contact Documentation	1 day	Fri 4/2/21	Fri 4/2/21	2.9.11
1540	1.8.2.1.1.12	Case and Participant Special Attention Alerts	1 day	Fri 4/2/21	Fri 4/2/21	2.9.12
1541	1.8.2.1.1.13	Appointment Scheduling	1 day	Fri 4/2/21	Fri 4/2/21	2.9.13
1542	1.8.2.1.1.14	Specialization Management	1 day	Fri 4/2/21	Fri 4/2/21	2.9.14
1543	1.8.2.1.1.15	Caseload Assignment	1 day	Fri 4/2/21	Fri 4/2/21	2.9.15
1544	1.8.2.1.1.16	Parameter File Management	1 day	Fri 4/2/21	Fri 4/2/21	2.9.16
1545	1.8.2.1.2	Security	1 day	Fri 4/2/21	Fri 4/2/21	
1546	**1.8.2.1.3**	**Case Initiation**	**1 day?**	**Fri 4/2/21**	**Fri 4/2/21**	**2.1**
1547	1.8.2.1.3.1	Automated Referral Processing	1 day	Fri 4/2/21	Fri 4/2/21	2.1.1
1548	1.8.2.1.3.2	Online Pending Referral Function	1 day	Fri 4/2/21	Fri 4/2/21	2.1.2
1549	1.8.2.1.3.3	Client Databases	1 day	Fri 4/2/21	Fri 4/2/21	2.1.3
1550	1.8.2.1.3.4	Automatic Case Setup	1 day	Fri 4/2/21	Fri 4/2/21	2.1.4
1551	1.8.2.1.3.5	Automatic Editing of Referral Data	1 day	Fri 4/2/21	Fri 4/2/21	2.1.5
1552	1.8.2.1.3.6	Automated Case Record	1 day	Fri 4/2/21	Fri 4/2/21	2.1.6

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1553	1.8.2.1.3.7	Limited Services	1 day	Fri 4/2/21	Fri 4/2/21	2.1.7
1554	1.8.2.1.3.8	Case Tracking	1 day	Fri 4/2/21	Fri 4/2/21	2.1.8
1555	1.8.2.1.3.9	Participant Entity Management Capability	1 day	Fri 4/2/21	Fri 4/2/21	2.1.9
1556	1.8.2.1.3.10	Participant Demographic Data Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.10
1557	1.8.2.1.3.11	Participant Status Data Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.11
1558	1.8.2.1.3.12	Participant Occupation Data Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.12
1559	1.8.2.1.3.13	Participant Interface Number Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.13
1560	1.8.2.1.3.14	Participant Address Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.14
1561	1.8.2.1.3.15	Participant License Data Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.15
1562	1.8.2.1.3.16	Participant Asset Data Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.16
1563	1.8.2.1.3.17	Participant Employer Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.17
1564	1.8.2.1.3.18	Participant Employment Income Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.18
1565	1.8.2.1.3.19	Participant Self-Employment Income Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.19
1566	1.8.2.1.3.20	Participant Other Income Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.20
1567	1.8.2.1.3.21	Participant Expense Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.21
1568	1.8.2.1.3.22	Participant Medical Support Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.22
1569	1.8.2.1.3.23	Employer Management	1 day	Fri 4/2/21	Fri 4/2/21	2.1.23
1570	1.8.2.1.3.24	Non-Public Assistance (NPA) Applications	1 day	Fri 4/2/21	Fri 4/2/21	2.1.24
1571	1.8.2.1.3.25	Application Form Generation	1 day	Fri 4/2/21	Fri 4/2/21	2.1.25
1572	1.8.2.1.3.26	IV-A Referrals	1 day	Fri 4/2/21	Fri 4/2/21	2.1.26
1573	1.8.2.1.3.27	Title XIX Referrals	1 day	Fri 4/2/21	Fri 4/2/21	2.1.27
1574	1.8.2.1.3.28	IV-E Referrals	1 day	Fri 4/2/21	Fri 4/2/21	2.1.28
1575	1.8.2.1.3.29	Interstate, Tribal, and International Referrals	1 day	Fri 4/2/21	Fri 4/2/21	2.1.29
1576	1.8.2.1.3.30	Case Data	1 day	Fri 4/2/21	Fri 4/2/21	2.1.30
1577	1.8.2.1.3.31	Court Interface	1 day	Fri 4/2/21	Fri 4/2/21	2.1.31
1578	1.8.2.1.3.32	Intake Case Monitoring	1 day	Fri 4/2/21	Fri 4/2/21	2.1.32
1579	1.8.2.1.3.33	Case Types	1 day	Fri 4/2/21	Fri 4/2/21	2.1.33
1580	1.8.2.1.3.34	Assistance Status	1 day	Fri 4/2/21	Fri 4/2/21	2.1.34
1581	1.8.2.1.3.35	Order Status	1 day	Fri 4/2/21	Fri 4/2/21	2.1.35
1582	1.8.2.1.3.36	Functional Area Status	1 day	Fri 4/2/21	Fri 4/2/21	2.1.36
1583	1.8.2.1.3.37	Intergovernmental Status	1 day	Fri 4/2/21	Fri 4/2/21	2.1.37
1584	1.8.2.1.3.38	Child Welfare IV-E Status	1 day	Fri 4/2/21	Fri 4/2/21	2.1.38
1585	1.8.2.1.3.39	State Case Registry	1 day	Fri 4/2/21	Fri 4/2/21	2.1.39

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1586	1.8.2.1.3.40	Non IV-D Court Orders	1 day	Fri 4/2/21	Fri 4/2/21	2.1.40
1587	1.8.2.1.3.41	Federal Case Registry Interface	1 day	Fri 4/2/21	Fri 4/2/21	2.1.41
1588	**1.8.2.2**	**Iteration # 1 - Conduct UAT**	**120 days**	**Fri 4/2/21**	**Thu 9/16/21**	
1589	1.8.2.2.1	Ease of Use	1 day	Fri 4/2/21	Fri 4/2/21	2.9
1590	1.8.2.2.2	Security	1 day	Fri 4/2/21	Fri 4/2/21	
1591	1.8.2.2.3	Case Initiation	1 day	Fri 4/2/21	Fri 4/2/21	2.1
1592	**1.8.2.3**	**Iteration # 2 - Prepare UAT Scripts & Data**	**120 days**	**Fri 4/2/21**	**Thu 9/16/21**	
1593	**1.8.2.3.1**	**Locate**	**1 day?**	**Fri 4/2/21**	**Fri 4/2/21**	**2.2**
1594	1.8.2.3.1.1	Basic Locate Functionality	1 day	Fri 4/2/21	Fri 4/2/21	2.2.1
1595	1.8.2.3.1.2	Locate Case Monitoring	1 day	Fri 4/2/21	Fri 4/2/21	2.2.2
1596	1.8.2.3.1.3	Secure Exchange of Data	1 day	Fri 4/2/21	Fri 4/2/21	2.2.3
1597	1.8.2.3.1.4	Locate Interfaces	1 day	Fri 4/2/21	Fri 4/2/21	2.2.4
1598	1.8.2.3.1.5	Federal Parent Locator Service (FPLS)	1 day	Fri 4/2/21	Fri 4/2/21	2.2.5
1599	1.8.2.3.1.6	Locate Workflow	1 day	Fri 4/2/21	Fri 4/2/21	2.2.6
1600	1.8.2.3.1.7	Quick Locate	1 day	Fri 4/2/21	Fri 4/2/21	2.2.7
1601	1.8.2.3.1.8	National Directory of New Hires (NDNH)	1 day	Fri 4/2/21	Fri 4/2/21	2.2.8
1602	1.8.2.3.1.9	Federal Case Registry (FCR)	1 day	Fri 4/2/21	Fri 4/2/21	2.2.9
1603	1.8.2.3.1.10	Driver and Motor Vehicle Services Division (DMV)	1 day	Fri 4/2/21	Fri 4/2/21	2.2.10
1604	1.8.2.3.1.11	Department of Wildlife	1 day	Fri 4/2/21	Fri 4/2/21	2.2.11
1605	1.8.2.3.1.12	DETR	1 day	Fri 4/2/21	Fri 4/2/21	2.2.12
1606	1.8.2.3.1.13	Vital Statistics	1 day	Fri 4/2/21	Fri 4/2/21	2.2.13
1607	1.8.2.3.1.14	Department of Corrections	1 day	Fri 4/2/21	Fri 4/2/21	2.2.14
1608	1.8.2.3.1.15	Credit Reporting Agencies	1 day	Fri 4/2/21	Fri 4/2/21	2.2.15
1609	1.8.2.3.1.16	Postal Service	1 day	Fri 4/2/21	Fri 4/2/21	2.2.16
1610	1.8.2.3.1.17	Nevada Department of Taxation	1 day	Fri 4/2/21	Fri 4/2/21	2.2.17
1611	1.8.2.3.1.18	State IV-A Agency	1 day	Fri 4/2/21	Fri 4/2/21	2.2.18
1612	1.8.2.3.1.19	Title XIX Agency	1 day	Fri 4/2/21	Fri 4/2/21	2.2.19
1613	1.8.2.3.1.20	State Child Welfare (IV-E) Agency	1 day	Fri 4/2/21	Fri 4/2/21	2.2.20
1614	1.8.2.3.1.21	General Assistance System	1 day	Fri 4/2/21	Fri 4/2/21	2.2.21
1615	1.8.2.3.1.22	State Directory of New Hires (SDNH)	1 day	Fri 4/2/21	Fri 4/2/21	2.2.22
1616	1.8.2.3.1.23	Public Utilities	1 day	Fri 4/2/21	Fri 4/2/21	2.2.23
1617	1.8.2.3.1.24	Financial Institutions	1 day	Fri 4/2/21	Fri 4/2/21	2.2.24
1618	1.8.2.3.1.25	State Licensing Entities	1 day	Fri 4/2/21	Fri 4/2/21	2.2.25

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1619	1.8.2.3.1.26	Real and Personal Property Ownership Agencies	1 day	Fri 4/2/21	Fri 4/2/21	2.2.26
1620	1.8.2.3.1.27	Tribal IV-D Programs	1 day	Fri 4/2/21	Fri 4/2/21	2.2.27
1621	1.8.2.3.1.28	Food Stamps	1 day	Fri 4/2/21	Fri 4/2/21	2.2.28
1622	1.8.2.3.1.29	Additional Locate Information	1 day	Fri 4/2/21	Fri 4/2/21	2.2.29
1623	**1.8.2.3.2**	**Establishment**	**1 day?**	**Fri 4/2/21**	**Fri 4/2/21**	**2.3**
1624	1.8.2.3.2.1	Paternity Establishment	1 day	Fri 4/2/21	Fri 4/2/21	2.3.1
1625	1.8.2.3.2.2	Support Establishment	1 day	Fri 4/2/21	Fri 4/2/21	2.3.2
1626	1.8.2.3.2.3	Medical Support Services	1 day	Fri 4/2/21	Fri 4/2/21	2.3.3
1627	1.8.2.3.2.4	Legal Process Monitoring	1 day	Fri 4/2/21	Fri 4/2/21	2.3.4
1628	1.8.2.3.2.5	Paternity Acknowledgement Access	1 day	Fri 4/2/21	Fri 4/2/21	2.3.5
1629	1.8.2.3.2.6	Multiple Putative Fathers	1 day	Fri 4/2/21	Fri 4/2/21	2.3.6
1630	1.8.2.3.2.7	Genetic Testing	1 day	Fri 4/2/21	Fri 4/2/21	2.3.7
1631	1.8.2.3.2.8	Hearing Calendar	1 day	Fri 4/2/21	Fri 4/2/21	2.3.8
1632	1.8.2.3.2.9	Service of Process	1 day	Fri 4/2/21	Fri 4/2/21	2.3.9
1633	1.8.2.3.2.10	Guideline Support Calculation	1 day	Fri 4/2/21	Fri 4/2/21	2.3.10
1634	1.8.2.3.2.11	Hearing Results	1 day	Fri 4/2/21	Fri 4/2/21	2.3.11
1635	**1.8.2.3.3**	**Case Management**	**1 day?**	**Fri 4/2/21**	**Fri 4/2/21**	**2.4**
1636	1.8.2.3.3.1	Data Maintenance	1 day	Fri 4/2/21	Fri 4/2/21	2.4.1
1637	1.8.2.3.3.2	Third Party Data Maintenance	1 day	Fri 4/2/21	Fri 4/2/21	2.4.2
1638	1.8.2.3.3.3	Case Management Monitoring	1 day	Fri 4/2/21	Fri 4/2/21	2.4.3
1639	1.8.2.3.3.4	Case Update Processing	1 day	Fri 4/2/21	Fri 4/2/21	2.4.4
1640	1.8.2.3.3.5	IV-A Updates	1 day	Fri 4/2/21	Fri 4/2/21	2.4.5
1641	1.8.2.3.3.6	Title XIX Updates	1 day	Fri 4/2/21	Fri 4/2/21	2.4.6
1642	1.8.2.3.3.7	Child Welfare (IV-E) Updates	1 day	Fri 4/2/21	Fri 4/2/21	2.4.7
1643	1.8.2.3.3.8	Case Action History	1 day	Fri 4/2/21	Fri 4/2/21	2.4.8
1644	1.8.2.3.3.9	Workflow Management	1 day	Fri 4/2/21	Fri 4/2/21	2.4.9
1645	1.8.2.3.3.10	Alert Management	1 day	Fri 4/2/21	Fri 4/2/21	2.4.10
1646	1.8.2.3.3.11	Document Management	1 day	Fri 4/2/21	Fri 4/2/21	2.4.11
1647	1.8.2.3.3.12	Obligation Review and Adjustment	1 day	Fri 4/2/21	Fri 4/2/21	2.4.12
1648	1.8.2.3.3.13	Case Closure Management	1 day	Fri 4/2/21	Fri 4/2/21	2.4.13
1649	1.8.2.3.3.14	Intergovernmental Case Management	1 day	Fri 4/2/21	Fri 4/2/21	2.4.14
1650	1.8.2.3.3.15	Initiating Intergovernmental Case Management	1 day	Fri 4/2/21	Fri 4/2/21	2.4.15
1651	1.8.2.3.3.16	Responding Intergovernmental Case Management	1 day	Fri 4/2/21	Fri 4/2/21	2.4.16

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1652	1.8.2.3.3.17	Intergovernmental Document Generation	1 day	Fri 4/2/21	Fri 4/2/21	2.4.17
1653	1.8.2.3.3.18	FIPS Management	1 day	Fri 4/2/21	Fri 4/2/21	2.4.18
1654	1.8.2.3.3.19	Tribal Case Management	1 day	Fri 4/2/21	Fri 4/2/21	2.4.19
1655	**1.8.2.3.4**	**Customer Service**	**1 day?**	**Fri 4/2/21**	**Fri 4/2/21**	**2.8**
1656	1.8.2.3.4.1	Interactive Voice Response Unit (IVR) Accessibility	1 day	Fri 4/2/21	Fri 4/2/21	2.8.1
1657	1.8.2.3.4.2	Website Accessibility	1 day	Fri 4/2/21	Fri 4/2/21	2.8.2
1658	1.8.2.3.4.3	Interstate Caseworker Web Services (QUICK)	1 day	Fri 4/2/21	Fri 4/2/21	2.8.3
1659	1.8.2.3.4.4	Employer Website	1 day	Fri 4/2/21	Fri 4/2/21	2.8.4
1660	1.8.2.3.4.5	Call Center Functionality	1 day	Fri 4/2/21	Fri 4/2/21	2.8.5
1661	1.8.2.3.4.6	Imaging and Document Generation	1 day	Fri 4/2/21	Fri 4/2/21	2.8.6
1662	1.8.2.3.4.7	Client Communication Facility	1 day	Fri 4/2/21	Fri 4/2/21	2.8.7
1663	**1.8.2.4**	**Iteration # 2 - Conduct UAT**	**120 days**	**Fri 4/2/21**	**Thu 9/16/21**	
1664	1.8.2.4.1	Locate	1 day	Fri 4/2/21	Fri 4/2/21	2.2
1665	1.8.2.4.2	Establishment	1 day	Fri 4/2/21	Fri 4/2/21	2.3
1666	1.8.2.4.3	Case Management	1 day	Fri 4/2/21	Fri 4/2/21	2.4
1667	1.8.2.4.4	Customer Service	1 day	Fri 4/2/21	Fri 4/2/21	2.8
1668	**1.8.2.5**	**Iteration # 3 - Prepare UAT Scripts & Data**	**120 days**	**Fri 4/2/21**	**Thu 9/16/21**	
1669	**1.8.2.5.1**	**Enforcement**	**1 day?**	**Fri 4/2/21**	**Fri 4/2/21**	**2.5**
1670	1.8.2.5.1.1	Account Enforcement Monitoring	1 day	Fri 4/2/21	Fri 4/2/21	2.5.1
1671	1.8.2.5.1.2	Enforcement Remedy Exemptions	1 day	Fri 4/2/21	Fri 4/2/21	2.5.2
1672	1.8.2.5.1.3	Income Withholding	1 day	Fri 4/2/21	Fri 4/2/21	2.5.3
1673	1.8.2.5.1.4	Federal Tax Refund Offset	1 day	Fri 4/2/21	Fri 4/2/21	2.5.4
1674	1.8.2.5.1.5	Liens	1 day	Fri 4/2/21	Fri 4/2/21	2.5.5
1675	1.8.2.5.1.6	Bonds	1 day	Fri 4/2/21	Fri 4/2/21	2.5.6
1676	1.8.2.5.1.7	Unemployment Intercept	1 day	Fri 4/2/21	Fri 4/2/21	2.5.7
1677	1.8.2.5.1.8	Credit Reporting	1 day	Fri 4/2/21	Fri 4/2/21	2.5.8
1678	1.8.2.5.1.9	IRS Full Collection Services	1 day	Fri 4/2/21	Fri 4/2/21	2.5.9
1679	1.8.2.5.1.10	National Medical Support Notice & Medical Enforcement	1 day	Fri 4/2/21	Fri 4/2/21	2.5.10
1680	1.8.2.5.1.11	License Suspension and Non-renewal	1 day	Fri 4/2/21	Fri 4/2/21	2.5.11
1681	1.8.2.5.1.12	Contempt and Bench Warrant Processing	1 day	Fri 4/2/21	Fri 4/2/21	2.5.12
1682	1.8.2.5.1.13	Passport Denial	1 day	Fri 4/2/21	Fri 4/2/21	2.5.13
1683	1.8.2.5.1.14	Financial Institution Data Match	1 day	Fri 4/2/21	Fri 4/2/21	2.5.14
1684	1.8.2.5.1.15	Administrative Offset	1 day	Fri 4/2/21	Fri 4/2/21	2.5.15

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1685	1.8.2.5.1.16	Child Support Lien Network and Other Claim Matching	1 day	Fri 4/2/21	Fri 4/2/21	2.5.16
1686	1.8.2.5.1.17	Federal / State Criminal Non Support Referral Tracking	1 day	Fri 4/2/21	Fri 4/2/21	2.5.17
1687	1.8.2.5.1.18	Administrative Enforcement-Interstate	1 day	Fri 4/2/21	Fri 4/2/21	2.5.18
1688	**1.8.2.5.2**	**Financials**	**1 day?**	**Fri 4/2/21**	**Fri 4/2/21**	**2.6**
1689	1.8.2.5.2.1	Order Entry and Obligation Maintenance	1 day	Fri 4/2/21	Fri 4/2/21	2.6.1
1690	1.8.2.5.2.2	Future Obligation Setup	1 day	Fri 4/2/21	Fri 4/2/21	2.6.2
1691	1.8.2.5.2.3	Retroactive Obligation Management	1 day	Fri 4/2/21	Fri 4/2/21	2.6.3
1692	1.8.2.5.2.4	Debt Types	1 day	Fri 4/2/21	Fri 4/2/21	2.6.4
1693	1.8.2.5.2.5	Account Charging	1 day	Fri 4/2/21	Fri 4/2/21	2.6.5
1694	1.8.2.5.2.6	Obligor Billing	1 day	Fri 4/2/21	Fri 4/2/21	2.6.6
1695	1.8.2.5.2.7	Payment Processing	1 day	Fri 4/2/21	Fri 4/2/21	2.6.7
1696	1.8.2.5.2.8	Held Collections Management	1 day	Fri 4/2/21	Fri 4/2/21	2.6.8
1697	1.8.2.5.2.9	Escheatment Management	1 day	Fri 4/2/21	Fri 4/2/21	2.6.9
1698	1.8.2.5.2.10	Financial Distribution	1 day	Fri 4/2/21	Fri 4/2/21	2.6.10
1699	1.8.2.5.2.11	Electronic Fund Transfer Management	1 day	Fri 4/2/21	Fri 4/2/21	2.6.11
1700	1.8.2.5.2.12	Bank Account Reconciliation	1 day	Fri 4/2/21	Fri 4/2/21	2.6.12
1701	1.8.2.5.2.13	Account Adjustments	1 day	Fri 4/2/21	Fri 4/2/21	2.6.13
1702	1.8.2.5.2.14	Recovery of Misapplied Pymts & NSF Fin. Instruments	1 day	Fri 4/2/21	Fri 4/2/21	2.6.14
1703	1.8.2.5.2.15	Account Audit Capability	1 day	Fri 4/2/21	Fri 4/2/21	2.6.15
1704	1.8.2.5.2.16	Account Statements and Financial Reports	1 day	Fri 4/2/21	Fri 4/2/21	2.6.16
1705	1.8.2.5.2.17	IV-A Updates and Notification	1 day	Fri 4/2/21	Fri 4/2/21	2.6.17
1706	1.8.2.5.2.18	Title XIX and Child Welfare Recovery Account Mgmt	1 day	Fri 4/2/21	Fri 4/2/21	2.6.18
1707	1.8.2.5.2.19	Statewide Accounting and Fee Management	1 day	Fri 4/2/21	Fri 4/2/21	2.6.19
1708	**1.8.2.5.3**	**Reporting**	**1 day?**	**Fri 4/2/21**	**Fri 4/2/21**	**2.7**
1709	1.8.2.5.3.1	OCSE-34A Reporting	1 day	Fri 4/2/21	Fri 4/2/21	2.7.1
1710	1.8.2.5.3.2	OCSE-157 Reporting	1 day	Fri 4/2/21	Fri 4/2/21	2.7.2
1711	1.8.2.5.3.3	OCSE-396A Reporting	1 day	Fri 4/2/21	Fri 4/2/21	2.7.3
1712	1.8.2.5.3.4	Data Reliability Monitoring and Reporting	1 day	Fri 4/2/21	Fri 4/2/21	2.7.4
1713	1.8.2.5.3.5	Self-Assessment Sample Selection	1 day	Fri 4/2/21	Fri 4/2/21	2.7.5
1714	1.8.2.5.3.6	Self-Assessment Analysis Reporting	1 day	Fri 4/2/21	Fri 4/2/21	2.7.6
1715	1.8.2.5.3.7	Accounting Management Reporting	1 day	Fri 4/2/21	Fri 4/2/21	2.7.7
1716	1.8.2.5.3.8	Case Management Reporting	1 day	Fri 4/2/21	Fri 4/2/21	2.7.8
1717	1.8.2.5.3.9	Business Intelligence Reporting	1 day	Fri 4/2/21	Fri 4/2/21	2.7.9

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1718	1.8.2.5.3.10	Data Warehouse	1 day	Fri 4/2/21	Fri 4/2/21	2.7.10
1719	1.8.2.5.3.11	Management Analysis Reporting	1 day	Fri 4/2/21	Fri 4/2/21	2.7.11
1720	1.8.2.5.3.12	Ad Hoc Reporting	1 day	Fri 4/2/21	Fri 4/2/21	2.7.12
1721	1.8.2.5.3.13	Program Compliance Monitoring and Reporting	1 day	Fri 4/2/21	Fri 4/2/21	2.7.13
1722	1.8.2.5.4	Document Imaging	1 day	Fri 4/2/21	Fri 4/2/21	
1723	**1.8.2.6**	**Iteration # 3 - Conduct UAT**	**120 days**	**Fri 4/2/21**	**Thu 9/16/21**	
1724	1.8.2.6.1	Enforcement	1 day	Fri 4/2/21	Fri 4/2/21	2.5
1725	1.8.2.6.2	Financials	1 day	Fri 4/2/21	Fri 4/2/21	2.6
1726	1.8.2.6.3	Reporting	1 day	Fri 4/2/21	Fri 4/2/21	2.7
1727	1.8.2.6.4	Document Imaging	1 day	Fri 4/2/21	Fri 4/2/21	
1728	1.8.2.7	M: User Acceptance Testing Execution - Complete	0 days	Thu 9/16/21	Thu 9/16/21	
1729	**1.8.3**	**User Acceptance Testing Closeout**	**10 days**	**Fri 9/17/21**	**Thu 9/30/21**	
1730	**1.8.3.1**	**User Acceptance Report**	**10 days**	**Fri 9/17/21**	**Thu 9/30/21**	
1731	1.8.3.1.1	Document User Acceptance Report	1 day	Fri 9/17/21	Fri 9/17/21	
1732	1.8.3.1.2	Submit User Acceptance Report for Review	1 day	Fri 9/17/21	Fri 9/17/21	
1733	1.8.3.1.3	M: User Acceptance Report - Accepted	1 day	Fri 9/17/21	Fri 9/17/21	
1734	1.8.3.2	M: User AcceptanceTesting Closeout - Complete	0 days	Thu 9/30/21	Thu 9/30/21	
1735	1.8.4	M: PHASE 8 (USER ACCEPTANCE TESTING) COMPLETE	0 days	Thu 9/30/21	Thu 9/30/21	
1736	**1.8.5**	**4.19.3.2 - Successful Execution of the Test Management Plan**	**15 days**	**Fri 10/1/21**	**Thu 10/21/21**	
1737	1.8.5.1	Create Report	1 day	Fri 10/1/21	Fri 10/1/21	
1738	1.8.5.2	Review & Submit Report	1 day	Fri 10/1/21	Fri 10/1/21	
1739	1.8.5.3	State Review and Approve Report	1 day	Fri 10/1/21	Fri 10/1/21	
1740	**1.9**	**PHASE 9 - Training**	**925 days**	**Mon 10/29/18**	**Fri 5/13/22**	
1741	**1.9.1**	**Training Planning**	**105 days**	**Mon 10/29/18**	**Fri 3/22/19**	
1742	**1.9.1.1**	**4.20.3.1 - Training Management Plan**	**60 days**	**Mon 10/29/18**	**Fri 1/18/19**	
1743	1.9.1.1.1	Create Draft Training Management Plan	60 days	Mon 10/29/18	Fri 1/18/19	
1744	1.9.1.1.2	Submit Training Management Plan to State for Review	60 days	Mon 10/29/18	Fri 1/18/19	
1745	1.9.1.1.3	Resubmit Training Management Plan to State for Approval	60 days	Mon 10/29/18	Fri 1/18/19	
1746	1.9.1.1.4	M: Training Management Plan - Accepted	0 days	Fri 1/18/19	Fri 1/18/19	
1747	**1.9.1.2**	**4.21.3.1 - Web-Based Training Development Plan**	**60 days**	**Mon 12/31/18**	**Fri 3/22/19**	
1748	1.9.1.2.1	Create Draft Web-Based Training Development Plan	60 days	Mon 12/31/18	Fri 3/22/19	
1749	1.9.1.2.2	Submit Web-Based Training Development Plan to State for Review	60 days	Mon 12/31/18	Fri 3/22/19	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1750	1.9.1.2.3	Resubmit Web-Based Training Development Plan to State for Approval	60 days	Mon 12/31/18	Fri 3/22/19	
1751	1.9.1.2.4	M: Web-Based Training Development Plan - Accepted	0 days	Fri 3/22/19	Fri 3/22/19	
1752	1.9.1.3	M: Training Planning - Complete	0 days	Fri 3/22/19	Fri 3/22/19	
1753	**1.9.2**	**Training Execution**	**880 days**	**Mon 10/29/18**	**Fri 3/11/22**	
1754	**1.9.2.1**	**JAD participation**	**180 days**	**Mon 10/29/18**	**Fri 7/5/19**	
1755	1.9.2.1.1	Prepare draft notes	180 days	Mon 10/29/18	Fri 7/5/19	
1756	**1.9.2.2**	**Develop Training Materials**	**340 days**	**Mon 9/2/19**	**Fri 12/18/20**	
1757	1.9.2.2.1	Classroom training material and instructor notes	340 days	Mon 9/2/19	Fri 12/18/20	
1758	1.9.2.2.2	Instructor Guides	340 days	Mon 9/2/19	Fri 12/18/20	
1759	1.9.2.2.3	User Manuals / Guide	340 days	Mon 9/2/19	Fri 12/18/20	
1760	1.9.2.2.4	Web Based Training Materials	340 days	Mon 9/2/19	Fri 12/18/20	
1761	1.9.2.2.5	User Desktop Aids	340 days	Mon 9/2/19	Fri 12/18/20	
1762	1.9.2.2.6	Student Training Manual	340 days	Mon 9/2/19	Fri 12/18/20	
1763	1.9.2.2.7	Technical Training Materials	340 days	Mon 9/2/19	Fri 12/18/20	
1764	1.9.2.2.8	Operational Training Materials	340 days	Mon 9/2/19	Fri 12/18/20	
1765	1.9.2.2.9	Maintenance Training Materials	340 days	Mon 9/2/19	Fri 12/18/20	
1766	1.9.2.2.10	M: Training Material Development - Complete	0 days	Fri 12/18/20	Fri 12/18/20	
1767	**1.9.2.3**	**4.30.3.5 - Training Materials (for UAT Testers)**	**30 days**	**Mon 12/21/20**	**Fri 1/29/21**	
1768	1.9.2.3.1	Finalize Training Materials	30 days	Mon 12/21/20	Fri 1/29/21	
1769	1.9.2.3.2	Submit Training Materials to UAT testers	30 days	Mon 12/21/20	Fri 1/29/21	
1770	1.9.2.3.3	M: Training Materials (for UAT testers) - Accepted	0 days	Fri 1/29/21	Fri 1/29/21	
1771	**1.9.2.4**	**User Acceptance Testing Team Training**	**25 days**	**Mon 2/1/21**	**Fri 3/5/21**	
1772	1.9.2.4.1	Develop UAT Training Materials (Including Instructor Guide)	25 days	Mon 2/1/21	Fri 3/5/21	
1773	1.9.2.4.2	Conduct UAT Team Training - NCSEAS	25 days	Mon 2/1/21	Fri 3/5/21	
1774	**1.9.2.5**	**Develop End User Training Schedule**	**20 days**	**Mon 3/8/21**	**Fri 4/2/21**	
1775	1.9.2.5.1	Training Schedule for Pilot	1 day	Mon 3/8/21	Mon 3/8/21	
1776	1.9.2.5.2	Training Schedule for Region 1	1 day	Mon 3/8/21	Mon 3/8/21	
1777	1.9.2.5.3	Training Schedule for Region 2	1 day	Mon 3/8/21	Mon 3/8/21	
1778	1.9.2.5.4	Training Schedule for Region 3 (Statewide)	1 day	Mon 3/8/21	Mon 3/8/21	
1779	**1.9.2.6**	**4.31.3.2 - Training Materials (for End Users)**	**30 days**	**Mon 4/5/21**	**Fri 5/14/21**	
1780	1.9.2.6.1	Finalize Training Materials	1 day	Mon 4/5/21	Mon 4/5/21	
1781	1.9.2.6.2	Submit Training Materials	1 day	Mon 4/5/21	Mon 4/5/21	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1782	1.9.2.6.3	M: Training Materials (for End Users) - Accepted	1 day	Mon 4/5/21	Mon 4/5/21	
1783	**1.9.2.7**	**4.31.3.3 - Training Manual**	**30 days**	**Mon 5/17/21**	**Fri 6/25/21**	
1784	1.9.2.7.1	Finalize Training Manuals	1 day	Mon 5/17/21	Mon 5/17/21	
1785	1.9.2.7.2	Submit Training Manuals to State for Review	1 day	Mon 5/17/21	Mon 5/17/21	
1786	1.9.2.7.3	Resubmit Training Manuals to State for Approval	1 day	Mon 5/17/21	Mon 5/17/21	
1787	1.9.2.7.4	M: Training Manuals - Accepted	1 day	Mon 5/17/21	Mon 5/17/21	
1788	**1.9.2.8**	**4.31.3.4 - Web-Based Training Center**	**30 days**	**Mon 6/28/21**	**Fri 8/6/21**	
1789	1.9.2.8.1	Build Web based Training	1 day	Mon 6/28/21	Mon 6/28/21	
1790	1.9.2.8.2	Submit Deliverable to State for Review	1 day	Mon 6/28/21	Mon 6/28/21	
1791	1.9.2.8.3	Finalize and Resubmit to State for Approval	1 day	Mon 6/28/21	Mon 6/28/21	
1792	1.9.2.8.4	M: Web-Based Training Center - Complete	1 day	Mon 6/28/21	Mon 6/28/21	
1793	**1.9.2.9**	**4.21.3.2 - Successful Execution of the Web-Based Training Management Plan**	**15 days**	**Tue 6/29/21**	**Mon 7/19/21**	
1794	1.9.2.9.1	Create Report	1 day	Tue 6/29/21	Tue 6/29/21	
1795	1.9.2.9.2	Review & Submit Report	1 day	Tue 6/29/21	Tue 6/29/21	
1796	1.9.2.9.3	State Review and Approve Report	1 day	Tue 6/29/21	Tue 6/29/21	
1797	**1.9.2.10**	**4.31.3.4 - Training Delivery for End users**	**155 days**	**Mon 8/9/21**	**Fri 3/11/22**	
1798	**1.9.2.10.1**	**End User Training - Pilot Region**	**30 days**	**Mon 8/9/21**	**Fri 9/17/21**	
1799	1.9.2.10.1.1	Train the Trainers	30 days	Mon 8/9/21	Fri 9/17/21	
1800	1.9.2.10.1.2	End User Training	30 days	Mon 8/9/21	Fri 9/17/21	
1801	1.9.2.10.1.3	M: Pilot Users Training - Complete	0 days	Fri 9/17/21	Fri 9/17/21	
1802	**1.9.2.10.2**	**End User Training - Region 1**	**30 days**	**Fri 10/1/21**	**Thu 11/11/21**	
1803	1.9.2.10.2.1	Train the Trainers	30 days	Fri 10/1/21	Thu 11/11/21	
1804	1.9.2.10.2.2	End User Training	30 days	Fri 10/1/21	Thu 11/11/21	
1805	1.9.2.10.2.3	M: Region 1 Users Training - Complete	0 days	Thu 11/11/21	Thu 11/11/21	
1806	**1.9.2.10.3**	**End User Training - Region 2**	**30 days**	**Mon 11/29/21**	**Fri 1/7/22**	
1807	1.9.2.10.3.1	Train the Trainers	30 days	Mon 11/29/21	Fri 1/7/22	
1808	1.9.2.10.3.2	End User Training	30 days	Mon 11/29/21	Fri 1/7/22	
1809	1.9.2.10.3.3	M: Region 2 Users Training - Complete	0 days	Fri 1/7/22	Fri 1/7/22	
1810	**1.9.2.10.4**	**End User Training - Region 3 (Statewide)**	**30 days**	**Mon 1/31/22**	**Fri 3/11/22**	
1811	1.9.2.10.4.1	Train the Trainers	30 days	Mon 1/31/22	Fri 3/11/22	
1812	1.9.2.10.4.2	End User Training	30 days	Mon 1/31/22	Fri 3/11/22	
1813	1.9.2.10.4.3	M: Region 3 Users Training - Complete	0 days	Fri 3/11/22	Fri 3/11/22	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1814	1.9.2.10.5	M: Training End Users - Complete	0 days	Fri 3/11/22	Fri 3/11/22	
1815	1.9.2.11	M: Training Execution - Complete	0 days	Fri 3/11/22	Fri 3/11/22	
1816	**1.9.3**	**Training Closeout**	**30 days**	**Mon 3/14/22**	**Fri 4/22/22**	
1817	**1.9.3.1**	**4.31.3.5 - System Training Report**	**30 days**	**Mon 3/14/22**	**Fri 4/22/22**	
1818	**1.9.3.1.1**	**Pilot Training**	**30 days**	**Mon 3/14/22**	**Fri 4/22/22**	
1819	1.9.3.1.1.1	Create System Training Report	30 days	Mon 3/14/22	Fri 4/22/22	
1820	1.9.3.1.1.2	Submit System Training Report to State for acceptance	30 days	Mon 3/14/22	Fri 4/22/22	
1821	1.9.3.1.1.3	M: System Training Report- Pilot Users - Accepted	0 days	Fri 4/22/22	Fri 4/22/22	
1822	**1.9.3.1.2**	**Region 1 Training**	**30 days**	**Mon 3/14/22**	**Fri 4/22/22**	
1823	1.9.3.1.2.1	Create System Training Report	30 days	Mon 3/14/22	Fri 4/22/22	
1824	1.9.3.1.2.2	Submit System Training Report to State for acceptance	30 days	Mon 3/14/22	Fri 4/22/22	
1825	1.9.3.1.2.3	M: System Training Report- Region 1 Users - Accepted	0 days	Fri 4/22/22	Fri 4/22/22	
1826	**1.9.3.1.3**	**Region 2 Training**	**30 days**	**Mon 3/14/22**	**Fri 4/22/22**	
1827	1.9.3.1.3.1	Create System Training Report	30 days	Mon 3/14/22	Fri 4/22/22	
1828	1.9.3.1.3.2	Submit System Training Report to State for acceptance	30 days	Mon 3/14/22	Fri 4/22/22	
1829	1.9.3.1.3.3	M: System Training Report- Region 2 Users - Accepted	0 days	Fri 4/22/22	Fri 4/22/22	
1830	**1.9.3.1.4**	**Region 3 Training**	**30 days**	**Mon 3/14/22**	**Fri 4/22/22**	
1831	1.9.3.1.4.1	Create System Training Report	30 days	Mon 3/14/22	Fri 4/22/22	
1832	1.9.3.1.4.2	Submit System Training Report to State for acceptance	30 days	Mon 3/14/22	Fri 4/22/22	
1833	1.9.3.1.4.3	M: System Training Report- Region 3 Users - Accepted	30 days	Mon 3/14/22	Fri 4/22/22	
1834	1.9.3.1.5	M: System Training Report- Accepted	0 days	Fri 4/22/22	Fri 4/22/22	
1835	1.9.3.2	M: Training Closeout - Complete	0 days	Fri 4/22/22	Fri 4/22/22	
1836	1.9.4	M: PHASE 9 (TRAINING) COMPLETE	0 days	Fri 4/22/22	Fri 4/22/22	
1837	**1.9.5**	**4.20.3.2 - Successful Execution of the Training Management Plan**	**15 days**	**Mon 4/25/22**	**Fri 5/13/22**	
1838	1.9.5.1	Create Report	1 day	Mon 4/25/22	Mon 4/25/22	
1839	1.9.5.2	Review & Submit Report	1 day	Mon 4/25/22	Mon 4/25/22	
1840	1.9.5.3	State Review and Approve Report	1 day	Mon 4/25/22	Mon 4/25/22	
1841	**1.10**	**PHASE 10 - Implementation**	**302 days**	**Fri 4/2/21**	**Mon 5/30/22**	
1842	**1.10.1**	**Implementation Planning**	**90 days**	**Fri 4/2/21**	**Thu 8/5/21**	
1843	**1.10.1.1**	**4.17.3.1 - Release Management Plan**	**90 days**	**Fri 4/2/21**	**Thu 8/5/21**	
1844	1.10.1.1.1	Create Draft Release Management Plan	1 day	Fri 4/2/21	Fri 4/2/21	
1845	1.10.1.1.2	Submit Release Management Plan to State for Review	1 day	Fri 4/2/21	Fri 4/2/21	
1846	1.10.1.1.3	Resubmit Release Management Plan to State for Approval	1 day	Fri 4/2/21	Fri 4/2/21	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1847	1.10.1.1.4	M: Release Management Plan - Accepted	0 days	Fri 4/2/21	Fri 4/2/21	
1848	**1.10.1.2**	**4.23.3.1 - Operations Support Plan**	**90 days**	**Fri 4/2/21**	**Thu 8/5/21**	
1849	1.10.1.2.1	Create Operations Support Plan	1 day	Fri 4/2/21	Fri 4/2/21	
1850	1.10.1.2.2	Submit Operations Support Plan to State for Review	1 day	Fri 4/2/21	Fri 4/2/21	
1851	1.10.1.2.3	Resubmit Operations Support Plan to State for Approval	1 day	Fri 4/2/21	Fri 4/2/21	
1852	1.10.1.2.4	M: Operations Support Plan - Accepted	0 days	Fri 4/2/21	Fri 4/2/21	
1853	**1.10.1.3**	**4.32.3.2 - Implementation and Initialization Plan**	**90 days**	**Fri 4/2/21**	**Thu 8/5/21**	
1854	1.10.1.3.1	Create Initialization Plan	1 day	Fri 4/2/21	Fri 4/2/21	
1855	1.10.1.3.2	Submit Initialization Plan to State for Review	1 day	Fri 4/2/21	Fri 4/2/21	
1856	1.10.1.3.3	Resubmit Initialization Plan to State for Approval	1 day	Fri 4/2/21	Fri 4/2/21	
1857	1.10.1.3.4	M: Implementation and Initialization Plan - Accepted	1 day	Fri 4/2/21	Fri 4/2/21	
1858	1.10.1.4	M: Implementation Planning - Complete	0 days	Thu 8/5/21	Thu 8/5/21	
1859	**1.10.2**	**Implementation Execution**	**193 days**	**Fri 8/6/21**	**Tue 5/3/22**	
1860	**1.10.2.1**	**Pilot Implementation Rollout**	**61 days**	**Fri 8/6/21**	**Mon 11/1/21**	
1861	**1.10.2.1.1**	**Pilot Implementation Assessments**	**30 days**	**Fri 8/6/21**	**Thu 9/16/21**	
1862	1.10.2.1.1.1	Technical Readiness Assessment	1 day	Fri 8/6/21	Fri 8/6/21	
1863	1.10.2.1.1.2	Data Readiness Assessment	1 day	Fri 8/6/21	Fri 8/6/21	
1864	1.10.2.1.1.3	Organizational Readiness Assessment (County, State)	1 day	Fri 8/6/21	Fri 8/6/21	
1865	1.10.2.1.1.4	User Readiness Assessment	1 day	Fri 8/6/21	Fri 8/6/21	
1866	1.10.2.1.1.5	Readiness Report	1 day	Fri 8/6/21	Fri 8/6/21	
1867	1.10.2.1.1.6	M: Final Deployment Readiness Assessment - Complete	0 days	Fri 8/6/21	Fri 8/6/21	
1868	1.10.2.1.1.7	M: Implementation Assessments - Complete	0 days	Fri 8/6/21	Fri 8/6/21	
1869	1.10.2.1.1.8	Go-Live Schedule	1 day	Fri 8/6/21	Fri 8/6/21	
1870	**1.10.2.1.2**	**4.32.3.3 - Implementation and Initialization Report**	**15 days**	**Fri 9/17/21**	**Thu 10/7/21**	
1871	1.10.2.1.2.1	Submit Implementation Initialization Report	1 day	Fri 9/17/21	Fri 9/17/21	
1872	1.10.2.1.2.2	Verify / Validate Final Report	1 day	Fri 9/17/21	Fri 9/17/21	
1873	1.10.2.1.2.3	M: Implementation and Initialization Report - Accepted	0 days	Fri 9/17/21	Fri 9/17/21	
1874	**1.10.2.1.3**	**Pilot Rollout - Production Cutover / Implementation / Go-Live**	**16 days**	**Fri 10/8/21**	**Fri 10/29/21**	
1875	1.10.2.1.3.1	Code Migration for Go-Live	16 days	Fri 10/8/21	Fri 10/29/21	
1876	1.10.2.1.3.2	M: Pilot Implementation / Go-Live Complete	0 days	Fri 10/8/21	Fri 10/8/21	
1877	1.10.2.1.4	M: Pilot Implementation Rollout - Complete	0 days	Mon 11/1/21	Mon 11/1/21	
1878	**1.10.2.2**	**Region 1 Implementation Rollout**	**45 days**	**Mon 11/1/21**	**Mon 1/3/22**	
1879	**1.10.2.2.1**	**Region 1 Implementation Assessments**	**40 days**	**Mon 11/1/21**	**Fri 12/24/21**	

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1880	1.10.2.2.1.1	Technical Readiness Assessment	1 day	Mon 11/1/21	Mon 11/1/21	
1881	1.10.2.2.1.2	Data Readiness Assessment	1 day	Mon 11/1/21	Mon 11/1/21	
1882	1.10.2.2.1.3	Organizational Readiness Assessment (County, State)	1 day	Mon 11/1/21	Mon 11/1/21	
1883	1.10.2.2.1.4	User Readiness Assessment	1 day	Mon 11/1/21	Mon 11/1/21	
1884	1.10.2.2.1.5	Readiness Report	1 day	Mon 11/1/21	Mon 11/1/21	
1885	1.10.2.2.1.6	M: Final Deployment Readiness Assessment - Complete	0 days	Mon 11/1/21	Mon 11/1/21	
1886	1.10.2.2.1.7	M: Region 1 Implementation Assessments - Complete	0 days	Mon 11/1/21	Mon 11/1/21	
1887	1.10.2.2.1.8	Region 1 Go-Live Schedule	1 day	Mon 11/1/21	Mon 11/1/21	
1888	**1.10.2.2.2**	**Region 1 Rollout - Implementation / Go-Live**	**5 days**	**Mon 12/27/21**	**Fri 12/31/21**	
1889	1.10.2.2.2.1	Conduct GO NO-GO Decision	1 day	Mon 12/27/21	Mon 12/27/21	
1890	1.10.2.2.2.2	M: Region 1 Implementation / Go-Live Complete	0 days	Mon 12/27/21	Mon 12/27/21	
1891	1.10.2.2.3	M: Region 1 Rollout - Complete	0 days	Mon 1/3/22	Mon 1/3/22	
1892	**1.10.2.3**	**Region 2 Implementation Rollout**	**41 days**	**Mon 1/3/22**	**Mon 2/28/22**	
1893	**1.10.2.3.1**	**Region 2 Implementation Assessments**	**38 days**	**Mon 1/3/22**	**Wed 2/23/22**	
1894	1.10.2.3.1.1	Technical Readiness Assessment	1 day	Mon 1/3/22	Mon 1/3/22	
1895	1.10.2.3.1.2	Data Readiness Assessment	1 day	Mon 1/3/22	Mon 1/3/22	
1896	1.10.2.3.1.3	Organizational Readiness Assessment (County, State)	1 day	Mon 1/3/22	Mon 1/3/22	
1897	1.10.2.3.1.4	User Readiness Assessment	1 day	Mon 1/3/22	Mon 1/3/22	
1898	1.10.2.3.1.5	Readiness Report	1 day	Mon 1/3/22	Mon 1/3/22	
1899	1.10.2.3.1.6	M: Final Deployment Readiness Assessment - Complete	0 days	Mon 1/3/22	Mon 1/3/22	
1900	1.10.2.3.1.7	M: Region 2 Implementation Assessments - Complete	0 days	Mon 1/3/22	Mon 1/3/22	
1901	1.10.2.3.1.8	Region 2 Go-Live Schedule	1 day	Mon 1/3/22	Mon 1/3/22	
1902	**1.10.2.3.2**	**Region 2 Rollout - Implementation / Go-Live**	**5 days**	**Tue 2/22/22**	**Mon 2/28/22**	
1903	1.10.2.3.2.1	Conduct GO NO-GO Decision	1 day	Tue 2/22/22	Tue 2/22/22	
1904	1.10.2.3.2.2	M: Region 2 Implementation / Go-Live Complete	0 days	Tue 2/22/22	Tue 2/22/22	
1905	1.10.2.3.3	M: Region 2 Rollout - Complete	0 days	Mon 2/28/22	Mon 2/28/22	
1906	**1.10.2.4**	**Region 3 (Statewide) Implementation Rollout**	**45 days**	**Mon 2/28/22**	**Mon 5/2/22**	
1907	**1.10.2.4.1**	**Region 3 Implementation Assessments**	**40 days**	**Mon 2/28/22**	**Fri 4/22/22**	
1908	1.10.2.4.1.1	Technical Readiness Assessment	1 day	Mon 2/28/22	Mon 2/28/22	
1909	1.10.2.4.1.2	Data Readiness Assessment	1 day	Mon 2/28/22	Mon 2/28/22	
1910	1.10.2.4.1.3	Organizational Readiness Assessment (County, State)	1 day	Mon 2/28/22	Mon 2/28/22	
1911	1.10.2.4.1.4	User Readiness Assessment	1 day	Mon 2/28/22	Mon 2/28/22	
1912	1.10.2.4.1.5	Readiness Report	1 day	Mon 2/28/22	Mon 2/28/22	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1913	1.10.2.4.1.6	M: Final Deployment Readiness Assessment - Complete	0 days	Mon 2/28/22	Mon 2/28/22	
1914	1.10.2.4.1.7	M: Region 3 Implementation Assessments - Complete	0 days	Mon 2/28/22	Mon 2/28/22	
1915	1.10.2.4.1.8	Region 3 Go-Live Schedule	1 day	Mon 2/28/22	Mon 2/28/22	
1916	**1.10.2.4.2**	**Region 3 Rollout - Implementation / Go-Live**	**5 days**	**Mon 4/25/22**	**Fri 4/29/22**	
1917	1.10.2.4.2.1	Conduct GO NO-GO Decision	1 day	Mon 4/25/22	Mon 4/25/22	
1918	1.10.2.4.2.2	M: Region 3 Implementation / Go-Live Complete	0 days	Mon 4/25/22	Mon 4/25/22	
1919	1.10.2.4.3	M: Region 3 (Statewide) Rollout - Complete	0 days	Mon 5/2/22	Mon 5/2/22	
1920	**1.10.2.5**	**4.32.3.1 - System Implementation and Support**	**132 days**	**Mon 11/1/21**	**Tue 5/3/22**	
1921	1.10.2.5.1	Provide Help Desk Support	1 day	Mon 11/1/21	Mon 11/1/21	
1922	1.10.2.5.2	Provide System Maintenance	1 day	Mon 11/1/21	Mon 11/1/21	
1923	1.10.2.5.3	Fix Defects	1 day	Mon 11/1/21	Mon 11/1/21	
1924	1.10.2.5.4	Triage issues	1 day	Mon 11/1/21	Mon 11/1/21	
1925	1.10.2.5.5	M: System Implementation and Support Complete	0 days	Mon 5/2/22	Mon 5/2/22	
1926	**1.10.3**	**Implementation Closeout**	**151 days**	**Mon 11/1/21**	**Mon 5/30/22**	
1927	**1.10.3.1**	**4.32.3.3 - Implementation Report**	**145 days**	**Mon 11/1/21**	**Fri 5/20/22**	
1928	**1.10.3.1.1**	**Pilot Implementation Rollout Report**	**15 days**	**Mon 11/1/21**	**Fri 11/19/21**	
1929	1.10.3.1.1.1	Create Pilot Implementation Rollout Report	1 day	Mon 11/1/21	Mon 11/1/21	
1930	1.10.3.1.1.2	Submit Pilot Implementation Rollout Report to State for acceptance	1 day	Mon 11/1/21	Mon 11/1/21	
1931	1.10.3.1.1.3	M: Pilot Implementation Rollout Report- Pilot Users - Accepted	0 days	Mon 11/1/21	Mon 11/1/21	
1932	**1.10.3.1.2**	**Region 1 Implementation Rollout Report**	**15 days**	**Mon 1/3/22**	**Fri 1/21/22**	
1933	1.10.3.1.2.1	Create Region 1 Implementation Rollout Report	1 day	Mon 1/3/22	Mon 1/3/22	
1934	1.10.3.1.2.2	Submit Region 1 Implementation Report to State for acceptance	1 day	Mon 1/3/22	Mon 1/3/22	
1935	1.10.3.1.2.3	M: Region 1 Implementation Report - Accepted	0 days	Mon 1/3/22	Mon 1/3/22	
1936	**1.10.3.1.3**	**Region 2 Implementation Rollout Report**	**15 days**	**Tue 3/1/22**	**Mon 3/21/22**	
1937	1.10.3.1.3.1	Create Region 2 Implementation Report	1 day	Tue 3/1/22	Tue 3/1/22	
1938	1.10.3.1.3.2	Submit Region 2 Implementation Report to State for acceptance	1 day	Tue 3/1/22	Tue 3/1/22	
1939	1.10.3.1.3.3	M: Region 2 Implementation Report - Accepted	0 days	Tue 3/1/22	Tue 3/1/22	
1940	**1.10.3.1.4**	**Region 3 Implementation Rollout Report**	**15 days**	**Mon 5/2/22**	**Fri 5/20/22**	
1941	1.10.3.1.4.1	Create Region 3 Implementation Report	1 day	Mon 5/2/22	Mon 5/2/22	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
1942	1.10.3.1.4.2	Submit Region 3 Implementation Report to State for acceptance	1 day	Mon 5/2/22	Mon 5/2/22	
1943	1.10.3.1.4.3	M: Region 3 Implementation Report - Accepted	0 days	Mon 5/2/22	Mon 5/2/22	
1944	1.10.3.1.5	M: Implementation Report- Accepted	0 days	Fri 5/20/22	Fri 5/20/22	
1945	**1.10.3.2**	**4.32.3.4 - Fully Implemented System**	**6 days**	**Mon 5/23/22**	**Mon 5/30/22**	
1946	1.10.3.2.1	M: Fully Implemented System - Accepted	6 days	Mon 5/23/22	Mon 5/30/22	
1947	1.10.3.3	M: Implementation Closeout - Complete	0 days	Mon 5/30/22	Mon 5/30/22	
1948	1.10.4	M: PHASE 10 (IMPLEMENTATION) COMPLETE	0 days	Mon 5/30/22	Mon 5/30/22	
1949	**1.11**	**PHASE 11 - Warranty (Initial Maintenance & Operations)**	**580 days**	**Tue 8/31/21**	**Mon 11/20/23**	
1950	**1.11.1**	**Warranty Planning**	**41 days**	**Tue 8/31/21**	**Tue 10/26/21**	
1951	**1.11.1.1**	**4.25.3.1 - Warranty Support Plan**	**41 days**	**Tue 8/31/21**	**Tue 10/26/21**	
1952	1.11.1.1.1	Create Warranty Support Plan	1 day	Tue 8/31/21	Tue 8/31/21	
1953	1.11.1.1.2	Submit Warranty Support Plan to State for Review	1 day	Tue 8/31/21	Tue 8/31/21	
1954	1.11.1.1.3	Resubmit Warranty Support Plan to State for Approval	1 day	Tue 8/31/21	Tue 8/31/21	
1955	1.11.1.1.4	M: Warranty Support Plan - Accepted	0 days	Tue 8/31/21	Tue 8/31/21	
1956	1.11.1.2	M: Warranty Planning - Complete	0 days	Tue 10/26/21	Tue 10/26/21	
1957	**1.11.2**	**Warranty Execution**	**521 days**	**Mon 11/1/21**	**Mon 10/30/23**	
1958	**1.11.2.1**	**4.33.3.1 - Maintenance and System Operations (initial)**	**521 days**	**Mon 11/1/21**	**Mon 10/30/23**	
1959	1.11.2.1.1	Provide Help Desk Support	1 day	Mon 11/1/21	Mon 11/1/21	
1960	1.11.2.1.2	Provide System Maintenance and production Support	1 day	Mon 11/1/21	Mon 11/1/21	
1961	1.11.2.1.3	Software Repairs and Corrections	1 day	Mon 11/1/21	Mon 11/1/21	
1962	1.11.2.1.4	Triage issues	1 day	Mon 11/1/21	Mon 11/1/21	
1963	1.11.2.1.5	M: Maintenance and System Operations (initial) Complete	0 days	Mon 11/1/21	Mon 11/1/21	
1964	1.11.2.2	M: Warranty Execution - Complete	0 days	Mon 10/30/23	Mon 10/30/23	
1965	**1.11.3**	**Warranty Monitor & Control**	**536 days**	**Mon 11/1/21**	**Mon 11/20/23**	
1966	**1.11.3.1**	**4.33.3.2 - Periodic Help Desk Reports (Ongoing - Month 1 to 24)**	**521 days**	**Mon 11/1/21**	**Mon 10/30/23**	
1967	1.11.3.1.1	Create Monthly Help Desk Reports	1 day	Mon 11/1/21	Mon 11/1/21	
1968	1.11.3.1.2	Submit Help Desk Reports to State for Review	1 day	Mon 11/1/21	Mon 11/1/21	
1969	1.11.3.1.3	M: Help Desk Reports - Complete	0 days	Mon 11/1/21	Mon 11/1/21	
1970	**1.11.3.2**	**4.33.3.3 - Periodic Warranty Support Reports (Ongoing - Month 1 to 24)**	**521 days**	**Mon 11/1/21**	**Mon 10/30/23**	
1971	1.11.3.2.1	Create Monthly Warranty Support Reports	1 day	Mon 11/1/21	Mon 11/1/21	
1972	1.11.3.2.2	Submit Warranty Support Reports to State for Review	1 day	Mon 11/1/21	Mon 11/1/21	

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1973	1.11.3.2.3	M: Warranty Support Reports - Complete	0 days	Mon 11/1/21	Mon 11/1/21	
1974	**1.11.3.3**	**4.33.3.4 - Periodic Operations Reports (Ongoing - Month 1 to 24)**	**521 days**	**Mon 11/1/21**	**Mon 10/30/23**	
1975	1.11.3.3.1	Create Monthly Operations Reports	1 day	Mon 11/1/21	Mon 11/1/21	
1976	1.11.3.3.2	Submit Operations Reports to State for Review	1 day	Mon 11/1/21	Mon 11/1/21	
1977	1.11.3.3.3	M: Operations Reports - Complete	0 days	Mon 11/1/21	Mon 11/1/21	
1978	1.11.3.4	M: Warranty Monitor & Control - Complete	0 days	Mon 10/30/23	Mon 10/30/23	
1979	**1.11.3.5**	**4.23.3.2 - Successful Execution of the Operations Support Plan**	**15 days**	**Tue 10/31/23**	**Mon 11/20/23**	
1980	1.11.3.5.1	Create Report	1 day	Tue 10/31/23	Tue 10/31/23	
1981	1.11.3.5.2	Review & Submit Report	1 day	Tue 10/31/23	Tue 10/31/23	
1982	1.11.3.5.3	State Review and Approve Report	1 day	Tue 10/31/23	Tue 10/31/23	
1983	**1.11.4**	**Warranty Closeout**	**65 days**	**Mon 7/31/23**	**Sun 10/29/23**	
1984	**1.11.4.1**	**4.33.3.5 - Maintenance Transition Report**	**64 days**	**Mon 7/31/23**	**Thu 10/26/23**	
1985	1.11.4.1.1	Produce Maintenance Transition Report	1 day	Mon 7/31/23	Mon 7/31/23	
1986	1.11.4.1.2	Submit Transition Report to State for Review	1 day	Mon 7/31/23	Mon 7/31/23	
1987	1.11.4.1.3	M: Maintenance Transition Report -Complete	0 days	Tue 8/1/23	Tue 8/1/23	
1988	**1.11.4.2**	**4.33.3.6 - Warranty Completion Report**	**64 days**	**Mon 7/31/23**	**Thu 10/26/23**	
1989	1.11.4.2.1	Produce Warranty Completion Report	1 day	Mon 7/31/23	Mon 7/31/23	
1990	1.11.4.2.2	Submit Warranty Completion Report to State for Review	1 day	Mon 7/31/23	Mon 7/31/23	
1991	1.11.4.2.3	M: Warranty Completion Report -Complete	0 days	Tue 8/1/23	Tue 8/1/23	
1992	1.11.4.3	M: Warranty Closeout - Complete	0 days	Sun 10/29/23	Sun 10/29/23	
1993	1.11.5	M: PHASE 11 (WARRANTY) COMPLETE	0 days	Sun 10/29/23	Sun 10/29/23	
1994	**1.11.6**	**4.25.3.2 - Successful Execution of the Warranty Support Plan**	**15 days**	**Wed 8/2/23**	**Tue 8/22/23**	
1995	1.11.6.1	Create Report	1 day	Wed 8/2/23	Wed 8/2/23	
1996	1.11.6.2	Review & Submit Report	1 day	Wed 8/2/23	Wed 8/2/23	
1997	1.11.6.3	State Review and Approve Report	1 day	Wed 8/2/23	Wed 8/2/23	
1998	**1.12**	**PHASE 12 - System Certification**	**153 days**	**Mon 1/31/22**	**Wed 8/31/22**	
1999	**1.12.1**	**System Certification Planning**	**66 days**	**Mon 1/31/22**	**Mon 5/2/22**	
2000	**1.12.1.1**	**4.34.3.2 - Federal Certification Compliance Narrative**	**66 days**	**Mon 1/31/22**	**Mon 5/2/22**	
2001	1.12.1.1.1	Security and Privacy Federal Cert Narrative	1 day	Mon 1/31/22	Mon 1/31/22	
2002	1.12.1.1.2	Case Initiation & Locate Federal Cert Narrative	1 day	Mon 1/31/22	Mon 1/31/22	
2003	1.12.1.1.3	Establishment & Case Management Federal Cert Narrative	1 day	Mon 1/31/22	Mon 1/31/22	
2004	1.12.1.1.4	Enforcement and Financial Federal Cert Narrative	1 day	Mon 1/31/22	Mon 1/31/22	
2005	1.12.1.1.5	Reporting and Customer Service Federal Cert Narrative	1 day	Mon 1/31/22	Mon 1/31/22	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
2006	1.12.1.1.6	Final Federal Cert Narrative	1 day	Mon 1/31/22	Mon 1/31/22	
2007	1.12.1.1.7	M: Federal Certification Compliance Narrative - Complete	1 day	Mon 1/31/22	Mon 1/31/22	
2008	**1.12.1.2**	**4.34.3.3 - PRWORA /DRA Test Deck Documentation**	**66 days**	**Mon 1/31/22**	**Mon 5/2/22**	
2009	1.12.1.2.1	Federal Certification Test Deck Environment Setup	1 day	Mon 1/31/22	Mon 1/31/22	
2010	1.12.1.2.2	Initial Case set up for Scenarios S01 through S15	1 day	Mon 1/31/22	Mon 1/31/22	
2011	1.12.1.2.3	Initial Case set up for Scenarios 15 through 25 and DRA scenarios 1 through	1 day	Mon 1/31/22	Mon 1/31/22	
2012	1.12.1.2.4	Batch execution to complete initial set up	1 day	Mon 1/31/22	Mon 1/31/22	
2013	1.12.1.2.5	Advance to month 1, execute batch processes and document results	1 day	Mon 1/31/22	Mon 1/31/22	
2014	1.12.1.2.6	Advance to month 2, execute batch processes and document results	1 day	Mon 1/31/22	Mon 1/31/22	
2015	1.12.1.2.7	Advance to month 3, execute batch processes and document results	1 day	Mon 1/31/22	Mon 1/31/22	
2016	1.12.1.2.8	Generate 34A reports and consolidate results	1 day	Mon 1/31/22	Mon 1/31/22	
2017	1.12.1.2.9	Final updates to Test Deck documentation	1 day	Mon 1/31/22	Mon 1/31/22	
2018	1.12.1.2.10	Submit Federal Test Deck Documentation to State for Review	1 day	Mon 1/31/22	Mon 1/31/22	
2019	1.12.1.2.11	Resubmit Federal Test Deck Documentation to State for Approval	1 day	Mon 1/31/22	Mon 1/31/22	
2020	1.12.1.2.12	M: Federal Certification Test Deck Documentation - Complete	1 day	Mon 1/31/22	Mon 1/31/22	
2021	1.12.1.3	M: System Certification Planning - Complete	0 days	Mon 5/2/22	Mon 5/2/22	
2022	**1.12.2**	**System Certification Execution**	**88 days**	**Mon 5/2/22**	**Wed 8/31/22**	
2023	**1.12.2.1**	**4.34.3.1 - Federal Certification Support**	**88 days**	**Mon 5/2/22**	**Wed 8/31/22**	
2024	1.12.2.1.1	Prepare Fed Cert Environment	1 day	Mon 5/2/22	Mon 5/2/22	
2025	1.12.2.1.2	Deploy Production Baseline software	1 day	Mon 5/2/22	Mon 5/2/22	
2026	1.12.2.1.3	Prepare Test Cases	1 day	Mon 5/2/22	Mon 5/2/22	
2027	1.12.2.1.4	Maintain Environment	1 day	Mon 5/2/22	Mon 5/2/22	
2028	1.12.2.1.5	perform software corrections	1 day	Mon 5/2/22	Mon 5/2/22	
2029	1.12.2.1.6	M: Federal Certification Support - Complete	0 days	Mon 5/2/22	Mon 5/2/22	
2030	**1.12.2.2**	**4.34.3.4 - Federal Certification Compliance Demonstration**	**88 days**	**Mon 5/2/22**	**Wed 8/31/22**	
2031	1.12.2.2.1	Build Test Cases	1 day	Mon 5/2/22	Mon 5/2/22	
2032	1.12.2.2.2	Prepare for demo	1 day	Mon 5/2/22	Mon 5/2/22	
2033	1.12.2.2.3	Practice Fed Cert demo delivery	1 day	Mon 5/2/22	Mon 5/2/22	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
2034	1.12.2.2.4	State facilitate demo	1 day	Mon 5/2/22	Mon 5/2/22	
2035	1.12.2.2.5	M: Federal Certification Demontratation - Complete	0 days	Mon 5/2/22	Mon 5/2/22	
2036	1.12.2.3	M: System Certification Execution - Complete	0 days	Wed 8/31/22	Wed 8/31/22	
2037	**1.12.3**	**System Certification Closeout**	**23 days**	**Mon 8/1/22**	**Wed 8/31/22**	
2038	**1.12.3.1**	**4.34.3.5 - Federal Certification Compliance Acceptance Report**	**23 days**	**Mon 8/1/22**	**Wed 8/31/22**	
2039	1.12.3.1.1	Create Draft Federal Certification Compliance Acceptance Report	1 day	Mon 8/1/22	Mon 8/1/22	
2040	1.12.3.1.2	Submit Federal Certification Compliance Acceptance Report to State for Rev	1 day	Mon 8/1/22	Mon 8/1/22	
2041	1.12.3.1.3	Resubmit Federal Certification Compliance Acceptance Report to State for A	1 day	Mon 8/1/22	Mon 8/1/22	
2042	1.12.3.1.4	M: Federal Certification Compliance Acceptance Report - Complete	0 days	Mon 8/1/22	Mon 8/1/22	
2043	1.12.3.2	M: System Certification Closeout - Complete	0 days	Wed 8/31/22	Wed 8/31/22	
2044	1.12.4	M: PHASE 12 (SYSTEM CERTIFICATION) COMPLETE	0 days	Wed 8/31/22	Wed 8/31/22	
2045	**1.13**	**PHASE 13 - Transition, Maintenance & Operations**	**261 days**	**Mon 10/31/22**	**Mon 10/30/23**	
2046	**1.13.1**	**Transition, Maintenance & Operations Planning**	**107 days**	**Mon 10/31/22**	**Tue 3/28/23**	
2047	**1.13.1.1**	**4.24.3.1 - Maintenance Transition Plan**	**22 days**	**Mon 10/31/22**	**Tue 11/29/22**	
2048	1.13.1.1.1	Create Maintenance Transition Plan	1 day	Mon 10/31/22	Mon 10/31/22	
2049	1.13.1.1.2	Submit Maintenance Transition Plan to State for Review	1 day	Mon 10/31/22	Mon 10/31/22	
2050	1.13.1.1.3	Resubmit Maintenance Transition Plan to State for Approval	1 day	Mon 10/31/22	Mon 10/31/22	
2051	1.13.1.1.4	M: Maintenance Transition Plan - Accepted	0 days	Mon 10/31/22	Mon 10/31/22	
2052	**1.13.1.2**	**4.35.3.1 - Knowledge Transfer Plan and Procedures**	**21 days**	**Tue 11/29/22**	**Tue 12/27/22**	
2053	1.13.1.2.1	Create Knowledge Transfer Plan and Procedures	1 day	Tue 11/29/22	Tue 11/29/22	
2054	1.13.1.2.2	Submit Knowledge Transfer Plan and Procedures to State for Review	1 day	Tue 11/29/22	Tue 11/29/22	
2055	1.13.1.2.3	Resubmit Knowledge Transfer Plan and Procedures to State for Approval	1 day	Tue 11/29/22	Tue 11/29/22	
2056	1.13.1.2.4	M: Knowledge Transfer Plan and Procedures - Accepted	0 days	Wed 11/30/22	Wed 11/30/22	
2057	**1.13.1.3**	**4.35.3.3 - Maintenance Training Plan**	**21 days**	**Tue 11/29/22**	**Tue 12/27/22**	
2058	1.13.1.3.1	Create Maintenance Training Plan	1 day	Tue 11/29/22	Tue 11/29/22	
2059	1.13.1.3.2	Submit Maintenance Training Plan to State for Review	1 day	Tue 11/29/22	Tue 11/29/22	
2060	1.13.1.3.3	Resubmit Maintenance Training Plan to State for Approval	1 day	Tue 11/29/22	Tue 11/29/22	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
2061	1.13.1.3.4	M: Maintenance Training Plan - Accepted	0 days	Wed 11/30/22	Wed 11/30/22	
2062	**1.13.1.4**	**4.35.3.5 - Operations Plan**	**22 days**	**Fri 12/30/22**	**Mon 1/30/23**	
2063	1.13.1.4.1	Create Operations Plan	1 day	Fri 12/30/22	Fri 12/30/22	
2064	1.13.1.4.2	Submit Operations Plan to State for Review	1 day	Fri 12/30/22	Fri 12/30/22	
2065	1.13.1.4.3	Resubmit Operations Plan to State for Approval	1 day	Fri 12/30/22	Fri 12/30/22	
2066	1.13.1.4.4	M: Operations Plan - Accepted	0 days	Mon 1/2/23	Mon 1/2/23	
2067	**1.13.1.5**	**4.35.3.7 - Operations Transition Plan**	**22 days**	**Mon 1/30/23**	**Tue 2/28/23**	
2068	1.13.1.5.1	Create Operations Transition Plan	1 day	Mon 1/30/23	Mon 1/30/23	
2069	1.13.1.5.2	Submit Operations Transition Plan to State for Review	1 day	Mon 1/30/23	Mon 1/30/23	
2070	1.13.1.5.3	Resubmit Operations Transition Plan to State for Approval	1 day	Mon 1/30/23	Mon 1/30/23	
2071	1.13.1.5.4	M: Operations Transition Plan - Accepted	0 days	Mon 1/30/23	Mon 1/30/23	
2072	**1.13.1.6**	**4.35.3.11 - Help Desk Management Plan**	**21 days**	**Tue 2/28/23**	**Tue 3/28/23**	
2073	1.13.1.6.1	Create Help Desk Management Plan	1 day	Tue 2/28/23	Tue 2/28/23	
2074	1.13.1.6.2	Submit Help Desk Management Plan to State for Review	1 day	Tue 2/28/23	Tue 2/28/23	
2075	1.13.1.6.3	Resubmit Help Desk Management Plan to State for Approval	1 day	Tue 2/28/23	Tue 2/28/23	
2076	1.13.1.6.4	M: Help Desk Management Plan - Accepted	0 days	Wed 3/1/23	Wed 3/1/23	
2077	1.13.1.7	M: Transition, Maintenance & Operations Planning - Complete	0 days	Tue 3/28/23	Tue 3/28/23	
2078	**1.13.2**	**Transition, Maintenance & Operations Execution**	**147 days**	**Fri 3/31/23**	**Mon 10/23/23**	
2079	**1.13.2.1**	**4.24.3.2 - Maintenance Transition Execution**	**132 days**	**Fri 3/31/23**	**Mon 10/2/23**	
2080	1.13.2.1.1	Conduct Maintenance Transition to Program Resources	1 day	Fri 3/31/23	Fri 3/31/23	
2081	1.13.2.1.2	Conduct Maintenance Transition to Technical Resources	1 day	Fri 3/31/23	Fri 3/31/23	
2082	1.13.2.1.3	Evaluate and submit assessment report to State	1 day	Fri 3/31/23	Fri 3/31/23	
2083	1.13.2.1.4	M: Maintenance Transition - Accepted	0 days	Mon 4/3/23	Mon 4/3/23	
2084	**1.13.2.2**	**4.35.3.2 - Knowledge Transfer & Procedures Execution**	**132 days**	**Fri 3/31/23**	**Mon 10/2/23**	
2085	1.13.2.2.1	Conduct Knowledge Transfer to Program Resources	1 day	Fri 3/31/23	Fri 3/31/23	
2086	1.13.2.2.2	Conduct Knowledge Transfer to Technical Resources	1 day	Fri 3/31/23	Fri 3/31/23	
2087	1.13.2.2.3	Evaluate and submit assessment report to State	1 day	Fri 3/31/23	Fri 3/31/23	
2088	1.13.2.2.4	M: Knowledge Transfer & Procedures - Accepted	0 days	Mon 4/3/23	Mon 4/3/23	
2089	**1.13.2.2.5**	**4.35.3.2 - Successful Execution of the Knowledge Transfer Plan and Proced**	**15 days**	**Tue 9/12/23**	**Mon 10/2/23**	
2090	1.13.2.2.5.1	Create Report	1 day	Tue 9/12/23	Tue 9/12/23	
2091	1.13.2.2.5.2	Review & Submit Report	1 day	Tue 9/12/23	Tue 9/12/23	
2092	1.13.2.2.5.3	State Review and Approve Report	1 day	Tue 9/12/23	Tue 9/12/23	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
2093	**1.13.2.3**	**4.35.3.4 - Maintenance Training Execution**	**132 days**	**Fri 3/31/23**	**Mon 10/2/23**	
2094	1.13.2.3.1	Conduct Maintenance Training to Program Resources	1 day	Fri 3/31/23	Fri 3/31/23	
2095	1.13.2.3.2	Conduct Maintenance Training to Technical Resources	1 day	Fri 3/31/23	Fri 3/31/23	
2096	1.13.2.3.3	Evaluate and submit assessment report to State	1 day	Fri 3/31/23	Fri 3/31/23	
2097	1.13.2.3.4	M: Maintenance Training - Accepted	0 days	Mon 4/3/23	Mon 4/3/23	
2098	**1.13.2.3.5**	**4.35.3.4 - Successful Execution of the Maintenance Training Plan**	**15 days**	**Tue 9/12/23**	**Mon 10/2/23**	
2099	1.13.2.3.5.1	Create Report	1 day	Tue 9/12/23	Tue 9/12/23	
2100	1.13.2.3.5.2	Review & Submit Report	1 day	Tue 9/12/23	Tue 9/12/23	
2101	1.13.2.3.5.3	State Review and Approve Report	1 day	Tue 9/12/23	Tue 9/12/23	
2102	**1.13.2.4**	**4.35.3.6 - Operations Execution**	**132 days**	**Fri 3/31/23**	**Mon 10/2/23**	
2103	1.13.2.4.1	Conduct Operations with run system	1 day	Fri 3/31/23	Fri 3/31/23	
2104	1.13.2.4.2	M: Operations Execution - Accepted	0 days	Mon 4/3/23	Mon 4/3/23	
2105	**1.13.2.4.3**	**4.35.3.6 - Successful Execution of the Operations Plan**	**15 days**	**Tue 9/12/23**	**Mon 10/2/23**	
2106	1.13.2.4.3.1	Create Report	1 day	Tue 9/12/23	Tue 9/12/23	
2107	1.13.2.4.3.2	Review & Submit Report	1 day	Tue 9/12/23	Tue 9/12/23	
2108	1.13.2.4.3.3	State Review and Approve Report	1 day	Tue 9/12/23	Tue 9/12/23	
2109	**1.13.2.5**	**4.35.3.8 - Operations Transition Execution**	**132 days**	**Fri 3/31/23**	**Mon 10/2/23**	
2110	1.13.2.5.1	Conduct Operations Transition to Program Resources	1 day	Fri 3/31/23	Fri 3/31/23	
2111	1.13.2.5.2	Conduct Operations Transition to Technical Resources	1 day	Fri 3/31/23	Fri 3/31/23	
2112	1.13.2.5.3	Evaluate and submit assessment report to State	1 day	Fri 3/31/23	Fri 3/31/23	
2113	1.13.2.5.4	M: Operations Transition - Accepted	0 days	Mon 4/3/23	Mon 4/3/23	
2114	**1.13.2.5.5**	**4.35.3.8 - Successful Execution of the Operations Transition Plan**	**15 days**	**Tue 9/12/23**	**Mon 10/2/23**	
2115	1.13.2.5.5.1	Create Report	1 day	Tue 9/12/23	Tue 9/12/23	
2116	1.13.2.5.5.2	Review & Submit Report	1 day	Tue 9/12/23	Tue 9/12/23	
2117	1.13.2.5.5.3	State Review and Approve Report	1 day	Tue 9/12/23	Tue 9/12/23	
2118	**1.13.2.6**	**4.35.3.9 - Technical Support Procedures**	**132 days**	**Fri 3/31/23**	**Mon 10/2/23**	
2119	1.13.2.6.1	Create Technical Support Procedures	1 day	Fri 3/31/23	Fri 3/31/23	
2120	1.13.2.6.2	Submit Technical Support Procedures to State for Review	1 day	Fri 3/31/23	Fri 3/31/23	
2121	1.13.2.6.3	Resubmit Technical Support Procedures to State for acceptance	1 day	Fri 3/31/23	Fri 3/31/23	
2122	1.13.2.6.4	M: Technical Support Procedures - Complete	0 days	Mon 4/3/23	Mon 4/3/23	
2123	**1.13.2.7**	**4.35.3.10 - Customer Support Procedures**	**132 days**	**Fri 3/31/23**	**Mon 10/2/23**	
2124	1.13.2.7.1	Create Customer Support Procedures	1 day	Fri 3/31/23	Fri 3/31/23	
2125	1.13.2.7.2	Submit Customer Support Procedures to State for Review	1 day	Fri 3/31/23	Fri 3/31/23	

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ID	WBS	Task Name	Duration	Start	Finish	Requirement Number
2126	1.13.2.7.3	Resubmit Customer Support Procedures to State for acceptance	1 day	Fri 3/31/23	Fri 3/31/23	
2127	1.13.2.7.4	M: Customer Support Procedures - Complete	0 days	Mon 4/3/23	Mon 4/3/23	
2128	**1.13.2.8**	**4.35.3.12 - Help Desk Execution**	**132 days**	**Fri 3/31/23**	**Mon 10/2/23**	
2129	1.13.2.8.1	Operate Help Desk and assist State	1 day	Fri 3/31/23	Fri 3/31/23	
2130	1.13.2.8.2	M: Help Desk Execution - Accepted	0 days	Mon 4/3/23	Mon 4/3/23	
2131	**1.13.2.8.3**	**4.35.3.12 - Successful Execution of the Helpdesk Management Plan**	**15 days**	**Tue 9/12/23**	**Mon 10/2/23**	
2132	1.13.2.8.3.1	Create Report	1 day	Tue 9/12/23	Tue 9/12/23	
2133	1.13.2.8.3.2	Review & Submit Report	1 day	Tue 9/12/23	Tue 9/12/23	
2134	1.13.2.8.3.3	State Review and Approve Report	1 day	Tue 9/12/23	Tue 9/12/23	
2135	1.13.2.9	M: Transition, Maintenance & Operations Execution - Complete	0 days	Mon 10/2/23	Mon 10/2/23	
2136	**1.13.2.10**	**4.24.3.2 - Successful Execution of the Maintenance Transition Plan**	**15 days**	**Tue 10/3/23**	**Mon 10/23/23**	
2137	1.13.2.10.1	Create Report	1 day	Tue 10/3/23	Tue 10/3/23	
2138	1.13.2.10.2	Review & Submit Report	1 day	Tue 10/3/23	Tue 10/3/23	
2139	1.13.2.10.3	State Review and Approve Report	1 day	Tue 10/3/23	Tue 10/3/23	
2140	**1.13.3**	**Transition, Maintenance & Operations Closeout**	**20 days**	**Tue 10/3/23**	**Mon 10/30/23**	
2141	1.13.3.1	M: Transition, Maintenance & Operations Closeout - Complete	20 days	Tue 10/3/23	Mon 10/30/23	
2142	1.13.4	M: PHASE 13 (TRANSITION, MAINTENANCE & OPERATIONS) COMPLETE	0 days	Mon 10/30/23	Mon 10/30/23	
2143	**1.14**	**PHASE 14 - Project Closeout**	**64 days**	**Mon 7/31/23**	**Thu 10/26/23**	
2144	**1.14.1**	**4.36.3.1 - Project Completion Report**	**64 days**	**Mon 7/31/23**	**Thu 10/26/23**	
2145	1.14.1.1	Submit Project Completion Report to State for Review	1 day	Mon 7/31/23	Mon 7/31/23	
2146	1.14.1.2	Resubmit Project Completion Report to State for acceptance	1 day	Mon 7/31/23	Mon 7/31/23	
2147	1.14.1.3	M: Project Completion Report - Complete	0 days	Tue 8/1/23	Tue 8/1/23	
2148	1.15	M: Nevada NCSEAS Project - Complete	0 days	Mon 10/30/23	Mon 10/30/23	