Keystone Peer Review Organization (KePRO) Contingency and Business Continuity Plan (CBCP)

<SAMPLE> Contract

Version 1.0

September 2013

KePRO
777 East Park Drive
Harrisburg, PA 17111

KePRO PROPRIETARY AND CONFIDENTIAL

TABLE OF CONTENTS

1 INTRODUCTION 1

1.1 Purpose 1

1.2 Applicability 1

1.3 Scope 1

1.3.1 Planning Principles 1

1.3.2 Assumptions/Constraints 2

2 CONCEPT OF OPERATIONS 3

2.1 Business and Information System Descriptions 3

2.1.1 Business Description 3

2.1.2 Information Systems 3

2.1.2.1 Server & Application Environment 7

2.1.2.2 Information System Contingency and Business Continuity Controls 8

2.1.3 Critical Business Systems Processing 10

2.2 Line of Succession 10

2.3 Responsibilities 10

2.4 Threats 12

2.4.1 Probable Threats 13

3 NOTIFICATION AND ACTIVATION PHASE 14

3.1 Notification Procedure: 15

3.2 Damage Assessment Procedure: 15

4 RECOVERY OPERATIONS 16

4.1 Scenarios 16

4.1.1 Scenario 1: CBCP Activated for Atrezzo Data Center (IPR Wilmington): 16

4.1.2 KePRO Recovery Response Team Procedures: 16

4.1.2.1 Recovery Steps: 16

4.1.3 Return to Normal Operations 17

4.1.3.1 Restoration Steps: 17

4.1.4 Scenario 2: CBCP Activated for <SAMPLE> Contract Facilities: 19

4.1.5 KePRO Recovery Response Team Procedures: 19
4.1.6 Recovery Steps: 20
4.1.6.1 Atrezzo Information Systems: 20
4.1.6.2 Communications: 20
4.1.6.3 Data Repository: 21
4.1.7 Return to Normal Operations 21
4.1.8 Restoration Steps: 21
APPENDIX A ACRONYM LIST 23
APPENDIX B PERSONNEL CONTACT LIST 26
APPENDIX C VENDOR/CUSTOMER CONTACT LIST 27
APPENDIX D EQUIPMENT AND SPECIFICATIONS 30
APPENDIX E CONTRACTS AND/OR AGREEMENTS 31
APPENDIX F BUSINESS IMPACT ANALYSIS 32

List of Tables

Table 2-1: KePRO Risk Analysis Matrix 14
Table 4-1: Atrezzo Data Center CBCP Activation 16
Table 4-2: <SAMPLE> CBCP Activation 19
Table B-1: Personnel Contact List 26
Table C-1: Vendor/Customer Contact List 27
Table F-1: Outage Impacts and Allowable Outage Times 35
Table F-2: Resource Recovery Priorities 36

List of Figures

Figure 2-1: Production/Development Environment Diagram 7
Figure 2-2: Recovery Response Team 11

1 INTRODUCTION

1.1 Purpose

The purpose of the Contingency and Business Continuity Plan (CBCP) is to prepare for and address the elements necessary to ensure continuity of service to critical business systems during various emergencies. This Keystone Peer Review Organization (KePRO) CBCP establishes procedures to recover business systems following a disruption for the KePRO <SAMPLE> Contract located at <insert address>

The following objectives have been established for this plan:

- Maximize the effectiveness of contingency operations through an established plan that consists of the following phases:
    - **Notification/Activation phase** to detect and assess damage and to activate the plan
    - **Recovery phase** to restore temporary business systems and recover damage done to the original facilities
    - **Reconstitution phase** to restore business processing capabilities to normal operations
- Identify the activities, resources, and procedures needed to carry out business processing requirements during prolonged interruptions to normal operations.
- Assign responsibilities to designated KePRO personnel and provide guidance for recovering the business operations during prolonged periods of interruptions to normal operations.
- Ensure coordination with other staff who participate in the contingency planning strategies. Ensure coordination with external points of contact and vendors who participate in contingency planning strategies.

1.2 Applicability

This CBCP applies to the KePRO <SAMPLE> Contract and the functions, operations, and resources necessary to restore and resume operations as it is currently installed and/or used. This CBCP applies to all persons associated with KePRO as identified under **Section 2.3 Responsibilities.**

1.3 Scope

1.3.1 Planning Principles

Various scenarios and assumptions have been considered to form a basis for the plan. The KePRO CBCP details how critical business processes will be fulfilled if business operations are down due to an extraordinary event. Critical operations are resumed at one of the following KePRO designated alternate recovery sites:

- Information Protection and Recovery International (IPR) located at 2561 Bernville Road, Reading, PA 19506.
- The KePRO Corporate Office located at 777 East Park Drive, Harrisburg, Pennsylvania, 17111.

The applicability of this plan is predicated on these key principles:

- All or part of critical business operations are inaccessible and fail to meet minimum production requirements.
- The alternate recovery sites, IPR International and KePRO Corporate Office are developed and available for implementation if required.
    - KePRO will use the alternate site Information Systems (IS) resources to recover functionality during an emergency situation that prevents access to the original facility.
    - The designated computer system at the alternate site has been configured to begin processing information.
    - The alternate site will be used to continue recovery and processing throughout the period of disruption, until the return to normal operations.

1.3.2 Assumptions/Constraints

Based on these principles, the following assumptions/constraints have been used to develop this KePRO CBCP:

- Business functions are inoperable.
- Critical business systems can be recovered at the alternate site.
- Key personnel have been identified and provided initial and annual training in their emergency response and recovery roles; they are available to activate this CBCP.
- Preventive controls (for example, generators, environmental controls, waterproof tarps, sprinkler systems, fire extinguishers, and fire department assistance) are fully operational.
- Information systems equipment, including supporting components, are connected to an uninterruptible power supply (UPS) that provides adequate electricity during a power failure.
- Current backups of the application software and data are intact and are accessible by the information systems team for installation at the alternate site.
- The equipment, connections, and capabilities required to operate the IS are available at the alternate site.
- Service agreements are maintained with IS hardware, software, and communications providers to support the emergency recovery operation.
- Disaster recovery (DR), continuity of operations, and emergency evacuation procedures are an integral part of this plan.

- Should a disaster occur within the <SAMPLE>, VA region, <SAMPLE> Contract staff would be enabled to work at residential locations and/or the Harrisburg Corporate Office.

2 CONCEPT OF OPERATIONS

2.1 Business and Information System Descriptions

The following describes the KePRO business environment and critical Information Systems (IS) that are covered as part of this CBCP for the <SAMPLE> Contract.

2.1.1 Business Description

KePRO is a leading quality improvement and care management organization and offers innovative and outcomes-focused solutions to reduce the utilization of health care resources and optimize quality of care for public and commercial clients. KePRO is Utilization Review Accreditation Commission (URAC)-accredited in both health utilization management and case management. KePRO operates out of several locations in various states of the United States. The following locations are covered by this CBCP:

KePRO <SAMPLE> Contract
<Insert address>
Phone:
Fax:

Atrezzo Data Center located at IPR
1201 N. Market Street
Wilmington, DE
Phone: 877.543.4077

2.1.2 Information Systems

Atrezzo Care Management Application located at IPR Wilmington Facility

Failover at IPR Reading Facility

KePRO has contracted IPR International to host the Care Management Information Systems servicing the <SAMPLE> Contract. IPR offers a fully-managed production computing environment hosted at the IPR Wilmington Continuous Computing Center (CCC) interconnected with the managed Disaster Recovery (DR) environment at the IPR Reading Business Continuity Center (BCC) for failover.

Wilmington Facility

The following points detail the in-depth capabilities of the Wilmington facility hosting the KePRO Atrezzo Care Management Application:

- Fully-redundant in all areas (power, devices, logical data flows, application state)
- Three (3) tiers of security (External Firewalls, Adaptive Security Appliance [ACE] Load Balancers, Backend Firewalls)
- Dual Internet connections which can scale from 100 Megabits per second (Mbps) to 1 Gigabit per second (Gbps) - BGP (Border Gateway Patrol) routing allows these two connections to be balanced and distributed, both for performance and high-availability
- Support for 1 Gigabit Ethernet today with support for 10 Gigabit Ethernet (as required)
- Nexus 1000v Virtual Switch Architecture for delivering advanced switching services and management to the Virtual Server Infrastructure
- Network virtualization within the Adaptive Security Appliance (ASA) Firewalls and Adaptive Communication Environment (ACE) Load Balancers to allow both scale and isolation without the need to deploy multiple physical devices
- Foundation: Continuous monolithic slab poured on reinforced concrete footings
- Construction: Fireproof steel frame with steel beams and steel deck
- Fireproofing: Sprayed on Asbestos Free Fiber
- Floor Loading: 150lb./sq. foot live load
- Floor to Floor Height:14’-6”
- Ceilings: 2’ x 2’ Exposed “T” acoustical tile ceiling
- Stairwell: Two (2) fire stairs per floor enclosed in Fire Rated Tower
- 1500 Kilovolt Ampere (kVA) / 3,200 amps. and 2,500 kVA / 4,000 amps
- Voltage of feed delivery: 12,600
- Redundant Power Feed: Four (4) separate substations providing 2N redundancy
- Fiber Links: Three (3) separate entry points into building
- Cooling Redundancy: 2,000 tons available
- Flood Plain: 500-year flood plain

- Backup Generators: Four (4) permitted diesel generators at 1,750 (Kilowatts) kW each; 2,188 kVA
- Multiple carriers provide redundant entry points and routes into the building and across multiple states
- Redundant paths from each provider are geographically diverse and do not run along the same path
- Carrier-class routing equipment
- Providers are carrier neutral, access to any public Internet/private network provider
- levels of secure control
  - Guard station
  - Elevator code
  - Key card plus biometrics
  - Escort
- Closed circuit cameras throughout building
- Stairwell entrances protected by electric locks
- Two (2) Liebert wet battery systems. Each system is one (1) module redundant
- Capacity: • AP600 system has four (4) 300 kVA modules providing 900 kVA capacity with 300 kVA reserve power in case one (1) module fails
- AP500 system has four (4) 270 kVA modules providing 810 kVA capacity with 270 kVA reserve power in case one (1) module fails
- Critical Load Hours • 24 hours power backup - utility power only
- 20-minute battery backup at full load
- Extended backup on partial load or load shedding
- Two (2) new fully-redundant 150-ton modular chillers
- Two-pump redundancy - building system is fall back system
- 27 BOHN DX type self-contained water service units
- 20-80 ton chilling capacity
- Condenser water system cools two (2) building plate and frame heat exchangers
- Centrifugal fans blow through four (4) cells at 583 tons each
- Electric resistance heating from fan-powered Variable Air Volume (VAV) boxes located at perimeter
- Data Center heat exchangers
- 3,000 gallons per minute (GPM) primary flow
- 3,000 GPM secondary flow (total flow)
- Four (4) permitted diesel generators each with belly tank
- Fuel tanks as permitted by city code
- One (1) 6,000 Gallon
- One (1) 3,000 Gallon
- Exterior fuel-pumping station

Reading Facility

The following details key points regarding the IPR Reading Business Continuity Center (BCC), which serves as the disaster recovery facility for the KePRO Atrezzo Enterprise Care Management Application.

- Tier III+ data center - 37 feet underground built on a four (4)-foot thick floating slab. Base is clay.
- 110,000 sq. ft. of raised floor
- Green facility
- Heat recycling uses heat from raised floor areas to heat non-raised floor areas
- Capability to make slush to cool the water for the chillers
- Twenty-four (24)-inch raised floor built to load capacity of 300 lb./sq. ft., twenty-one (21) feet slab-to-slab clearance
- Workstations for 1,000
- Onsite cafeteria, showers, lockers
- Private airport with heliport, major highways, and public transportation
- Eighty-five (85) feet above 500-year flood plain
- Four (4) 300 ton Trane units
- Two (2) heat recovery systems
- N+1 redundant
- Water leak detection system
- Two (2) 15,000 gallon water tanks to act on stand-by
- Commercial water, along with backup water supply for cooling towers, plus underground pumps with wells
- 24 x 7 manned security command center
- Key card access
- Forty-five (45) closed circuit cameras
- Multiple carriers and last mile fiber providers for connectivity
- Redundant core routing for Internet
- Carrier-class routing equipment
- Seven (7) state redundant private fiber ring with access to more than sixty (60) cities
- N+1 redundancy of uninterruptible power supplies (UPS)
- Substation on power ring
- Automatic/parallel switch gear
- Dual power to each rack unit from independent Power Distribution Units (PDU)

- Redundant UPS
- Three (3) 500 kVA parallel units
- Full capacity: 20 minutes
- One hour @ 500 kVA
- Data Center generators
- Five (5) 2 megawatt generators
- One (1) 1.25 megawatt generators
- Two (2) 15,000 gallon fuel tanks
- Two (2) life safety generators (120 kW, 3,000 gallons each)

2.1.2.1 Server & Application Environment

KePRO contracts VMware virtual environments hosted at the IPR Wilmington site. KePRO has administrative control at the operating level and performs all management of operating systems and applicable applications.

Figure 2-2 Production/Development Environment Diagram details the system layout for <SAMPLE> Contract services.

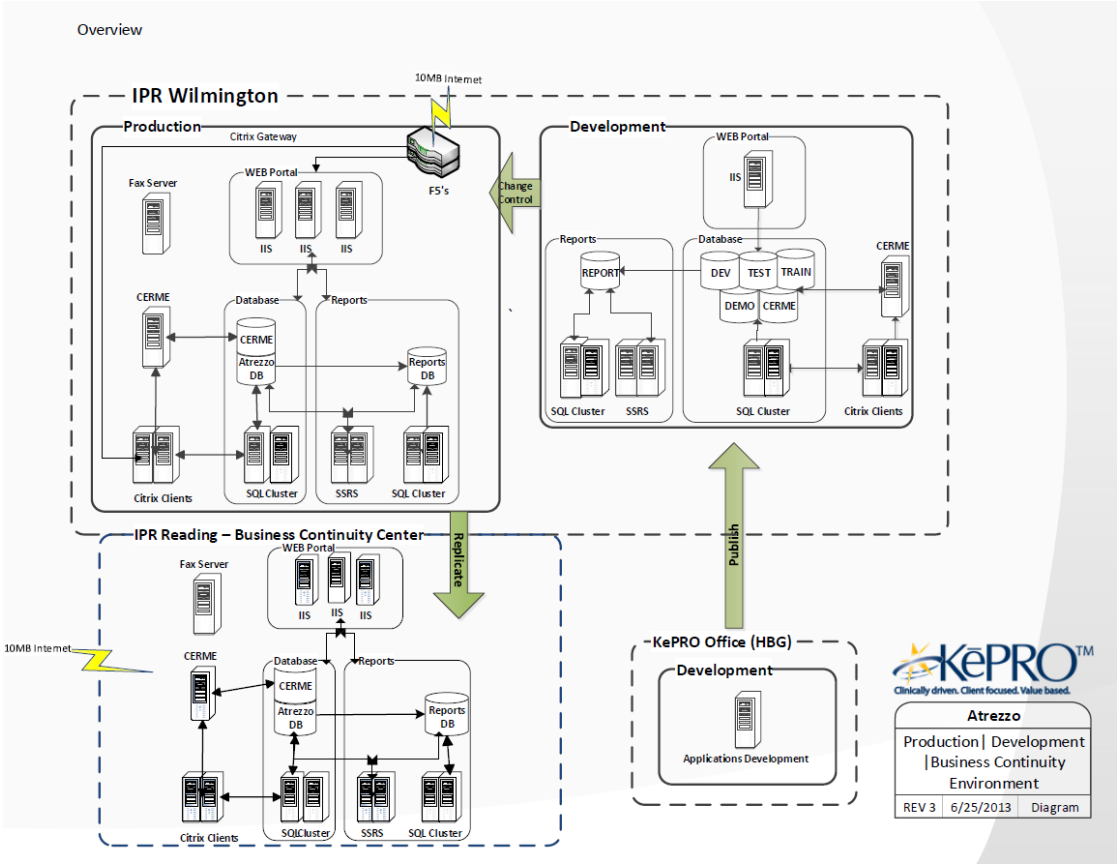

Figure 2-1: Production/Development Environment Diagram

2.1.2.2 Information System Contingency and Business Continuity Controls

The following table highlights some of the key features of the contingency and business continuity controls in-place for the Atrezzo Information Systems.

Overall Threat	Sub-threats	Controls in-place	Contingency Planning
Application Availability & Integrity	Site Failure: ■ Major disaster event	■ Systems hosted by Tier 3 Continuous Computing Center (CCC) with real time replication to alternate recovery site for DR protection.	In the event of a major disaster and CBCP plan being activated, KePRO has real-time replication of all Production systems to the KePRO alternate recovery site and has tested the resumption of business systems with the same access to services currently deployed.
Application Availability & Integrity	Provider Portal Failure ■ Hardware failure ■ Poor performance ■ Application errors ■ Provider case processing concerns	■ Load balanced web services for provider portal performance ■ Virtualized systems ■ Redundant Internet circuits for provider access ■ Application owned by KePRO ■ Clustered SQL services ■ Fifteen (15) minutes transaction log backups of database environments ■ Real-time system replication to alternate disaster recovery site ■ Development environment that matches the Production environment ■ Ability for faxes and phone calls to be short-term substitute for portal environment	In the event of disruption to the provider portal, KePRO has the following capabilities for contingency planning: ■ Hardware resources such as random access memory (RAM), disk space and processors can be added to alleviate any performance issues ■ Movement of systems to alternate virtualized systems transparently ■ Dynamic increase in bandwidth availability for provider access to portal ■ Team of developers to fix issues in the portal application. ■ Ability to failover database systems for patching and maintenance or in the event of a hardware failure ■ Restoration of systems from recovery point replicated data within 5-15 minutes of event
Overall Threat	**Sub-threats**	**Controls in-place**	**Contingency Planning**
Application Availability & Integrity	■ Application errors	■ Development environment	■ Application errors can be tested in the Development environment and pushed via change control to the Production environment to mitigate application errors.

Application Availability & Integrity	Client Application failure: ■ Hardware failure ■ Poor performance ■ Application errors ■ KePRO client application concerns	■ Client application running on virtualized Citrix environment to ensure satisfactory performance ■ Redundant paths available to access systems and can be configured if needed ■ Application owned by KePRO ■ Clustered database services ■ Replicated reporting services to ensure reports generation does not affect production processing ■ Real-time system replication to alternate disaster recovery site ■ Development environment that matches the Production environment	In the event of disruption to the client application, KePRO has the following capabilities for contingency planning: ■ Hardware resources such as RAM, disk space and processors can be added to alleviate any performance issues ■ Movement of systems to alternate virtualized systems transparently to end user ■ Dynamic increase in bandwidth availability for provider access to portal ■ Team of developers to fix issues in the client application ■ Ability to failover database systems for patching and maintenance or in the event of a hardware failure ■ Restoration of systems from recovery point replicated data within 5-15 minutes of event ■ Application errors can be tested in the Development environment and delivered to the Production environment for mitigation
Overall Threat	**Sub-threats**	**Controls in-place**	**Contingency Planning**
Application Availability & integrity	Fax Service failure	■ Multiple fax lines for fax receipt ■ Multiple fax solutions for redundancy ■ Vendor maintenance agreement	In the event of disruption to faxing, KePRO has the following capabilities for contingency planning: ■ Redirection of faxing to alternate fax solution ■ Ability to receive case information via phone and portal ■ Fax system is replicated to the Reading site and can be restored or operated from the Reading site

2.1.3 Critical Business Systems Processing

Care Management Platform:

- Manual entry of patient demographic and medical information into a Care Management Application where various medical reviews and determinations are completed.
- System outputs in the form of reports, letters and data file extracts.
- Access to system via web services and desktop applications for data entry, searching, case inquiries, and reporting.
- File transformation and data loads into Care Management System.

Communications:

- Call Center functionality that allows intelligent routing of calls and assistance to clients by KePRO staff. Call recording capabilities.
- Sending and receiving of electronic faxes.
- E-mail messaging.
- Secure data file transfers.
- Internet.

Data Repository:

- File Servers

2.2 Line of Succession

The KePRO management team identifies an order of succession to ensure that decision-making authority for this CBCP is uninterrupted. The KePRO Chief Information Officer (CIO) is responsible for ensuring the safety of personnel and the execution of procedures documented within this CBCP. If the KePRO CIO is unable to function as the overall authority or chooses to delegate this responsibility to a successor, the KePRO Chief Operating Officer (COO) functions as that authority.

2.3 Responsibilities

The following teams have been developed and trained to respond to a contingency event affecting KePRO <SAMPLE> Contract business operations.

The KePRO Recovery Response Team consists of the Chief Information Officer (CIO), the Contingency Planning Coordinator (CPC), the Damage Assessment and Recovery Team (DART), and the Data Owner (DO) responsible for recovery of the computer environment and all applications. Members of this team include personnel who are also responsible for the daily operations and maintenance of the business. The CIO directs the KePRO Recovery Response Team.

The relationships of the team leaders involved in the KePRO business recovery and their member teams are illustrated in Figure 2-2. All team members are KePRO employees.

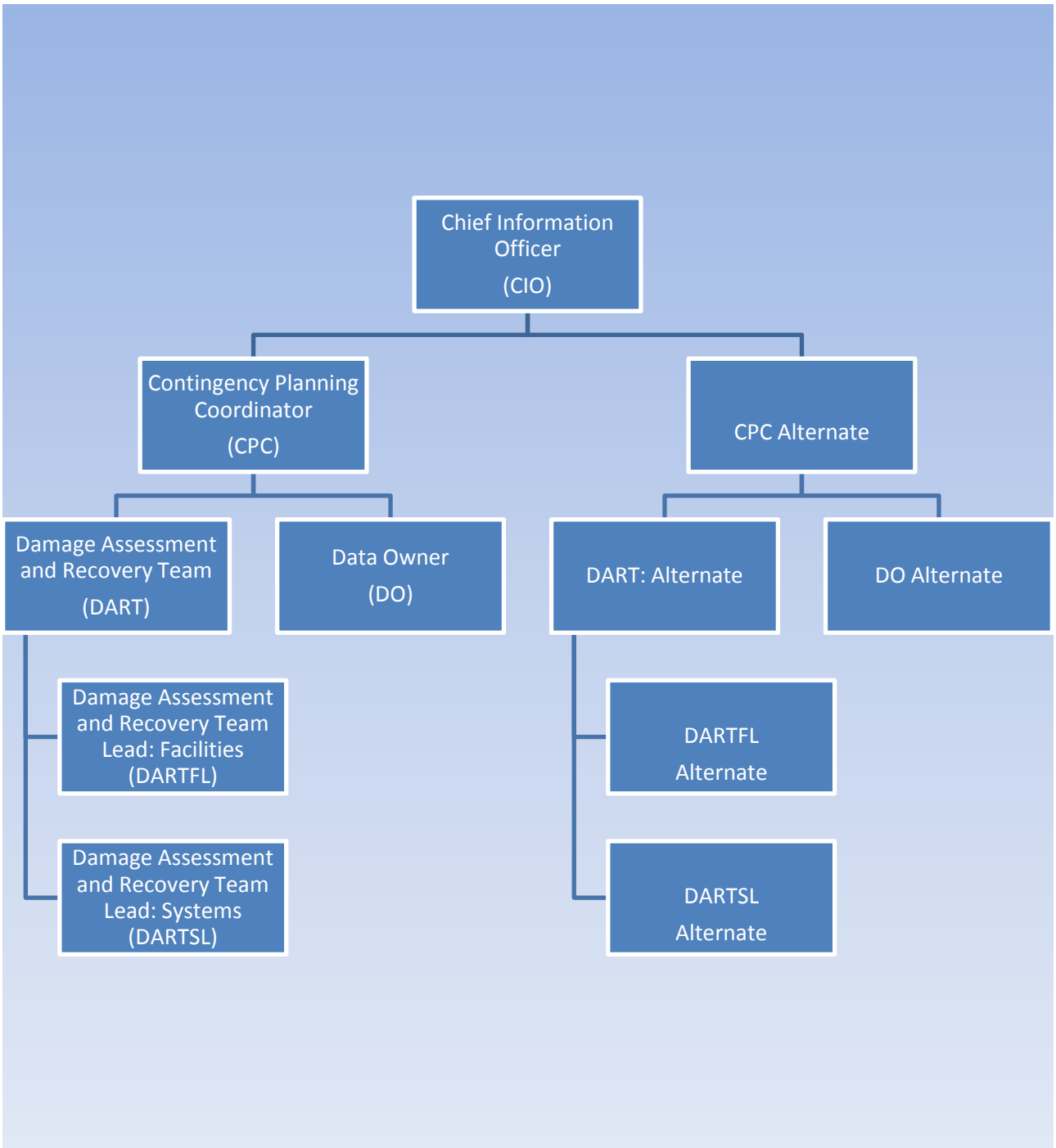

Figure 2-2: Recovery Response Team

Recovery Response Team responsibilities: Alternate positions assume the same responsibilities as associated positions.

- Chief Information Officer (CIO):

  The CIO has overall authority during recovery operations. The CIO liaises with KePRO Senior Management regarding all recovery activities that are performed and provides guidance to the recovery team as required.

- Contingency Planning Coordinator (CPC):

  The CIO functions as the CPC and is responsible for the initiation, monitoring, and reporting of all recovery operation tasks. The CPC activates the appropriate teams and serves as a conduit for all activities.

- Damage Assessment and Recovery Team (DART):

  The DART is made of two teams responsible for performing the initial and ongoing assessment and recovery of a Disaster Recovery (DR) event. The two team leads in the DART report to the CPC all known issues that affect the operations of the KePRO IS.

- DART Facilities Lead (FL):

  The DARTFL is responsible for the physical assessment and recovery of the site during a DR event. The DARTFL reports to the CPC.

- DART Systems Lead (SL):

  The DARTSL is responsible for the Information System assessment and recovery during a DR event. The DARTSL reports to the CPC.

- Data Owner (DO):

  The DO is responsible for communication with contract officers, coordinating staff work schedules, providing guidance relating to contract deliverables, and being the liaison/coordinator with end users during DR end-to-end user testing.

2.4 Threats

KePRO concentrates strategies and plans in this CBCB primarily upon the decision to activate the alternate site or to remain in the existing facility. This decision is determined by damage assessment procedures. This CBCP provides the procedures based on a decision to relocate some or all of the IS to the alternate site.

Minor events that do not require relocation of services to the alternate site are handled as needed by the recovery team but these minor event procedures are not the focus of this CBCP unless or until the decision to relocate to the alternate site is made. Some short-term strategies KePRO employs for minor events are included for completeness:

- Temporary Power Loss: KePRO sites are powered by backup generators that are used in the event of a power outage to maintain system uptime. The KePRO Management Team monitors downtime and works with building management to ensure a thorough

understanding of when power will be restored. KePRO management then adjusts employee work schedules to make up for lost time and productivity.

- Air Conditioning (AC) Failure: Additional fans and/or portable AC units are located in facilities or can be purchased to maintain adequate cooling for server or workroom conditions. Heating, ventilation, and air conditioning (HVAC) contractors are hired to resolve the air conditioning failure. KePRO management then adjusts employee work schedules to make up for lost time and productivity.
- Communications Loss: KePRO works with the communications provider for alternate circuit. KePRO coordinates manual documentation of processes that would normally necessitate a communications circuit. KePRO management then adjusts employee work schedules to make up for lost time and productivity.
- Inclement weather: KePRO assesses the employee capability of working within the office. KePRO works to provide remote access to employees as needed. KePRO management then adjusts employee work schedules to make up for lost time and productivity.
- Data Destruction: KePRO maintains daily backups of all critical data and exercises restoration of data as needed. KePRO maintains Service Level Agreements (SLA) for critical hardware within the IS to ensure recovery of single item failures. KePRO management then adjusts employee work schedules to make up for lost time and productivity.

2.4.1 Probable Threats

The table depicts the threats most likely to impact KePRO IS and components of KePRO and their management. The specific threats that are represented by (X) are considered the most likely to occur within the KePRO environment. These risks have been determined by the collective knowledge of the KePRO staff; past history of running IS operations; and the geographic locations of sites.

KePRO Risk Analysis Matrix	ATREZZO IPR Wilmington Location			<SAMPLE> Contract <SAMPLE> Location		
Probability of Occurrence:	High	Medium	Low	High	Medium	Low
Air Conditioning Failure			X		X	
Aircraft Accident			X			X
Blackmail			X			X
Bomb Threats			X			X
Chemical Spills/HazMat			X			X
Cold/Frost/Snow			X		X	
Communications Loss			X		X	
Data Destruction			X		X	
Earthquakes			X			X
Fire			X			X
Flooding/Water Damage			X			X
Nuclear Mishaps			X			X
Power Loss/Outage			X		X	
Sabotage/Terrorism			X			X
Storms/Hurricanes			X			X
Vandalism/Rioting			X			X

Table 2-1: KePRO Risk Analysis Matrix

3 NOTIFICATION AND ACTIVATION PHASE

This phase addresses the initial actions taken to detect and assess damage inflicted by a disruption to business operations. Based on the assessment of the event, the plan is activated by the CPC. The CPC role is held by the KePRO CIO. The form of notification during an event is dependent upon the IS capabilities but also entails one or all of the following: verbal face-to-face, verbal via telecommunications, messaging via e-mail, and/or KePRO corporate website updates.

NOTE: In an emergency, the top priority is to preserve the health and safety of staff before proceeding to the notification and activation procedures.

Contact information for key personnel is located in **Appendix B, Personnel Contact List**. The notification sequence is listed below.

3.1 Notification Procedure:

- The first responder notifies the CPC. All known information is relayed to the CPC.
- The CPC notifies or confirms that civil emergency personnel (for example, police, fire) have been notified.
- The CPC notifies the DART Leaders and the DO of the event. The DART Leaders begin assessment procedures of the facilities and the IS. The DO notifies designated points-of-contact (POC) for each company client.
- The DART Leaders notify team members and direct them to complete the assessment procedures outlined below to determine the extent of damage and estimated recovery time.

3.2 Damage Assessment Procedure:

- The DART follows this CBCP and provides a damage assessment report to the CPC.
- When the damage assessment has been completed, the DART Leaders notify the CPC of the results.
- The CPC evaluates the results and determines whether or not the CBCP is to be activated and if relocation is required.
- Based on assessment results, the CPC notifies civil emergency personnel (for example, police, fire) as appropriate.
- The CBCP is activated if one or more of the following criteria are met:
    1. The KePRO Atrezzo IS at the Wilmington location will be unavailable for more than 24 hours.
    2. The KePRO <SAMPLE> Contract facility is damaged and will be unavailable for more than 24 hours
    3. Approval is requested and/or received from the KePRO Chief Executive Officer (CEO) to activate this CBCP.
- If the plan is to be activated, the CPC notifies the DART Leaders and informs them of the details of the event, and if relocation is required.
- Upon notification from the CPC, DART Leaders notify their respective teams. Team members are informed of all applicable information and prepared to respond and relocate to the alternate site, if necessary.
- The CPC notifies remaining personnel either verbally, via e-mail, or via KePRO corporate website updates on the general status of the incident.

4 RECOVERY OPERATIONS

This section provides procedures for recovering KePRO <SAMPLE> Contract business operations at the alternate site, as well as efforts to repair damage to the original system and capabilities. Scenarios are detailed to show instances where consideration of recovery are at either IPR International or the KePRO Corporate Office, which also includes staff residential locations.

4.1 Scenarios

4.1.1 Scenario 1: CBCP Activated for Atrezzo Data Center (IPR Wilmington):

The following table shows critical business systems that need to be recovered and the site dependencies on these services:

Service location, site dependencies, and designated recovery site.

Critical Business System	<SAMPLE> Contract	Designated Recovery Site
Care Management		
■ Atrezzo Client (Citrix)	X	IPR Reading
■ CERME	X	IPR Reading
■ Provider Portal	X	IPR Reading
■ SQL DBMS	X	IPR Reading
■ Fax Services	X	IPR Reading

Table 4-1: Atrezzo Data Center CBCP Activation

4.1.2 KePRO Recovery Response Team Procedures:

The following procedures are for recovering critical business systems at the alternate site. Procedures are outlined per team required. Each procedure should be executed in the sequence in which it is presented to maintain efficient operations.

4.1.2.1 Recovery Steps:

- KePRO notifies IPR of CBCP activation.
- KePRO/IPR confirms and performs shut-down of any remaining services.
- IPR performs internal disaster recovery procedures to enable the Reading site:
    - Verifies system availability at Reading site.

    - Identifies latest recovery point and communicates information to KePRO.
    - Provides Internet Protocol Security (IPSec) client configuration to KePRO Systems Administrators for initial access to Reading information systems.
- KePRO Systems Administrators configure/perform:
    - DNS to Reading site for Citrix/portal systems
    - Site-to-site Virtual Private Network (VPN) to Harrisburg office for Active Directory (AD) authentication
    - Site-to-site VPN from <SAMPLE> to Reading for Citrix access
    - Configure cross-connect between Atrezzo Systems and centralized disk-based backup at Reading site
    - Data backups of restored systems
- Systems Validation: Systems Administrators and Operations user group
    - Access to the following systems:
        - SQL production database systems
        - Web portal Internet Information Services (IIS) servers
        - Citrix farm
        - Citrix client via the Internet
        - Citrix client via <SAMPLE> facility
        - Incoming faxes route to Atrezzo Systems
        - Outgoing faxes sent successfully
        - File Transfer Protocol (FTP) services
    - Data State: Operations group
        - Identify and confirm the data restore point
        - Identify and input missing data from faxes
- Restore user access

4.1.3 Return to Normal Operations

This section discusses activities necessary for restoring KePRO IS operations at the applicable KEPRO business office or a new site. When the computer center at the original or new site has been restored, IS operations at the alternate site are transitioned back. The goal is to provide a seamless transition of operations from the alternate site to the operating facility.

4.1.3.1 Restoration Steps:

- KePRO organizes system cut-over to original/new site with IPR and KePRO Operations

- KePRO disables access to Reading location
- KePRO performs data backup of information systems
- Systems replicated and restored to original/new site
- KePRO Systems Administrators configure/perform:
    - DNS to Wilmington site for Citrix /portal systems
    - Confirm site-to-site VPN to Harrisburg office for AD authentication
    - Confirm site–to-site VPN from <SAMPLE> to Reading for Citrix access
    - Remove cross-connect between Atrezzo Systems and centralized disk-based backup at Reading site
    - Perform data backups of restored systems
- Systems Validation: Systems Administrators and Operations user group
    - Access to the following systems:
        - SQL production database systems
        - Web portal/IIS servers
        - Citrix farm
        - Citrix client via the Internet
        - Citrix client via <SAMPLE> facility
        - Incoming faxes route to Atrezzo Systems
        - Outgoing faxes sent successfully
        - FTP services
    - Data State: Operations group
        - Identify and confirm the data restore point
        - Identify and input missing data from faxes
- Systems Administration group
    - Perform systems backup
- Go-live of services:
    - Enable access to information systems to all users

4.1.4 Scenario 2: CBCP Activated for <SAMPLE> Contract Facilities:

Service location, site dependencies and designated recovery site.

Critical Business Systems	<SAMPLE> Contract Services located in: <SAMPLE>	<SAMPLE> Contract Services located in: Harrisburg	Designated Recovery Site:
Communications			
■ Nortel PBX: ■ Toll Free lines ■ ACD ■ External Calling	 X X	 X 	Harrisburg
■ Engage Call Recording	X		Harrisburg
■ Voicemail		X	Harrisburg
■ Secure Data Transfer		X	Harrisburg
■ E-mail	X	X (outbound e-mail)	Harrisburg
■ Remote Access		X	Harrisburg
■ Internet	X		Harrisburg
Data Repository			
■ File Server	X		Harrisburg

Table 4-2: <SAMPLE> CBCP Activation

4.1.5 KePRO Recovery Response Team Procedures:

The following procedures are for recovering critical business systems at the alternate site. Procedures are outlined per team required. Each procedure should be executed in the sequence in which it is presented to maintain efficient operations.

4.1.6 Recovery Steps:

4.1.6.1 Atrezzo Information Systems:

- KePRO Operations organizes <SAMPLE> Contract employees to work from home or travel to corporate office.
- KePRO Systems Administrators configure/perform:
    - Setup of <SAMPLE> employees for work from home access to Atrezzo Systems

4.1.6.2 Communications:

- Telecom: Telecom Systems Administrator performs the following:
    - Create specified Direct Inward Dialing (DID) numbers within the Harrisburg Private Branch Exchange (PBX) that would route to the <SAMPLE> call flow and the Xmedius fax server.
    - Contact the telephone company/carriers (Paetec/TNCI) to remote call-forward the published <SAMPLE> Call Center and fax toll-free hotline phone numbers to these specified DID numbers located in the KePRO Harrisburg office.
    - Build soft phones for <SAMPLE> Call Center staff within the Harrisburg PBX and pass the telephone number (TN) information to the KePRO Service Desk to remotely assist the Call Center staff to install a VPN client and the soft phone client on the Call Center agent home computer. These agents would then use computer-connected headsets for the soft phones.
    - If applicable, program additional phone sets within the Harrisburg office to handle <SAMPLE> Call Center staff that may travel to Harrisburg to work.
    - Add the entire soft phone Automatic Call Distribution Numbers (ACDN) and DIDs for the Call Center staff working remotely and within the Harrisburg office (if applicable) to the Harrisburg Telstrat Engage Server for phone call recording functionality.
    - Add all the soft phones and additional phones utilized within the Harrisburg office (if applicable) to the Contact Center ACD System.
- E-mail: Systems Administrators perform the following:
    - Restoration of Exchange Server to Harrisburg from disk-based backups.
- Internet:
    - <SAMPLE> Contract employees utilize residential or corporate Internet services.

4.1.6.3 Data Repository:

- File Servers: Systems Administrators perform the following:
  - Restore data from disk-based backups to corporate Storage Area Network (SAN).
  - Grant access to restored folders.

4.1.7 Return to Normal Operations

This section discusses activities necessary for restoring KePRO IS operations at the applicable KEPRO business office or a new site. When the computer center at the original or new site has been restored, IS operations at the alternate site are transitioned back. The goal is to provide a seamless transition of operations from the alternate site to the operating facility.

4.1.8 Restoration Steps:

KePRO Recovery Response Team procedures:

- Organize timeframe for cut-over from alternate site to the original/new site
  - Setup operating environment at original/new site
  - Configure networking equipment
    - Patch panels
    - Workstation cabling
    - Server cabinets
    - Routers
      - Internet router
      - Management router
    - Firewall
    - Web content filter
    - Switches
    - Configure Internet/remote access
    - If new site, turn-up circuits – T1
    - If new site, configure DNS to new IP address range
    - Configure secure remote access clients
- Shut-down systems at alternate site:
  - Perform snapshot backups of all business systems
  - Transport equipment to original/new site
- Install and power up equipment
- Test system
  - Arrange user system testing

    - End-to-end test of system functionality meets business requirements
- Restore user access

APPENDIX A ACRONYM LIST

ACRONYM	TERM
AC	Air Conditioning
ASA	Adaptive Security Appliance
BCC	Business Continuity Center
BGP	Border Gateway Patrol
BIA	Business Impact Analysis
CCC	Continuous Computing Center
CEO	Chief Executive Officer
CIO	Chief Information Officer
COO	Chief Operating Officer
CPC	Contingency Planning Coordinator
CBCP	Contingency and Business Continuity Plan
CERME	Care Enhanced Review Manager
CPU	Central Processing Unit
DART	Disaster Assessment and Recovery Team
DARTSL	Disaster Recovery and Assessment Team: Systems Lead
DARTFL	Disaster Recovery and Assessment Team: Facilities Lead
DO	Data Owner
DNS	Domain Naming System
DR	Disaster Recovery
E-mail	Electronic Mail

ACRONYM	TERM
Gbps	Gigabits Per Second
HVAC	Heating, Ventilation, and Air Conditioning
IP	Internet Protocol
IPR	Information Protection and Recovery
IS	Information System
ITS	Information Technology Services
KBIZ	KePRO Business Intelligence Zone (Intranet)
KePRO	Keystone Peer Review Organization
Mbps	Megabits Per Second
N/A	Not applicable
NIST	National Institute of Standards and Technology
OS	Operating System
PDF	Portable Document File
PHI	Protected Health Information
POC	Point of Contact
SA	Systems Administrator
SQL	Structured Query Language
UPS	Uninterruptible Power Supply
VHD	Virtual Hard Disk

CONTINGENCY AND BUSINESS CONTINUITY PLAN
APPENDIX B - G

The following appendices are included based on system and plan requirements:

Appendix B - Personnel Contact List

Appendix C - Vendor/Customer Contact List

Appendix D - Equipment and Specifications

Appendix E - Contracts and/or Agreements

Appendix F - Business Impact Analysis

APPENDIX B PERSONNEL CONTACT LIST

KePRO Personnel Contact List			
Title	Point of Contact (POC)	Phone No. (s) Work (W): Mobile (M):	E-mail
Contingency Plan Coordinator			
Contingency Plan Coordinator Alternate			
Damage Assessment and Recovery Team: Systems Lead			
Damage Assessment and Recovery Team: Systems Lead Alternate			
Damage Assessment and Recovery Team: Facilities Lead			
Damage Assessment and Recovery Team: Facilities Lead Alternate			
Data Owner			
Data Owner Alternate			
<SAMPLE> Client Contact			
<SAMPLE> IT Contact			

Table B-1: Personnel Contact List

APPENDIX C VENDOR/CUSTOMER CONTACT LIST

Table C-1: Vendor/Customer Contact List

KePRO Vendor/Customer Contact List			
Title	POC	Phone No. (s) Work (W): Mobile (M):	E-mail (s) Work (W): Alternate (A):
Grouper Software 3M Health Information Systems 12215 Plum Orchard Drive, Silver Spring, Maryland 20904	William D. Thomas	W: 717.625.4960 M: 717.271.9226	W: wdthomas@mmm.com A: N/A
UPS APC 132 Fairgrounds Road W. Kingston , Rhode Island 02892	Support	W: 800.555.2725 M: N/A	W: N/A A: N/A
Telecomm Circuits ARG 7926 Jones Branch Drive, Suite 1150, McLean, Virginia 22102	Justin Praske	W: 703.770.2430 M: N/A	W: jpraske@myarg.com A: N/A
Software CheckPoint	Support	W: 888.361.5030 M: N/A	W: N/A A: N/A
Networking Equipment Cisco	Support	W: 800.553.2447 M: N/A	W: N/A A: N/A
Bulk Cabling Cumberland Electronics 2501 Sycamore Street Harrisburg, Pennsylvania 17111-1003	Sales	W: 717.232.9715 M: N/A	W: N/A A: N/A
Networking Equipment Dell	Support	W: 877.671.3355 M: N/A	W: N/A A: N/A
Networking Equipment Dynamic Computer Corporation 23400 Industrial Park Court Farmington Hills, Michigan 48335	Heather McKenna	W: 248.473.2200 x 108 M: N/A	W: hmckenna@dcc-online.com A: N/A
Network Cabling I.B. Abel 620 S. Edgar St. York, Pennsylvania 17403	Mike Costella	W: 717.845.1639 M: 717-577-5595	W: mcostella@ib-abel.com A: N/A
DR Site IPR International 2561 Reading Road, Reading, Pennsylvania 19506	Jim Walsh	W: 484 533 6828 M: 484 302 1112	W: jim.walsh@iprintl.com A: N/A

KePRO Vendor/Customer Contact List			
Title	POC	Phone No. (s) Work (W): Mobile (M):	E-mail (s) Work (W): Alternate (A):
Software Controls Infragistics	Support	W: 800.231.8588 M: N/A	W: N/A A: N/A
Printers Lexmark	Support	W: 800.539.6275 M: N/A	W: N/A A: N/A
InterQual Software McKesson Health Solutions	Sales	W: 800.742.1334 M: N/A	W: N/A A: N/A
Software Microsoft	Support	W: 800.642.7676 M: N/A	W: N/A A: N/A
IT Staffing Peak Solutions	Keith Einig	W: 717.737.0369 M: 717.329.1650	W: keith.einig@peaksolutions.com A: N/A
Networking Equipment Premier Technical Services 312 East Main Street Luray, Virginia 22835-2030	Mike Lam	W: 540.743.5700 M: 540.830.0210	W: mike.lam@pts-usa.com A: N/A
IT Staffing RemX 455 S. Gulph Road, King of Prussia, Pennsylvania 19406	George Barr	W: 610.491.9335 M: 610.491.9223	W: gbarr@remxit.com A: N/A

KePRO Vendor/Customer Contact List			
Title	POC	Phone No. (s) Work (W): Mobile (M):	E-mail (s) Work (W): Alternate (A):
Document Shredding SHRED-IT	Operations	W: 877.607.4733 M: N/A	W: N/A A: N/A
Telephone Systems Shared Technologies 2550 Eisenhower Avenue Suite 200A Norristown , Pennsylvania 19403	Chris Quinn	W: 610.650.6804 A: N/A	W: christopher.quinn@sharedtechnologies.com A: N/A

APPENDIX D EQUIPMENT AND SPECIFICATIONS

See KePRO software/inventory list located on KePRO Business Intelligence Zone (KBIZ).

APPENDIX E CONTRACTS AND/OR AGREEMENTS

- Dell ProSupport for IT On-Site Response with Mission Critical Enhanced Service
  - http://www.dell.com/downloads/global/services/Global%20English%20ProSupport%20for%20IT%20Service%20Description%20Version%204.pdf
- Dell Basic Hardware support: Next Business Day
  - http://www.dell.com/downloads/global/services/Dell_Global_Basic_HW_Service_Rev%203.1_US_English.pdf
- Cisco 24x7x4 Support Contract

Contact Information:

Dell: 877.671.3355

Cisco: 800.GO.CISCO

APPENDIX F BUSINESS IMPACT ANALYSIS

<SAMPLE> Contract Services
<insert address>
Phone:
IS Details:
In-office users:
Remote users:
Servers:
Workstations:
Switches:

Atrezzo Data Center located at IPR
1201 N. Market Street
Wilmington, DE

IS Details:

Servers: 13 (VMware virtual Hosts)

The KePRO <SAMPLE> Contract office relies on KePRO Information Systems (IS) and components for standard automated processes, such as Care Management processing, telecommunications, secure file transfers, reporting, electronic mail (e-mail), Internet, and remote access. The KePRO CPC is responsible for developing the KePRO IS contingency plan which begins with the Business Impact Analysis (BIA).

KePRO IS Stakeholders are:

- CEO
- CIO
- CFO
- Director of Security and Service Management
- Infrastructure Manager
- Facility Manager
- IS Users
- Systems Administrators (SA)
- KePRO Management

The CPC details the following information regarding KePRO business systems:

- The Care Management Applications are required to support KePRO contract requirements; the systems provide review and reporting capabilities that are required per contract deliverables to our clients. If the systems were unavailable for more than

24 hours, significant business impacts would result in producing contract deliverable reviews and reports. The <SAMPLE> Contract needs to access the Atrezzo Care Management Application identified in these plans to preserve business continuity following a disaster.

  - Outputs from the Care Management Applications are in the form of reports and letters that are generated on a daily, weekly, monthly, semi-annual, and annual basis.
  - Review and reports could be generated as hard copies until full functionality is restored to the IS in the event of a disaster.
  - KePRO onsite assessment teams at client locations, as well as KePRO sub-contractors could continue working independently offsite until systems are restored either onsite or at the alternate site.

- Communications is an essential service; however, business continuity is not severely affected when these services are unavailable for up to **24** hours.
- Some minor services such as supporting servers, workstations, notebooks, and printing are an essential service; however, business continuity is not severely affected when these services are unavailable for up to **48** hours.

Based on the information gathered in discussions with stakeholders, the CPC follows the three-step BIA process to identify required IS resources, identify outage impacts and allowable outage times, and develop recovery priorities.

Identify Required IT Resources

The CPC has identified the following resources as required, meaning that they support business processes:

- Atrezzo Data Center services
- Workstations/Notebooks
- Network Devices
- Internet Access
- Printers
- Network Cabling
- Electric Power
- HVAC
- Physical Security
- Facility

Identify Outage Impacts and Allowable Outage Times

The following are allowable outage times for the required resources:

Device Role	Business Function	Outage Impact	Allowable Outage Time
Business Information Systems.	Care Management, E-mail, File Services, Telco	Interruption to: Care Management, Communications, data repository.	24 hours
Internet Access	Connectivity to Care Management application	Unable to process case reviews.	24 hours
Business Critical Workstations and Notebooks	End user computer	No Access to Care Management application.	24 hours
Network Devices	Routers and switches used to provide IS connectivity and access to resources and backup of IS data	No Access to Care Management application and no backup of IS data.	24 hours
Network Cabling	Physically connects IS devices	No Access to Care Management application.	24 hours
Electric Power	Powers IS devices	No Access to Care Management application.	24 hours
HVAC	Provides cooling and heating for IS	Equipment malfunction. Employee absence. No Access to Care Management application.	24 hours
Physical Security	Provides a secure environment for the IS	Employees unable to work within site	24 hours
Facility	Houses IS/employees	Employees unable to work within site.	24 hours

Remaining Servers	Anti-virus, Development, Imaging, Printing.	No anti-virus updates, no development of application, no printing.	48 hours
Remaining Workstations and Notebooks	End user computer	Access to Care Management application.	48 hours
Printers	End user print device	Printing not available – letters and reports unable to be printed.	48 hours

Table F-1: Outage Impacts and Allowable Outage Times

Develop Recovery Priorities

Critical Resources	Recovery Priority
Atrezzo IPR Data Center	CAT I
Communications ■ Telecom ■ Email ■ Secure File Transfers ■ Internet	CAT I
Data repository	CAT I
Printers	CAT II
Workstations/Notebooks	CAT II
Network Devices	CAT II
Network Cabling	CAT II
Electric Power	CAT II
HVAC	CAT II
Physical Security	CAT II
Facility	CAT II
Remaining Servers	CAT II
Remaining Workstations/Notebooks	CAT II

Table F-2: Resource Recovery Priorities

Preliminary Systems Information

Site/Program Office Name: KePRO <SAMPLE> Contract	Date BIA Completed: 4/16/2012
IS Name: KePRO IS	BIA POC:
System/IS Manager POC:	

KePRO is a leading quality improvement and care management organization and offers innovative and outcomes-focused solutions to reduce the utilization of health care resources and optimize quality of care for public and commercial clients. KePRO is URAC accredited in both health utilization management and case management. KePRO operates out of several locations in various states of the United States. The following locations are covered by this CBCP:

<SAMPLE> Contract
<insert address>
Phone:
IS Details
In-office users:
Remote users:
Servers:
Workstations:
Switches:

Care Management Platform:

Manual entry of patient demographic and medical information into the Atrezzo Care Management Application where various medical reviews and determinations are completed. System outputs in the form of reports, letters, and data file extracts. Access to system via web services and desktop applications for data entry, searching, case inquires, and reporting.

File transformation and data loads into Care Management System

Communications:

- Call center functionality that allows intelligent routing of calls and assistance to clients by KePRO staff.
- Call recording capabilities.
- Sending and receiving of electronic faxes.
- E-mail messaging.
- Secure data file transfers.

Data Repository:

File Servers.

A. Identify System POCs	Role
Internal:	
• CIO • COO • Security and Database • Medical Physician Review • IT Administration • Developers/Programmers • KePRO staff	• CIO/CPC • Data Owner • Security and Service Management • Medical Director • Infrastructure • Applications • Operations/Department Services
External:	
• IPR • Dell • Cisco • SoPHOS	Atrezzo IPR data center disaster recovery Hardware support Hardware support Anti-virus software support
B. Identify System Resources	
Hardware • VMware Virtual Hosts • Dell PowerEdge Servers • Cisco Switches • Cisco Routers • Dell Optiplex Workstations • Dell Latitude Notebooks • Lexmark Printers • Cisco ASA Firewalls • Avamar Disk Based Backup Devices • EMC SANs • SoPHOS e-mail and web content filtering	
Software • Microsoft Windows 2008 R2/ 2003 SP2/ • Microsoft Windows 7/XP	

- Microsoft Office 2007
- Adobe Acrobat Reader
- SoPHOS Anti-virus
- Care Management Applications
- McKesson Interqual CERME 10.0
- SoPHOS Full Disk Encryption
- Microsoft Visio 2007
- Microsoft Project 2007
- Visual Studio 2010
- Microsoft Structured Query Language (SQL) Server 2008 R2 Enterprise

C. Identify critical roles, resources, outage impacts, and allowable outage times			
Critical Roles	**Resource**	**Outage Impact**	**Maximum Allowable Downtime**
KePRO Staff	Facility	Access to IS	24 hours
KePRO Staff	Care Management Platform Communications Data Repositories	Inputs/Outputs unavailable	24 hours
Dell	Server/Workstation Hardware	Access to IS	24 hours
Cisco	Network Devices	Access to IS	24 hours
Developers	All IS hardware and software	Access to IS	48 hours

D. Prioritize resource recovery	
Resource	**Recovery Priority**
Atrezzo IPR data center	CAT I
Communications	CAT I
Data Repository	CAT I
Server Hardware	CAT II
Network Devices	CAT II
Remote Access to Corporate services	CAT III