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Title

Systems and Methods for Providing a Business Continuity Service

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SYSTEMS AND METHODS FOR PROVIDING A BUSINESS CONTINUITY SERVICE

Field of the Invention

The present invention generally relates to business and workforce continuity services. In particular, the present invention relates to systems and methods for providing an end-to-end information system solution for business continuity and workforce displacement services.

Background of the Invention

Business continuity planning has long been thought of simply having to deal with events such as data loss, physical damage to electronic information, data center outages and so on. As companies implement and test its plans to deal with data destruction, another aspect to business disruption gets highlighted - that is workforce disruption. Businesses today have unstructured and often unsophisticated approaches to dealing with business disruptions such as weather related events, terrorist attacks, wide spread flu, traffic related disruptions etc. Many times, plans to deal with workforce disruption end with documents, but no tools or products to enforce the plans.

Prior solutions have been mostly random concoctions implemented directly by the executive staff of a specific person in charge of business continuity at a company. These solutions have actually largely focused on data recovery and information related disaster events – but very little if any on workforce disruption. Many existing technologies like virtual private networks (VPN) and distributing laptops have been used to cope with workers not being able to physically be at their place of work. But as discussed above, that is only a partial solution. Further it is not feasible to provision laptops and VPN for your entire workforce before hand – nor is that a tractable or scalable solution.

It would, therefore, be desirable to provide systems and methods for providing a business and workforce continuity end-to-end information technology solution.

Brief Summary of the Invention

The systems and methods describe herein provides a business continuity management (BCM) solution for helping companies cope through a workforce disruption. The BCM solution enables emergency communications to employees with corporate policies and

instructions, allows employees in various groups to communicate with each other via voice and chat messaging , and connects employees to their applications, their data and their desktops – all from any anonymous computer – without compromising corporate security policies. The BCM system also provides employees and management visibility into the workforce disruption crisis and allows management to access the situation and make and communicate decisions to the workforce.

The systems and methods described herein provide ad-hoc and simple to deploy BCM solution that manages and covers the three aspects needed for a workforce continuity solution: 1) application access in any form from any computer, 2) emergency communication and alerts via any communication medium, such as Short Message Service (SMS), email, voice, and 3) employee collaborations tailored to the disruption event.

The details of various embodiments of the invention are set forth in the accompanying drawings and the description below.

Brief Description of the Figures

The foregoing and other objects, aspects, features, and advantages of the invention will become more apparent and better understood by referring to the following description taken in conjunction with the accompanying drawings, in which:

FIG. 1A is a block diagram of an embodiment of a network environment for a deployment of a business continuity and workforce displacement system;

FIG. 1B is a block diagram of an embodiment of a data center environment for a deployment of a business continuity and workforce displacement system;

FIG. 1C is a block diagram of an embodiment of a voice integration architecture and environment;

FIGs. 1D and 1E are block diagrams of embodiments of a computing device;

FIG. 2A is a block diagram of an embodiment of an emergency communication forwarding scenario using insertion of a business continuity service in a coverage path;

FIG. 2B is a block diagram of an embodiment of a system to implement call forwarding using an appliance to bridge the calls;

FIG. 2C is a block diagram of another embodiment of a system to implement call forwarding using an appliance to bridge the call;

FIG. 2D is a block diagram of another embodiment of a system to implement call forwarding using Voice over Internet Protocol (VoIP) termination;

FIG. 2E is a block diagram of an embodiment of a system to implement a click-to-call communication;

FIG. 2F is a block diagram of an embodiment of a system to handle outbound communications;

FIG. 3 is a block diagram of an embodiment of an appliance providing business and workforce continuity services;

FIG. 4A is a pictorial diagram representing an embodiment of a Universal Serial Bus (USB) device for providing software and services related to business and workforce continuity;

FIG. 4B is a flow diagram depicted an embodiment of a method for setting up and provisioning a USB device, such as the device depicted in FIG. 4A;

FIG. 4C is a flow diagram depicted an embodiment of a method for using a USB device, such as the device depicted in FIG. 4A;

FIG. 5A is a pictorial diagram representing an embodiment of the type of users of the business and workforce continuity solution described herein;

FIG. 5B is a pictorial diagram representing an embodiment of a user workflow architecture;

FIG. 5C is a pictorial diagram representing an embodiment of a user interface for creating an emergency scenario;

FIG. 5D is a pictorial diagram representing an embodiment of a user interface for a manager to approve an emergency scenario;

FIG. 5E is a pictorial diagram representing an embodiment of a USB device or stick for a user to use in case of emergency;

FIG. 5F is a pictorial diagram representing an embodiment of a user interface for testing an emergency scenario;

FIG. 5G is a pictorial diagram representing an embodiment of a user interface for activating an emergency;

FIG. 5H is a pictorial diagram representing an embodiment of a user interface for notification of an employee or user;

FIG. 5I is a pictorial diagram representing an embodiment of a user interface providing an employee communication center;

FIG. 5J is a pictorial diagram representing an embodiment of a user interface providing information for a roll call;

FIG. 5K is a pictorial diagram representing an embodiment of a user interface providing an employee workplace;

FIG. 5L is a pictorial diagram representing an embodiment of a user interface allowing users to collaborate for resources;

FIG. 5M is a pictorial diagram representing an embodiment of a user interface allowing users to communicate with peers;

FIG. 5N is a pictorial diagram representing an embodiment of a user interface allowing users to access a computing environment providing access to applications and data;

FIG. 6A is a pictorial diagram representing embodiments of user interfaces for the user's side bar;

FIG. 6B is a pictorial diagram representing other embodiments of user interfaces for the user's side bar;

FIG. 7A is a pictorial diagram representing embodiments of user interfaces for startup screens for the USB device;

FIG. 7B is a pictorial diagram representing other embodiments of user interfaces for startup screens for the USB device; and

FIG. 7C is a pictorial diagram representing additional embodiments of user interfaces for startup screens for the USB device.

The features and advantages of the present invention will become more apparent from the detailed description set forth below when taken in conjunction with the drawings.

Detailed Description of the Invention

FIG. 1A depicts an embodiment of a system for providing business and workforce continuity services and methods. For example, the business and workforce continuity services described herein may be deployed in a corporate enterprise, such as part of a corporate network environment. In brief overview, the system includes a computing device 100, sometimes referred to as a client, and a telecommunications device 100' in communication with a workforce continuity (WFC) gateway 192, which provides access to a workforce continuity (WFC) server 194. The system includes a communication server 196, a media gateway 198, and one or more databases 185. The system also includes a computer telephone integration device or software 188, a private branch exchange 186 and a phone 182, a short

messaging service (SMS) or system 184, and a remote access and computer remote control software or service 182.

The WFC gateway 192 includes any type and form of gateway, device, appliance or interface unit to provide access to the WFC server 194. In one embodiment, the WFC gateway 192 provides a virtual private network (VPN) connection to a computing device 100. In some embodiments, the WFC gateway 192 provides a Secure Socket Layer (SSL) VPN connection to a computing device 100. In other embodiments, the WFC gateway 192 provides an IPsec based VPN connection. In some embodiments, the WFC gateway 192 provides one or more of the following services, functionality or operations: SSL VPN connectivity, switching/load balancing, Domain Name Service resolution, acceleration and an application firewall for communications between one or more clients and one or more servers. In some embodiments, the WFC gateway 192 performs any one or more of the following acceleration techniques: 1) compression; 2) decompression; 3) Transmission Control Protocol pooling; 4) Transmission Control Protocol multiplexing; 5) Transmission Control Protocol buffering; and 6) caching. In one embodiment, the WFC gateway 192 provides LAN acceleration. In other embodiments, the WFC gateway 192 provides WAN acceleration.

In some embodiments, the WFC gateway 192 comprises any of the gateway or appliances manufactured by Citrix Systems, Inc. of Ft. Lauderdale, Florida. In one embodiment, the WFC gateway 192 comprises any of the following Citrix Access Gateway line of appliances: Access Gateway Standard Edition, Access Gateway Advanced Edition, Access Gateway Enterprise Edition. In another embodiment, the WFC Gateway 192 comprises the Citrix Application Firewall functionality or device. In other embodiments, the WFC Gateway 192 comprises any of the Citrix models of NETscaler appliances. In yet another embodiment, the WFC Gateway 192 comprises any of the Citrix models of WANscaler appliances.

The WFC server 194 comprises any type of server, appliance, or computing device for providing any portion of the services, functionality, operation, logic and/or integration of the business and workforce continuity services and functionality described herein. In one embodiment, the WFC server 194 comprises a web server. In another embodiment, the WFC server 194 comprises an HTTP (HyperText Transfer Protocol) server. In some embodiments, the WFC server 194 provides a web based user interface for accessing the functionality and operations of the services described herein. In one embodiment, the WFC server 194 provides a portal web-site or service. The WFC server 194 comprises one or more

applications, programs, libraries, services, processes, tasks or set of executable instructions providing the logic, functionality and operations of the business and workforce continuity services described herein. For example, in one embodiment, the WFC server 194 comprises any type of workflow or logic engine for handling operations of the system.

In one embodiment, the WFC server 194 comprises any type and form of application delivery system. In some embodiments, the application delivery system comprises any portion of the Citrix Access Suite™ by Citrix Systems, Inc., such as the MetaFrame or Citrix Presentation Server™ and/or any of the Microsoft● Windows Terminal Services manufactured by the Microsoft Corporation. In one embodiment, the application delivery system may deliver one or more applications to or users via a remote-display protocol or otherwise via remote-based or server-based computing. In another embodiment, the application delivery system may deliver one or more applications to clients or users via streaming of the application.

In one embodiment, the WFC gateway 192 and/or WFC server 194 includes a policy engine for controlling and managing the access to, selection of application execution methods and the delivery of applications. In some embodiments, the policy engine determines the one or more applications a user or client may access. In another embodiment, the policy engine determines how the application should be delivered to the user or client, e.g., the method of execution. In some embodiments, the application delivery system provides a plurality of delivery techniques from which to select a method of application execution, such as a server-based computing, streaming or delivering the application locally to a client for local execution.

The WFC server 194 may interface, comprise or otherwise use one or more databases 185 to store configuration, data or information. The database 185 may comprise any type and form of database, such as SQL Server manufactured by the Microsoft Corporation of Redmond, Washington or an Oracle database manufactured by Oracle Corporation of Redwood Shores, California. In other embodiment, the database 185 comprises an object database. In another embodiment, the database 185 comprises a file system or one or more files. In some embodiment, the database 185 stores information or data identifying contact information and methods of communication for one or more users of the workforce continuity server 194.

The communication server 196 provides one or more types of communication services via email, SMS, instant messaging (IM), Voice over Internet Protocol (VoIP) or any other form of telecommunications and communication mediums and means. In one

embodiment, the communication server 196 comprises Live Communications Server manufactured by the Microsoft Corporation. In this embodiment, the communication server 196 provides tools necessary to connect users to public instant messaging (IM) Internet service providers, such as MSN, AOL, and Yahoo!. Using Microsoft Office Communicator manufactured by the Microsoft Corporation , the Live Communications Server enabled users who are licensed for public IM connectivity, can add contacts, send instant messages, and share presence information with users of MSN Messenger, AOL Instant Messenger (AIM) and Yahoo! Messenger. In one embodiment, the computing device 100 or telecommunication device 100' comprises the Microsoft Office Communicator.

In some embodiment, the communication server 196 provides any of the following: 1) search for contacts easily using an Address Book Service. This allows users to search for others via their corporate global address list (GAL), as well as local address information on their computer, 2) Integrate with Microsoft Office Outlook and Microsoft Exchange Server to let users view other contacts' free/busy information from their schedule, as well as display their 'Out of Office' messages directly in Microsoft Office Communicator, 3) extend presence, including the ability to allow users to set 'custom notes', to provide more rich information to other contacts, enabling them to make more informed decisions on how to interact, 4) Control enterprise phones directly from a computing device 100. With the appropriate private branch exchange (PBX) or public switched telephone network (PSTN) gateway infrastructure in place, Microsoft Office Communicator provides integration with enterprise telephony systems, allowing the user to initiate calls and even divert calls to a remote location when they are not at their desk, and 5) Initiate conference calls with partner service providers directly from Microsoft Office Communicator making it easier for information workers to communicate with others.

The media gateway 198 comprises any type and form of server, gateway, device or appliance for communicating, translating or interfacing between disparate telecommunications networks. In one embodiment, a media gateway provides an interface between a first type of telecommunication network and a second type of telecommunication network. In another embodiment, a media gateway provides an interface between a first type of telecommunication protocol and a second type of telecommunication. In some embodiments, the media gateway converts between the different transmission and coding techniques of the telecommunication networks. In one embodiment, the media gateway comprises a Voice over Internet Protocol (VoIP) media gateway. In some embodiments, the media gateway performs the conversion between Time Division Multiplexing (TDM) voice

to VoIP. In yet another embodiment, the media gateway comprises a signaling gateway. In some embodiments, a Signaling Gateway is a network component for translating signaling messages (e.g.,. information about call establishment and teardown) between one medium (e.g., Internet Protocol and another (PSTN). For example, a signaling gateway might translate between ISUP (ISDN User Part) and Session Initiation Protocol (SIP). In one embodiment, the media gateway may comprises a SMS gateway.

In one embodiment, the gateway 192, WFC server 196 or media gateway provides or supports the provision of IP telephony services and applications to a telecommunication device 100. In some embodiment, the gateway 200 includes Voice Office Applications having a set of one or more telephony applications. In one embodiment, the Voice Office Applications comprises the Citrix Voice Office Application suite of telephony applications manufactured by Citrix Systems, Inc of Ft. Lauderdale, Florida. The gateway 192, WFC server 196 or media gateway may transcode, transform or otherwise process user interface content to display in the form factor of the display of the telecommunication device 100.

The computer telephony integration (CTI) 188 comprises software, hardware or any combination of software and hardware that provides a link between telephone systems and computers to facilitate incoming and outgoing call handling and control. In one embodiment, the CTI comprises a physical link between a telephone and server. In some embodiments, CTI is a technique by which computers control telephony systems such as PBXs, for example, a call center where calls are queued up and routed to agents based on criteria such as caller ID and called number.

The PBX 186 comprises any type and form of private branch exchange. In some embodiments, a PBX 186 comprises a private voice-communications-capable switching facility located in a entity's premises which provides on-premises connection between terminals connected to it, including dial service, and may provide connections to between those terminals and other communications networks, including a PSTN (Plain Old Telephone System).

The telephone 182 may comprise any type and form of telecommunication device. The telephone 182 may comprise software, hardware, or any combination of software and hardware. In one embodiment, the phone 182 is a plain old analog phone. In another embodiment, the phone 182 is a digital telephone. In some embodiments, the Phone may comprise a VoIP device for communicating voice data over internet protocol communications. For example, in one embodiment, the IP Phone may include any of the family of Cisco IP Phones manufactured by Cisco Systems, Inc. of San Jose, California. In

another embodiment, the IP Phone may include any of the family of Nortel IP Phones manufactured by Nortel Networks, Limited of Ontario, Canada. In other embodiments, the IP Phone may include any of the family of Avaya IP Phones manufactured by Avaya, Inc. of Basking Ridge, New Jersey. The phone may support any type and form of protocol, including any real-time data protocol, Session Initiation Protocol (SIP), or any protocol related to IP telephony signaling or the transmission of media, such as voice, audio or data via a network 104. The phone may include any type and form of user interface in the support of delivering media, such as video, audio and data, and/or applications to the user of the IP.

The SMS Messaging 184 comprises software, hardware or any combination of software and hardware for transmitting and/or receiving Short Message Service messages. In one embodiment, the SMS messaging 184 comprises a service, gateway or interface for communicating SMS messages from one type of telecommunication form or network to a device capable of sending and/or receiving SMS. In some embodiments, the SMS messaging may be deployed on any type and form of device, gateway, server or appliance, including the WFC server 194, WFC gateway or Media gateway 198.

In one embodiment, the system may include multiple, logically-grouped servers In these embodiments, the logical group of servers may be referred to as a server farm. In some of these embodiments, the serves may be geographically dispersed. In some cases, a farm may be administered as a single entity. For example, any of the WFC gateway, WFC server, LCS server, database, and/or media gateway may be deployed as a server farm. In other embodiments, the server farm comprises a plurality of server farms. In one embodiment, the server farm executes one or more applications on behalf of one or more clients. The servers within each farm can be heterogeneous. One or more of the servers can operate according to one type of operating system platform (e.g., WINDOWS NT, manufactured by Microsoft Corp. of Redmond, Washington), while one or more of the other servers 106 can operate on according to another type of operating system platform (e.g., Unix or Linux). The servers of each farm do not need to be physically proximate to another server in the same farm 38. Thus, the group of servers logically grouped as a farm may be interconnected using a wide-area network (WAN) connection or medium-area network (MAN) connection. For example, a farm may include servers 106 physically located in different continents or different regions of a continent, country, state, city, campus, or room. Data transmission speeds between servers in the farm can be increased if the servers are connected using a local-area network (LAN) connection or some form of direct connection.

Although FIG. 1A shows a network 104 between the devices 100 and the gateway 192, the devices 100, 100' and/or the gateway 192 may be on the same network 104 or on different networks 104 and 104'. The networks 104, 104' can be the same type of network or different types of networks. The network 104 and/or the network 104' can be a local-area network (LAN), such as a company Intranet, a metropolitan area network (MAN), or a wide area network (WAN), such as the Internet or the World Wide Web. In one embodiment, network 104' may be a private network and network 104 may be a public network. In some embodiments, network 104 may be a private network and network 104' a public network. In another embodiment, networks 104 and 104' may both be private networks. In some embodiments, clients 102 may be located at a branch office of a corporate enterprise communicating via a WAN connection over the network 104 to the servers 106 located at a corporate data center.

The network 104 and/or 104' be any type and/or form of network and may include any of the following: a point to point network, a broadcast network, a wide area network, a local area network, a telecommunications network, a data communication network, a computer network, an ATM (Asynchronous Transfer Mode) network, a SONET (Synchronous Optical Network) network, a SDH (Synchronous Digital Hierarchy) network, a wireless network and a wireline network. In some embodiments, the network 104 may comprise a wireless link, such as an infrared channel or satellite band. The topology of the network 104 and/or 104' may be a bus, star, or ring network topology. The network 104 and/or 104' and network topology may be of any such network or network topology as known to those ordinarily skilled in the art capable of supporting the operations described herein.

FIG. 1B depicts another embodiment of a system for providing business and workforce continuity services and methods deployed in a data center. In brief overview, the business and workforce continuity system 160 referred to herein as WFC or BMC, is deployed in a data center such that there is a primary system and a backup system. In this embodiment, the appliance gateway 192, WFC server 194 and communication server 196 (Live Communication server (LCS)) are in communication with an Lightweight Directory Access Protocol (LDAP) Server 195. The WFC server 195 is in communication with an Internet Telephony Service Provider (ITSP) 164, which provides an interface to a PBX 186 at a customer site 166 having one or more computing or telecommunication devices 100, 100'. The ITSP 164 also provides access to a Public Switched Telephone Network (PSTN) 182.

Any user computing device 100 may access the services of the system 160 via the network 104.

In one embodiment, the primary portion of the system 160 is active and upon identification of a failure or error with the primary system, the backup portion of the system becomes active. In some embodiments, the primary portion transmits, or the backup portion obtains from the primary, information about state, status, data and/or any other information to be able to take over responsibility from the primary portion in a seamless and transparent manner.

Referring now to FIG. 1C, an embodiment of a telecommunication call fall is depicted in another deployment of the business and workforce continuity system 160. In this embodiment, the BCM 160 provides a system and method for automatically forwarding a call to an emergency call. The BCM 160 intercepts the call leveraging the coverage path and transfers a call to a user inside a PBX to an emergency contact number of the user when the PBX extension is not answered. At step 1, a user via a telecommunication device 100 places a telecommunication call to an extension of a user in a PBX system. At step 2, the dialed PBX telephone extension rings but is not answered. At step 3, the PBX sends the call to an external service number, such as a 1-800 number, via a path in its coverage path. The PBX routes the call to the local telco (telecommunications) provider, such a via a Primary Rate Interface (PRI). The local telco provider routes the call via the PSTN to the ITSP. At step 4, the ITSP coverts the call to a VoIP and sends the call to a data center or the business and workforce continuity system 160. At step 5, the system 150 queries for phone numbers, such as emergency contact numbers, in the database 185. At step 6, the system 160 places an outbound call to the queried number. The ITSP carrier 164 receives the outbound call and, at step 7, coverts the call to PSTN 162 to complete the call. At step 8, the phone 100 identified by the emergency contact number rings.

The servers, gateway, database, computer and telecommunication, software and services and any other item depicted in FIGs. 1A-1C may be deployed as and/or executed on any type and form of computing device, such as a computer, network device or appliance capable of communicating on any type and form of network and performing the operations described herein. FIGs. 1D and 1E depict block diagrams of a computing device 100. As shown in FIGs. 1D and 1E, each computing device 100 includes a central processing unit 101, and a main memory unit 122. As shown in FIG. 1D, a computing device 100 may include a visual display device 124, a keyboard 126 and/or a pointing device 127, such as a mouse. Each computing device 100 may also include additional optional elements, such as

one or more input/output devices 130a-130b (generally referred to using reference numeral 130), and a cache memory 140 in communication with the central processing unit 101.

The central processing unit 101 is any logic circuitry that responds to and processes instructions fetched from the main memory unit 122. In many embodiments, the central processing unit is provided by a microprocessor unit, such as: those manufactured by Intel Corporation of Mountain View, California; those manufactured by Motorola Corporation of Schaumburg, Illinois; those manufactured by Transmeta Corporation of Santa Clara, California; the RS/6000 processor, those manufactured by International Business Machines of White Plains, New York; or those manufactured by Advanced Micro Devices of Sunnyvale, California. The computing device 100 may be based on any of these processors, or any other processor capable of operating as described herein.

Main memory unit 122 may be one or more memory chips capable of storing data and allowing any storage location to be directly accessed by the microprocessor 101, such as Static random access memory (SRAM), Burst SRAM or SynchBurst SRAM (BSRAM), Dynamic random access memory (DRAM), Fast Page Mode DRAM (FPM DRAM), Enhanced DRAM (EDRAM), Extended Data Output RAM (EDO RAM), Extended Data Output DRAM (EDO DRAM), Burst Extended Data Output DRAM (BEDO DRAM), Enhanced DRAM (EDRAM), synchronous DRAM (SDRAM), JEDEC SRAM, PC100 SDRAM, Double Data Rate SDRAM (DDR SDRAM), Enhanced SDRAM (ESDRAM), SyncLink DRAM (SLDRAM), Direct Rambus DRAM (DRDRAM), or Ferroelectric RAM (FRAM). The main memory 122 may be based on any of the above described memory chips, or any other available memory chips capable of operating as described herein. In the embodiment shown in FIG. 1D, the processor 101 communicates with main memory 122 via a system bus 150 (described in more detail below). FIG. 1D depicts an embodiment of a computing device 100 in which the processor communicates directly with main memory 122 via a memory port 103. For example, in FIG. 1E the main memory 122 may be DRDRAM.

FIG. 1E depicts an embodiment in which the main processor 101 communicates directly with cache memory 140 via a secondary bus, sometimes referred to as a backside bus. In other embodiments, the main processor 101 communicates with cache memory 140 using the system bus 150. Cache memory 140 typically has a faster response time than main memory 122 and is typically provided by SRAM, BSRAM, or EDRAM. In the embodiment shown in FIG. 1D, the processor 101 communicates with various I/O devices 130 via a local system bus 150. Various busses may be used to connect the central processing unit 101 to any of the I/O devices 130, including a VESA VL bus, an ISA bus, an EISA bus, a

MicroChannel Architecture (MCA) bus, a PCI bus, a PCI-X bus, a PCI-Express bus, or a NuBus. For embodiments in which the I/O device is a video display 124, the processor 101 may use an Advanced Graphics Port (AGP) to communicate with the display 124. FIG. 1E depicts an embodiment of a computer 100 in which the main processor 101 communicates directly with I/O device 130 via HyperTransport, Rapid I/O, or InfiniBand. FIG. 1E also depicts an embodiment in which local busses and direct communication are mixed: the processor 101 communicates with I/O device 130 using a local interconnect bus while communicating with I/O device 130 directly.

The computing device 100 may support any suitable installation device 116, such as a floppy disk drive for receiving floppy disks such as 3.5-inch, 5.25-inch disks or ZIP disks, a CD-ROM drive, a CD-R/RW drive, a DVD-ROM drive, tape drives of various formats, USB device, hard-drive or any other device suitable for installing software and programs such as any business and workforce continuity software 120, or portion thereof. The computing device 100 may further comprise a storage device 128, such as one or more hard disk drives or redundant arrays of independent disks, for storing an operating system and other related software, and for storing application software programs such as any program related to the of business and workforce continuity software 120. Optionally, any of the installation devices 116 could also be used as the storage device 128. Additionally, the operating system and the software can be run from a bootable medium, for example, a bootable CD, such as KNOPPIX●, a bootable CD for GNU/Linux that is available as a GNU/Linux distribution from knoppix.net.

Furthermore, the computing device 100 may include a network interface 118 to interface to a Local Area Network (LAN), Wide Area Network (WAN) or the Internet through a variety of connections including, but not limited to, standard telephone lines, LAN or WAN links (*e.g.,* 802.11, T1, T3, 56kb, X.25), broadband connections (*e.g.,* ISDN, Frame Relay, ATM), wireless connections, or some combination of any or all of the above. The network interface 118 may comprise a built-in network adapter, network interface card, PCMCIA network card, card bus network adapter, wireless network adapter, USB network adapter, modem or any other device suitable for interfacing the computing device 100 to any type of network capable of communication and performing the operations described herein. A wide variety of I/O devices 130a-130n may be present in the computing device 100. Input devices include keyboards, mice, trackpads, trackballs, microphones, and drawing tablets. Output devices include video displays, speakers, inkjet printers, laser printers, and dye-sublimation printers. The I/O devices 130 may be controlled by an I/O controller 123 as

shown in FIG. 1D. The I/O controller may control one or more I/O devices such as a keyboard 126 and a pointing device 127, e.g., a mouse or optical pen. Furthermore, an I/O device may also provide storage 128 and/or an installation medium 116 for the computing device 100. In still other embodiments, the computing device 100 may provide USB connections to receive handheld USB storage devices such as the USB Flash Drive line of devices manufactured by Twintech Industry, Inc. of Los Alamitos, California.

In some embodiments, the computing device 100 may comprise or be connected to multiple display devices 124a-124n, which each may be of the same or different type and/or form. As such, any of the I/O devices 130a-130n and/or the I/O controller 123 may comprise any type and/or form of suitable hardware, software, or combination of hardware and software to support, enable or provide for the connection and use of multiple display devices 124a-124n by the computing device 100. For example, the computing device 100 may include any type and/or form of video adapter, video card, driver, and/or library to interface, communicate, connect or otherwise use the display devices 124a-124n. In one embodiment, a video adapter may comprise multiple connectors to interface to multiple display devices 124a-124n. In other embodiments, the computing device 100 may include multiple video adapters, with each video adapter connected to one or more of the display devices 124a-124n. In some embodiments, any portion of the operating system of the computing device 100 may be configured for using multiple displays 124a-124n. In other embodiments, one or more of the display devices 124a-124n may be provided by one or more other computing devices, such as computing devices 100a and 100b connected to the computing device 100, for example, via a network. These embodiments may include any type of software designed and constructed to use another computer's display device as a second display device 124a for the computing device 100. One ordinarily skilled in the art will recognize and appreciate the various ways and embodiments that a computing device 100 may be configured to have multiple display devices 124a-124n.

In further embodiments, an I/O device 130 may be a bridge 170 between the system bus 150 and an external communication bus, such as a USB bus, an Apple Desktop Bus, an RS-232 serial connection, a SCSI bus, a FireWire bus, a FireWire 800 bus, an Ethernet bus, an AppleTalk bus, a Gigabit Ethernet bus, an Asynchronous Transfer Mode bus, a HIPPI bus, a Super HIPPI bus, a SerialPlus bus, a SCI/LAMP bus, a FibreChannel bus, or a Serial Attached small computer system interface bus.

A computing device 100 of the sort depicted in FIGs. 1D and 1E typically operate under the control of operating systems, which control scheduling of tasks and access to

system resources. The computing device 100 can be running any operating system such as any of the versions of the Microsoft● Windows operating systems, the different releases of the Unix and Linux operating systems, any version of the Mac OS● for Macintosh computers, any embedded operating system, any real-time operating system, any open source operating system, any proprietary operating system, any operating systems for mobile computing devices, or any other operating system capable of running on the computing device and performing the operations described herein. Typical operating systems include: WINDOWS 3.x, WINDOWS 95, WINDOWS 98, WINDOWS 2000, WINDOWS NT 3.51, WINDOWS NT 4.0, WINDOWS CE, and WINDOWS XP, all of which are manufactured by Microsoft Corporation of Redmond, Washington; MacOS, manufactured by Apple Computer of Cupertino, California; OS/2, manufactured by International Business Machines of Armonk, New York; and Linux, a freely-available operating system distributed by Caldera Corp. of Salt Lake City, Utah, or any type and/or form of a Unix operating system, among others.

In other embodiments, the computing device 100 may have different processors, operating systems, and input devices consistent with the device. For example, in one embodiment the computer 100 is a Treo 180, 270, 1060, 600 or 650 smart phone manufactured by Palm, Inc. In this embodiment, the Treo smart phone is operated under the control of the PalmOS operating system and includes a stylus input device as well as a five-way navigator device. Moreover, the computing device 100 can be any workstation, desktop computer, laptop or notebook computer, server, handheld computer, mobile telephone, any other computer, or other form of computing or telecommunications device that is capable of communication and that has sufficient processor power and memory capacity to perform the operations described herein.

Referring now to FIG. 2A, another embodiment of a scenario via the BCM 160 for emergency call forwarding is depicted. As illustrated, the BCM 160 is integrated into, connected or linked via an interface point in the coverage path of call transfers in the PBX. In one embodiment, the coverage path of the PBX is configured, modified, defined, designed, constructed or otherwise adapted to transfer the call to the BCM. In some embodiments, the coverage path is adapted to transfer the call to an external number of a service, such as the telephone number of 1-800 service. The service may provide a media gateway to translate or interface the call from one type of telecommunication network or protocol to another. In other embodiments, the coverage path is adapted to transfer the call to a BCM appliance or server, such as the WFC gateway or WFC server as depicted in FIG. 1A.

As depicted if FIG. 2A, this coverage path integration technique automatically signals to the PBX to redirect extensions to TDM lines for any user and without any user intervention. If a corporate user is displaced under a disaster or emergency, a call to the user will be automatically and transparently redirected from the PBX system to an emergency contact number queried from a database. In one embodiment, the BCM transfers the call to a mobile phone number. In another embodiment, the BCM transfers the call to an IP phone, VoIP phone, such as a soft phone on a computing device 100.

The BCM 160 may deploy any type and form of system or use a service that determines the most effective or appropriate emergency contact number for contacting a user. In some embodiments, the service verifies or confirms the current status of an ordered list of emergency contact info to determine at which number or telecommunication means a user can be reached. In one embodiment, the services determines the status of the emergency contact numbers or which one to use for that user at, before, or during the emergency. For example, upon the coverage path transferring to the BCM, the BCM may then check the status, via the service or otherwise, of the contact numbers. In one embodiment, the BCM determines the last emergency contact number used to contact or reach a user. In another embodiment, the BCM attempt to transfer the call to an emergency contact number provided by the user and stored in the database. In some embodiments, the BCM tries to transfer the call to one of a plurality of enumerated contact numbers stored in the database.

In still other embodiments, if the BCM is unable to transfer the call to a contact number of the user then the BCM may transfer the call back to the coverage path of the PBX. In some embodiments, the PBX will continue to the next point in the coverage path. For example, the PBX may then transfer the call to voice mail. In another embodiment, if the BCM cannot transfer the call to a contact number of the user, the BCM may terminate or drop the call. In some embodiments, the BCM may accept the call and provide a voice mail service for the user. In yet another embodiment, the BCM may transmit or forward the voice mail message to the user upon obtaining a working contact number or determining a contact number in which to reach the user.

Referring now to FIG. 2B, another embodiment of a solution via the BCM for call forwarding with a PSTN network or from a PSTN to SIP is depicted. In this example and in one embodiment, the BCM is used to bridge PSTN to PSTN calls. Also in this example of FIG. 2B and in another embodiment, the BCM forwards or transfers the call to a softphone or IP phone and acts as a PSTN to SIP gateway. In some embodiments, the BCM appliance transfers or translates the call to the softphone via a VPN appliance. As shown in FIG. 2B

and as described below in more detail, the BCM system may be deployed in the form of an appliance.

Referring now to FIG. 2C, an embodiment of the details of a call forwarding scenario via the BCM is depicted. At step 1, a caller initiates a phone call via the PSTN to a PBX extension, for example, extension 2034 as shown in FIG. 2C. The PBX extension, at step 2, rings without an answer. And at step 3, the PBX via the coverage path integration technique described above, transfers the call to a VoIP gateway (media gateway 184). At step 4, the VoIP gateway transmits a SIP transaction, e.g., SIP invite – call route request, to a SIP redirect proxy. The SIP redirect proxy requests a number forwarding lookup from the BCM, and responds with a SIP 302 moved command with the forwarding number, at step 6, to the VoIP gateway. At step 7, the VoIP gateway transfers, routes, or translates the call from SIP to the PBX to make an outbound call at step 8 to the user's forwarding number. If the user does not answer, at step 9, the coverage path of the PBX may have the call transfer to a voice mail server.

FIG. 2D depicts another embodiment of the BCM to provide call forwarding to a VoIP, IP or softphone using VoIP termination. In this embodiment, the VoIP gateway, at step 6, receives a SIP 302 moved command to redirect the response to SIP telecommunication destination, e.g., john@citrix.com. In response, at step 7 and in one embodiment, the VoIP gateway establishes via a network, such as the Internet, an IP based telecommunication session to a softphone, IP phone or VoIP phone associated with the destination. In another embodiment, at step, the VoIP gateway established a connection to a telephone via a second VoIP gateway providing a media gateway or interface via PSTN to a plain old telephone or cellular phone of the user.

FIG. 2E depicts an embodiment of the BCM using a click 2 call implementation to initiate the telecommunication session. A BCM Client intercepts the number to call (number clicked), and pairs this with the users preferred call back device (e.g., cell or local extension) and sends the two numbers to BCM. BCM places both calls though the PBX and bridges the call once they are both connected.

FIG. 2F depicts another embodiment for outbound calling that is similar to click-to-call in an emergency location. In this embodiment, a BCM client on computing device 100 initiates an outbound call request to the BCM appliance. The BCM appliance first dials user at the emergency location and the BCM appliance bridges the call to the outbound number with the user's phone.

FIG. 3 depicts another embodiment of the BCM as a appliance based deployment. In one embodiment, the functionality described herein, such as any of the VoIP infrastructure logic, functions or operations described above may be deployed in a single appliance. As illustrated in the appliance of FIG. 3, the BCM appliance may include one or more modules, programs, applications, logic, operations or executable instructions in software and/or hardware to provide one or more of the following: 1) Business Continuity and Workforce displacement management (BCM), 2) PBX integration and SIP proxy, 3) a database, 4) instant messaging and presence, 5) Network Interfaces, and 6) ISDN interfaces.

The BCM logic and management includes operations, logic, and functions to provide any type and form of a 1) web portal, 2) work flow engine, 3) database connectivity, 4) LDAP connectivity and 5) server configuration. The PBX integration and SIP Proxy includes operations, logic and functions to provide translation, a gateway or otherwise an interface between PSTN and SIP or H.323 to SIP. In some embodiments, the PBX integration can federate with the communication server, such as with a Live Communications Server (LCS). The Instant Messaging and Presence module includes supports for TCP and SSL or TLS, and any type and form of SIP based phone, such as a generic SIP phone. The Network Interfaces of the BCM appliance include support for any type and form of communications for or related to SIP and H.323 trunks, as well as general network connectivity, including TCP/IP based networking communications. The ISDN interfaces support PRI/BRI ISDN interfaces and in one embodiment, may be used when a SIP or H.423 trunk is not available.

As illustrated in FIG. 3, the BCM appliance may support, integrate, interface, communicate or otherwise work with any type and form of PBX system, including but not limited to any model and type of PBX system manufactured or provided by Avaya, Cisco, Nortel, MyTel or Semmins. In one embodiment, the PBX system includes voice mail.

Although the appliance is depicted in FIG. 3 with a Linux based operating system, the BCM appliance or BCM server or any other component of the solution may be deployed on any type and form of operating system supported by a computing or telecommunications device 100.

On the client-side of the embodiment of the BCM solution depicted in FIG. 2, a computing device may include one or more client agents, or other software to provide one or more of the following functions or applications: 1) click to call, 2) a SIP phone or IP based phone, VoIP phone, 3) Instant messaging and presence, 4) BCM logic, and 5) VPN logic. In some embodiments, any one or more, or all, of these functions or applications may be provided or delivered via a USB device or stick. In other embodiments, any one or more, or

all, of these functions or applications may be provided or delivered via download from a web-site, such as a BCM portal, or from a BCM appliance or WFC gateway. In another embodiment, an appliance, such as the BCM appliance or WFC gateway may automatically deliver the client-side applications or agent, and the computing device may automatically install and/or execute the applications.

The BCM logic on the client includes logic, functions, or operations to perform account validation with a BCM appliance or BCM server, such a user authentication and authorization. It may also include any executable instructions to communicate with the BCM appliance to receive and/or transmit data and information related to business and workforce continuity functionality described herein. The VPN logic includes logic, functions or operations to establish a virtual private network (VPN) connection with a private network, such as a corporate or enterprise network. As illustrated in FIG. 2, a computing device 100 may establish a VPN connection via a VPN appliance to the BCM appliance on a private network which interfaces with a PBX system.

The client may include one or more client agents to provide 1) end point detection and authorization, 2) LAN and application delivery acceleration, 4) WAN acceleration, 5) remote display or server based computing processing, 6) VPN and secure access gateway functionality, or 7) application delivery. The client agent may include any of the client agents manufactured by Citrix Systems, Inc. including but not limited to, any of the client agents for the Access Gateway appliance, NETscaler appliance, Citrix Application Firewall, or WANscaler appliance. The client agent may also include an ICA client that supports the Independent Computing Architecture (ICA) protocol of Citrix Systems, Inc. and as used with the Citrix Presentation Server product embodiments. In another embodiment, the client agent may include any type and form of agent for supporting or providing streaming of one or more applications.

In another embodiment, the BCM solution described herein can be deployed as a Software-as-a-Service (SaaS) model. Any portion of the functionality, operations or logics of the BCM described herein can be provided via a hosted application model that is accessed by one or more users via a web-page or portal. In some embodiments, the software stack of the relational database management system, operating system and application are designed for multi-tenancy – hosting multiple customers simultaneously. The SaaS delivery model of the BCM solution described herein may provide business process configurability, such as notification, scenarios, work flows, etc. The hosted BCM solution may also provide for user generated content, such as surveys, messages boards, and status. Additionally, via the hosted

solution, uses may update and configure resource maps dynamically to identify types and locations of resources to use in an emergency scenario. In some embodiments, the SaaS delivery model of the BCM solution minimized end user customization while providing Voice and remote computer access, such as via GotToMyPC of Citrix Online.

Referring now to FIG. 4A, an embodiment representing the BCM client-side content or delivery of content via a USB device or stick is depicted. In an emergency scenario, the USB device comprises one or more applications, programs or executable instructions to provide the user a convenient, seamless or automatic mechanism to establish a connection, communications and interface with the BCM server or appliance, and the functionality provided thereby. A user may connect the USB device to any computing device and gain access to the functionality of the content of the USB device as well as access to the web-portal of the BCM solution. In brief overview, the USB device may provide the following functionality: 1) remote desktop, 2) message board, 3) secure instant messaging, 4) soft phone, 5) announcement board, 6) forced contact information entry, 7) roll call report, 8) secure storage and a 9) WFC client. The WFC client may be sued for connecting, communicating or interacting with the WFC gateway, WFC server or any portion of the BCM solution as described herein.

Referring now to FIG. 4B, an embodiment of a method for setting up and provisioning a BCM USB device is depicted. An administrator may create one or more users via an LDAP directory service, import the users and create one or more groups. The users may be grouped logically by functional area, department, geography, emergency response team, etc. A BCM USB stick is provided to the users, and an email is sent to each of the users providing information and instructions with regards to provisioning. The user receives the USB stick and email. The email may include a link or URL for installation of applications related to the USB stick or for otherwise provisioning or readying the USB stick for use with the BCM system. The instructions may inform the user to insert the stick into the computing device and click the install link/URL. Upon clicking the installation URL, installation of an online remote desktop control and collaboration agent, such as GoToMyPC from Citrix Online is initiated. The GoToMyPC online system receives a request with user and WFC server generated credential and code, and in response, creates a user in the GoToMyPC system. Any user passwords, codes and credentials for GoToMyPC may be stored in a database and associated with the user. A WFC client is downloaded and installed on the USB stick. In one embodiment, the WFC client is downloaded or provided by the WFC gateway or WFC server. The installation processes installs a shortcut to GoToMyPC onto the stick.

Upon completion of the installation, the BCM USB stick has been setup for the user to use with the BCM server or appliance in case of emergency.

FIG. 4C depicts an embodiment of a scenario of a user deploying the BCM USB device provisioned in accordance with FIG. 4B. At step 1, the user plugs in the USB stick and a step 2, the user authenticates with the BCM servers or the BCS (Business Continuity Service as it may be referred to in the case of an SaaS model), for example via LDAP. At step 3, in some embodiments, the user launches GoToMyPC. In one embodiment, the user is not required to provide any password or access code. In another embodiment, the client computing device prompts the user for an access code. At step 4, the BCM/BCS finds the GoToMyPC credentials for the user which may be stored in the database. At step 5, the BCM/BCS authenticates the user with GoToMyPC. At step 6, a connection between the client and user's host computer is established.

Although the above description of provisioning and using the BCM USB stick is generally described in conjunction with GoToMyPC, the USB stick and BCM server or services may be designed and constructed to use any type and form of remote desktop control application, program or service, or any type and form of online collaboration tool.

Referring now to FIGs. 5A-5N, embodiments of a web based user interface or portal provided by the BCM (WFC) server or via the BCM solution deployed as a SaaS model are depicted. The BCM provides a single point of contact for the setup, registration, and access of business and workforce continuity services, such as in the case of a disaster or emergency. The BCM solution generally follows a three-step paradigm, methodology or scenarios of 1) prepare, 2) emergency, and 3) work. Under a preparation scenario, the BCM solution provides user interfaces and functionality to plan emergency scenarios, perform emergency drills or test, and to provision USB keys or devices. The preparation user interfaces and functionality described herein allow an emergency response team to prepare and configure emergency scenarios and configure the system for execution or deployment under a real emergency or disruptive event. When an emergency or disruptive event occurs, the BCM system provides user interfaces and functionality to deliver alerts and notifications to the user community, management and emergency response team as well as providing a roll and employee directory mechanism to account for, and obtain status and other information from geographically displaced team members. The emergency functionality of the BCM system allows for seamless ad-hoc collaboration among a displaced workforce. As displaced team member come online via the BCM solution, the next phase is the work phase. The BCM solution with client-side access provided via a USB stick allows displaced workers to obtain

access to applications and data via any remote computing device. A displaced worker may be able to obtain access to his or hers corporate computer via GoToMyPC or to a remote desktop computing environment via Citrix Presentation Server. Additionally, a displaced work can communicate via softphone, instant messaging. SMS and the like via the Voice infrastructure of the BCM solution to facilitate work and emergency related activities.

The components of the BCM continuity system or service comprises: 1) keys, 2) servers and 3) services. The BCM solution provides users access and communication tools and capabilities via a provisioned USB device, stick or key. The server component of the BCM solution provides alerts and notification services, communication services, such as those provided by Live Communication Server, and secure access services such as via a VPN or SSL VPN gateway. The BCM solution also integrates with and provides access to remote desktop control and access services, such as GoToMyPC, as well as SMS and VoIP delivery of communications.

With the web-portal and user interfaces depicted in FIGs. 5A-5N, the BCM solutions provides scenario planning tools for Emergency Response Team personnel, as well as run-time collaboration and communication tools. The BCM servers and appliances provide an emergency communication and tracking solution for organizations. The BCM USB stick provides a simple and secure "work from anywhere" type solution for employees, such as employees displaced by an emergency or disruptive event.

Referring now to FIG. 5A, the BCM user interface or web portal is designed and constructed generally with three types of personas: 1) emergency response team (ERT), 2) employees and 3) managers. The ERT prepare and configure scenarios, groups and zones as will be illustrated in further detail below. The employees receive and response to alert notifications, and use a client-side sidebar and/or emergency workplace portion of the portal to work during the Emergency situation. Managers use the portal and user interfaces described herein to access history and reports, such as a roll call, in managing the workforce during an emergency or disruptive situation. Although generally described from the perspective of these three personas, the BCM user interfaces or web portals may be designed and constructed for other types of users.

FIG. 5B depicts an embodiment of a user flow architecture in accessing or using the functionality provided by the BCM user interface or web portal. During the prepare phase, the ERT prepare zones, groups, surveys and notifications, and create, test and approve emergency scenarios. The employee may receive email with explanation on how to provision

the USB device kit he or she received. Managers approve prepared or configured emergency scenarios.

During the emergency portion of the user flow, the ERT activate an emergency, send emergency alert notifications, and update status, issue announcements and surveys. Employees receive emergency alert notifications, respond and update contact information, and plug in USB device. A manager may use the remote workplace portion of the portal or BCM web-site to post messages, read status updates and answer surveys. Also, the manager may review, update or otherwise manage the roll call portion of the web-site.

During the work portion of the user flow, employees use the sidebar deployed via the plugged in USB device to collaborate with other employees via the BCM system. In some embodiments, the employee launches GoToMyPC to use work computer remotely. The manager reviews and works with reports and history information provided by the BCM solution.

FIG. 5C depicts an embodiment of user interfaces for an ERT team member to create emergency scenarios. Via these user interfaces, ERT personnel created groups, zones, surveys, notifications, and scenarios.

FIG. 5D depicts an embodiment of user interfaces for a manager to approve a prepared scenario. In some embodiments, a scenario may be configured to require a predetermined or minimum number of signatures (e.g., electronic approval) before the scenario is approved.

FIG. 5E depicts an embodiment of a BCM USB device kit provided to employees or users who will access the BCM services under an emergency or disruptive solution. The kit may comprise any type and form of case designed and constructed to hold the desired contents thereof. In some embodiments, the kit includes a USB drive or stick having content as described in conjunction with FIGs. 4A-4C, any type and form of headset for telecommunications, and an instructional pamphlet. In some embodiments, employees would maintain the USB kit in a manner appropriate to have access during a workplace disruption or emergency situation.

FIG. 5F depicts an embodiment of a user interface for an ERT to test a configured emergency scenario. In some embodiment, testing the emergency scenario is similar to a real emergency except for a smaller group of people. An ERT selects a scenario from a list of one or more configured scenarios, activates the test scenario and selected one or more recipients to participate in the test.

FIG. 5G depicts embodiments of user interfaces for an ERT to activate an emergency. As shown in FIG. 5G, a ERT selects a scenario from a list of one or more scenarios, and activate s the emergency scenario. In some embodiments, approval requests are issued if the activation of the scenario required approval. For example, approval requests may be In one embodiment, the emergency scenario does not complete activation until a minimum set of approvals are obtained. In others embodiments, approval requests are issued but are optional to activate the emergency. Upon activation or completion thereof, USB devices, sidebar and workplace functionality are activated.

FIG. 5H depicts embodiments of user interfaces for providing employee emergency notification. The alert is activate and notifications are sent. Employees receive voice and SMS notifications, reply and update contact information. If available, the employees plug in their USB devices.

FIG. 5I depicts an embodiment of a client-side sidebar which provides an emergency communication center that works in conjunction with and communicates to the BCM system. In some embodiments, the sidebar application is provided on or via the USB device. In other embodiments, the employee or user downloads the sidebar application from the BCM web-site or the WFC gateway or server to the user's computing device. The employee communications center provided by the sidebar application or agent displays status information, roll call, instant messaging and directory information. The employee communication centers provide links or access to Citrix Presentation server, remote control of a desktop of the user and access to the workplace functional area and user interface of the BCM portion as described herein.

FIG. 5J depicts an embodiment of user interface for providing a roll call management and information screen for the manager role in the BCM system. The manager can get the latest roll call information and escalate a status of an employee or communicate or try to communicate with employees. The manager can create, modify or update a status of information in the roll call.

FIG. 5K depicts an embodiment of the emergency workplace portion of the BCM web portal. In one embodiment, a user can access the emergency workplace from the sidebar or employee communications center. In the employee emergency workplace user interface, an employee reviews the current status of the emergency or disruptive information (for example, as it is updated by ERT personnel). The employee reviews announcements and participate (post and reply) in message boards. The user interface also displays information for the employee regarding the employee roll call, with links to surveys, resources and news. The

employee can take surveys to provide information and status to the BCM system for updating reports and for tracking people and resources.

FIG. 5L depicts an embodiment of a user interface for user to collaborate with regards to resources. In the employee emergency workplace of the web-portal, the user answers surveys and reviews replies to surveys. In one embodiment, the resources area of the workplace provides a graphical display of a map that identifies locations and types of resources. In some embodiments, the map is an interface and a user may add, edit or place/relocate resources on the map. In other embodiments, the map identifies geographical impacts and other status information related to the emergency or disruptive event.

FIG. 5M is an embodiment of a user interfaces for users to communicate with peers. Via the emergency communication center, users can search the corporate directory for contact information, including updated or emergency contact information. Via the BCM system and the emergency communication centers, inbound calls are re-directed from the office extension (e.g., PBX extension) to a new number, such as a softphone on the user's computing device or included in the sidebar. In some embodiments, inbound calls are redirected to the user of the communication center via any of the redirection embodiments discussed above in conjunction with FIGS. 2A-2F. Via the emergency communication center, the user can place outbound calls. In some embodiments, the outbound calls may be forwarded, transferred or redirected via any of the embodiments discussed above in conjunction with FIGS. 2A-2F. In yet another embodiment, the emergency communication centers enables user to chat or instant message their peers.

FIG. 5N depicts an embodiment of a user interface to access the user's application and data. In some embodiments, the user launches a user interface from the emergency communications center to access applications and data via an application delivery system, such as Citrix Presentation server. For example, the user clicks the my programs user interface element as depicted in FIG. 5N. In other embodiments, the user launches a user interface to access a remote desktop, such as a corporate or office computer, via GoToMyPC services. For example, the user clicks the GoToMyPC user interface element as depicted in FIG. 5N.

FIGs. 6A-6C depict embodiments of a plurality of user interfaces for the sidebar or WFC client. The sidebar user interfaces of the emergency communication center may display one or more of the following: 1) one emergency active, 2) multiple emergencies active, 3) emergency over, 4) no active emergency, 5) search results, 6) the logged in user's status and

info and contact information 7) peer information, 8) chat session, 9) chat archive, 10) softphone calling, 11) softphone call in progress status, and 12) call history.

FIGs. 7A-7C depicts embodiments of a plurality of user interfaces for startup screens when a user deploys and uses the BCM USB stick to access BCM servers or services, such as in the case of an emergency or disruptive event. The startup user screens may display one or more of the following types of screens: 1) no internet connection, 2) a login and password screen, 3) error logging in message, 4) welcome, no emergencies in progress, 5) welcome, active emergencies in progress, updating software, 6) welcome, no emergency in progress, update in progress, 7) welcome, active emergencies in progress, update contact information, 8) welcome, active emergencies in progress, update complete, 9) welcome, one or more emergencies in progress, and 10) welcome, emergency over.

Appendix A describes an embodiment of business and workforce continuity preparation related functionality and user interfaces of a portal web-site or system.

Appendix B describes an embodiment of business and workforce continuity emergency related functionality and user interfaces of a portal web-site or system.

Appendix C describes an embodiment of business and workforce continuity work related functionality and user interfaces of a portal web-site or system.

Appendix D describes an embodiment of a web service for the BCM USB device.

Appendix E describes an embodiment of an implementation and design of software for the BCM USB device.

In view of the structure, function and operations of the systems and methods described herein, the BCM solution provides the following end-to-end solution in the case of workforce displacement, an emergency or disruptive event: 1) application access in any form from any computer, 2) emergency communication and alerts via any communication medium, such as Short Message Service (SMS), email, voice, and 3) employee collaborations tailored to the disruption event.

Many alterations and modifications may be made by those having ordinary skill in the art without departing from the spirit and scope of the invention. Therefore, it must be expressly understood that the illustrated embodiments have been shown only for the purposes of example and should not be taken as limiting the invention.

Abstract

SYSTEMS AND METHODS FOR PROVIDING A BUSINESS CONTINUITY SERVICE

The solution enables emergency communications to employees with corporate policies and instructions, allows employees in various groups to communicate with each other via voice and chat messaging , and connects employees to their applications, their data and their desktops – all from any anonymous computer – without compromising corporate security policies. The product also provides employees and management visibility into the workforce disruption crisis and allows management to access the situation and make and communicate decisions to the workforce. The systems and methods described herein provide ad-hoc and simple to deploy solution that manages and covers the three aspects needed for a workforce continuity solution – namely 1) application access in any form from any computer, 2) emergency communication and alerts via any communication medium, such as Short Message Service (SMS), email, voice, and 3) employee collaborations tailored to the disruption event.

APPENDIX A

FUNCTIONALITY OF

PORTAL - PREPARE

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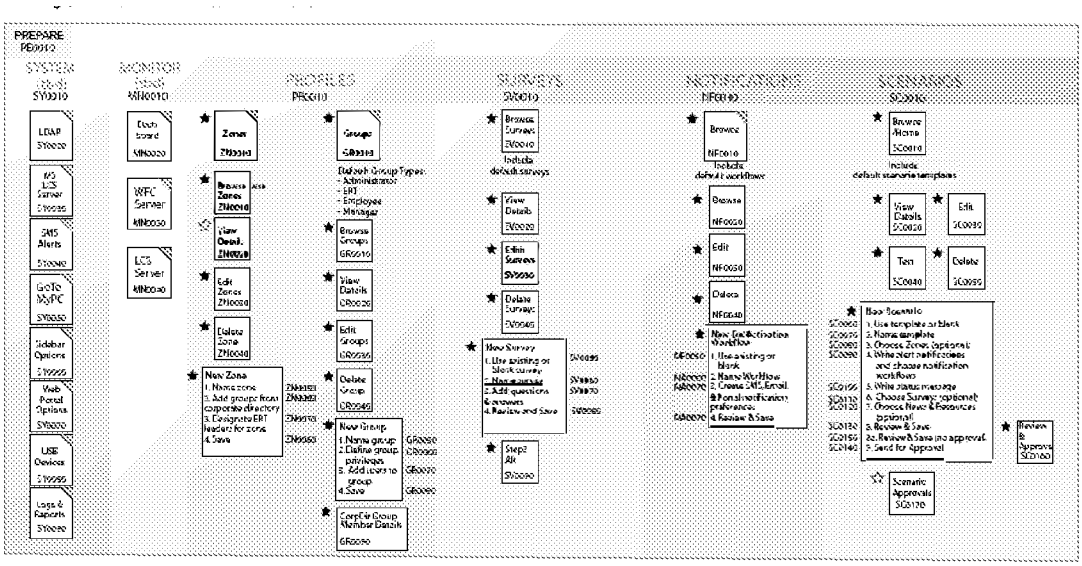
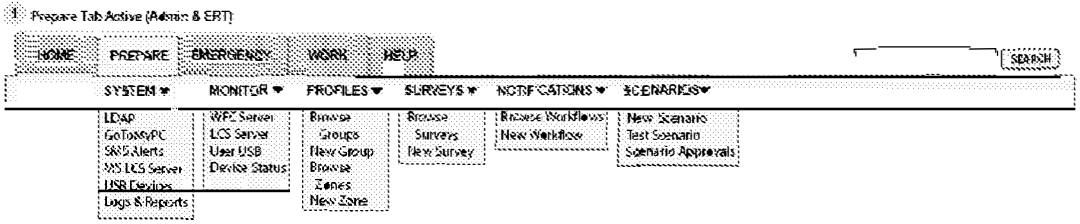
1. Introduction

2. Site Architecture



5

Preparation Navigation



3. Global Settings

(a) Global Navigation

- **NEXT** -validates that all required fields have been filled out (grayed if not all filled, ungrayed if filled) and saves to bean. Grayed out for last page.
- **BACK** – grayed out at first page, saves to bean.
- **SAVE/FINISH/ACTIVATE/TEST** - validates that all required fields have been filled out (grayed if not all filled, ungrayed if filled) and saves to bean which saves to db.
- **CANCEL** – undoes all changes (up to last save point) made to existing record, delete record if new record. Then exits to list view of workflow.
- **CLEAR** - undoes changes made to page.
- **If click a tab to exit**, warn that data will be lost.

(b) Global Image Names

- Make sure, comma in Yes, Delete and No, Cancel.

(c) Global Style Sheet

(d) Global Search

The Search Results page should provide a list of results, ranked by closeness of match. Results should indicate whether the file is a scenario, zone, resource, or employee. Search results page should list results 1-10 and provide click through navigation to more results. Each Result list should include a title and a one line description or contact info for an employee.

Remote Workplace Portal

Acme Company
REMOTE WORKPLACE

Welcome David Drew | Log Out

HOME | PREPARE | EMERGENCY | WORK | HELP

Flood | SEARCH

Search Results for "flood"
174 results 1-10 displayed next >>

Generic Flood (Scenario)
Proin pulvinar, elit id viverra venenatis, lectus nisi venenatis leo, et semper lacus urna in tortor quis, massa. Ut gravida mollis sapien. Pellentesque habitant morb.

Houston Flood (Scenario)
Proin pulvinar, elit id viverra venenatis, lectus nisi venenatis leo, et semper lacus urna in tortor quis, massa. Ut gravida mollis sapien. Pellentesque habitant morb.

Bay Area Flood (Scenario)
Proin pulvinar, elit id viverra venenatis, lectus nisi venenatis leo, et semper lacus urna in tortor quis, massa. Ut gravida mollis sapien. Pellentesque habitant morb.

Los Angeles Flood (Scenario)
Proin pulvinar, elit id viverra venenatis, lectus nisi venenatis leo, et semper lacus urna in tortor quis, massa. Ut gravida mollis sapien. Pellentesque habitant morb.

Portland Flood (Scenario)
Proin pulvinar, elit id viverra venenatis, lectus nisi venenatis leo, et semper lacus urna in tortor quis, massa. Ut gravida mollis sapien. Pellentesque habitant morb.

What to do in case of a Flood (Resource)
Proin pulvinar, elit id viverra venenatis, lectus nisi venenatis leo, et semper lacus urna in tortor quis, massa. Ut gravida mollis sapien. Pellentesque habitant morb.

Flood Warning Checklist (Resource)
Proin pulvinar, elit id viverra venenatis, lectus nisi venenatis leo, et semper lacus urna in tortor quis, massa. Ut gravida mollis sapien. Pellentesque habitant morb.

Flood Preparedness (Survey)
Proin pulvinar, elit id viverra venenatis, lectus nisi venenatis leo, et semper lacus urna in tortor quis, massa. Ut gravida mollis sapien. Pellentesque habitant morb.

David Flooder (Employee)
Cell 8432-456-4325, home 543-678-6323, 213 Main Street, Miami, FL 86974, Title: Director of Accounts

Katherine Floods (Employee)
Cell 8432-456-4325, home 543-678-6323, 213 Main Street, Miami, FL 86974, Title: Director of Accounts

174 results 1-10 displayed next >>

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4. Groups

(a) View Groups – #GR0010

Groups

The table below lists groups currently available. Groups are assigned to zones, which are used in scenarios to define what users receive Alerts and Remote Workforce activation in an emergency situation.

Click a Group name to view details and associated users. Use the New Group button to add customized groups to the list.

EDIT | VIEW | DELETE | NEW GROUP

GROUP NAME	DESCRIPTION	LAST MODIFIED	MEMBERS
ALL Admin	All Administrators in the company	07/01/2006	174
ALL ERT	All ERT members in the company	07/01/2006	232
ALL Managers	All Managers in the company	07/01/2006	432
ALL Employees	All Employees in the company	07/01/2006	3258
Atlanta Admin	All Administrators in the Atlanta office	07/01/2006	21
Atlanta ERT All	All ERT members in the Atlanta office	07/01/2006	10
Atlanta ERT Members	All ERT Members in the Atlanta office	07/01/2006	43
Atlanta All	All Employees the Atlanta office	07/01/2006	479
Atlanta Managers	All Employees in the Atlanta office	07/01/2006	5
Atlanta Employees	All Administrators in the Boston office	06/11/2006	3
Boston Admin	All ERT members in the Boston office	08/05/2006	7
Boston ERT	All Managers in the Boston office	08/05/2006	57
Boston Managers	All Employees in the Boston office	07/01/2006	19
Boston Employees	All Administrators in the Denver office	07/01/2006	15
Denver Admin	All ERT members in the Denver office	07/01/2006	55

5 **Description**

Groups are a way of managing users. Here is where you can view groups that have been created and get to them to edit, view, and delete them.

View

Sort by Group Name, Last Modified, and Members. Default sorting is set to Group Name. Edit and Delete button will be grayed out if someone else is editing group. Pressing the delete button will bring up a confirmation.

Navigation

- **EDIT** goes to (c)
- **VIEW** goes to 4(b)
- **DELETE** goes to 4(b)
- **NEW Group** goes to 4(c)

Client Side Validation

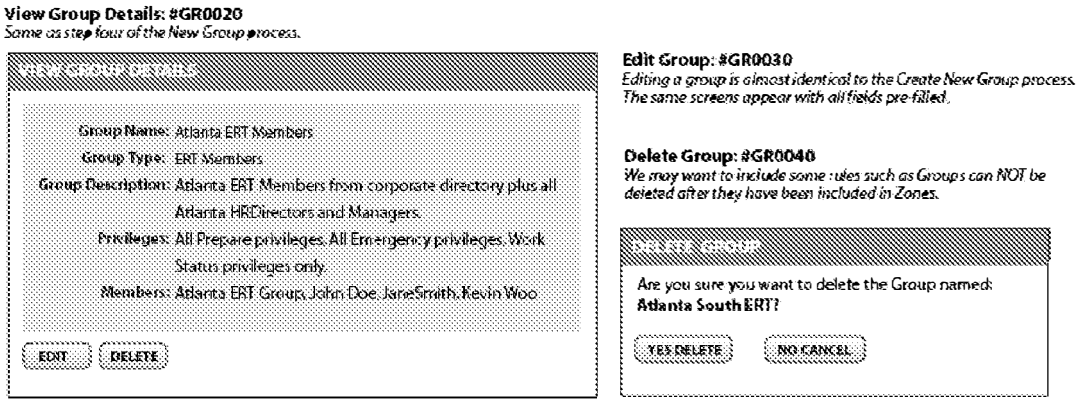
APIs

Object w/ all Groups Information
- methods(add)(delete)(update)(get)

Object w/ Group Information
- methods(get)

Server Side Validation

(b) Group Detail View - #ZN0020, Group Zone - #ZN0040



Description

These screens are brought up when a user clicks either view, or delete from the main page. View shows all the details of the group, and gives the option to go directly into edit or to delete the record. Delete, brings up a confirmation asking if you are sure you would like to delete the group.

View

Navigation

- **EDIT** goes to (c)(c)
- **DELETE** goes to 4(b)
- **YES, DELETE** delete, then goes to 4(b)(a)
- **NO, CANCEL** goes to (a)

Client Side Validation

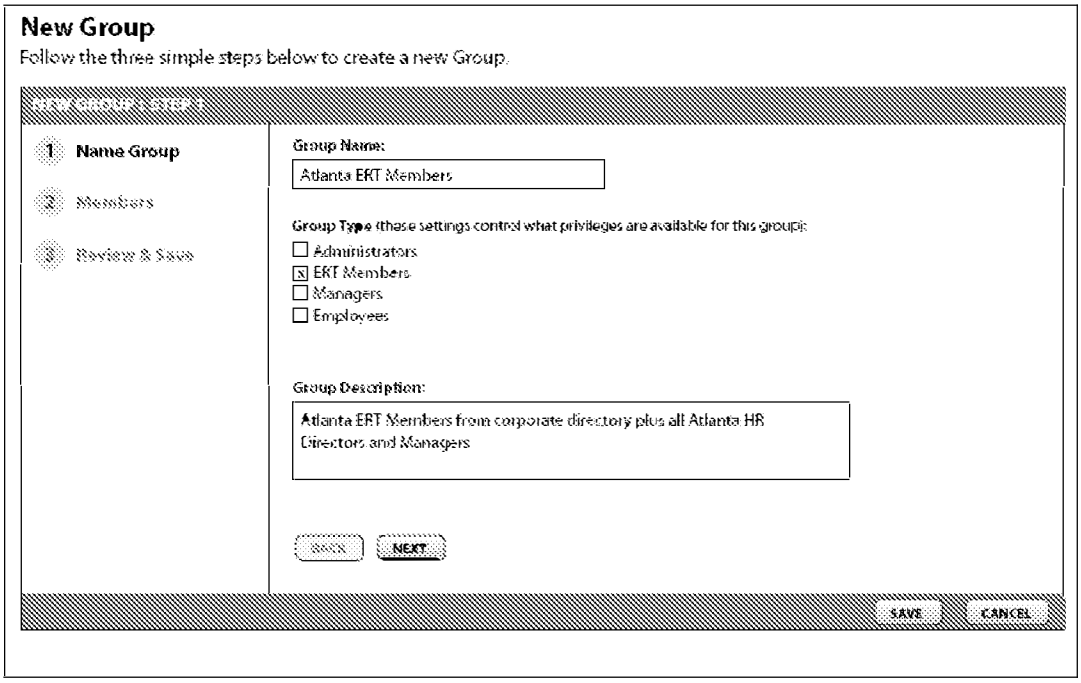
APIs

Object w/ Group Information
- methods(get)(delete)

Server Side Validation

(c) Name Group – #GR0050

New Group Step 1: #GR0050



Description

When creating a new group, step one is to define the group name, type, and description.

View

Group type, sort by importance. Pressing the cancel button will bring up a confirmation.

Navigation

- **NEXT** goes to (c)
- **SAVE** saves data4(b)

- **CANCEL** goes to (a)

Client Side Validation

If user leaves any data not filled out and clicks next give error message.

APIs

Object w/ Groups Information

- methods(delete)(update)(get)

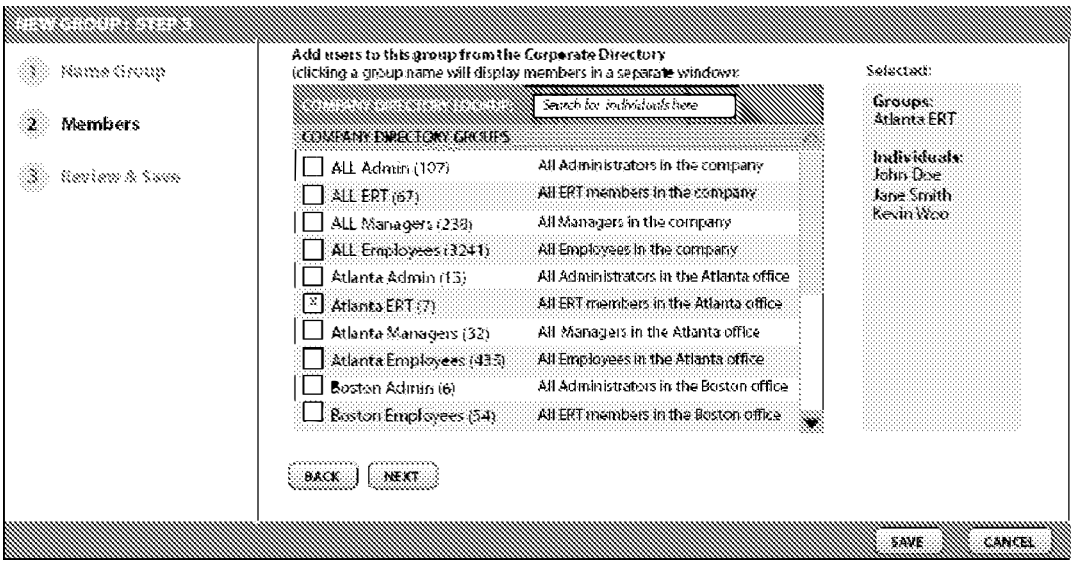
Group type is object to pull from db. (get)

Server Side Validation

If group name is already used, display same screen with error message.

(d) Members - #GR0070

New Group Step 2: #GR0060



Need screenshot for Search

Description

Step three is when you define the users that will be in the group. You can choose either a full group from your corporate AD, or select individual users for to put in the group.

Search is based first name and last name of user. Displays name, type. Groups displayed here are our groups which are currently being used.

View

Default sort is alphabetical. Cancel will bring up a confirmation.

Navigation

- **BACK** goes to (c)
- **NEXT** goes to (e)
- **SAVE** saves data4(b)
- **CANCEL** goes to (a)

Client Side Validation

Error message if user clicks next with no groups or users added.

APIs

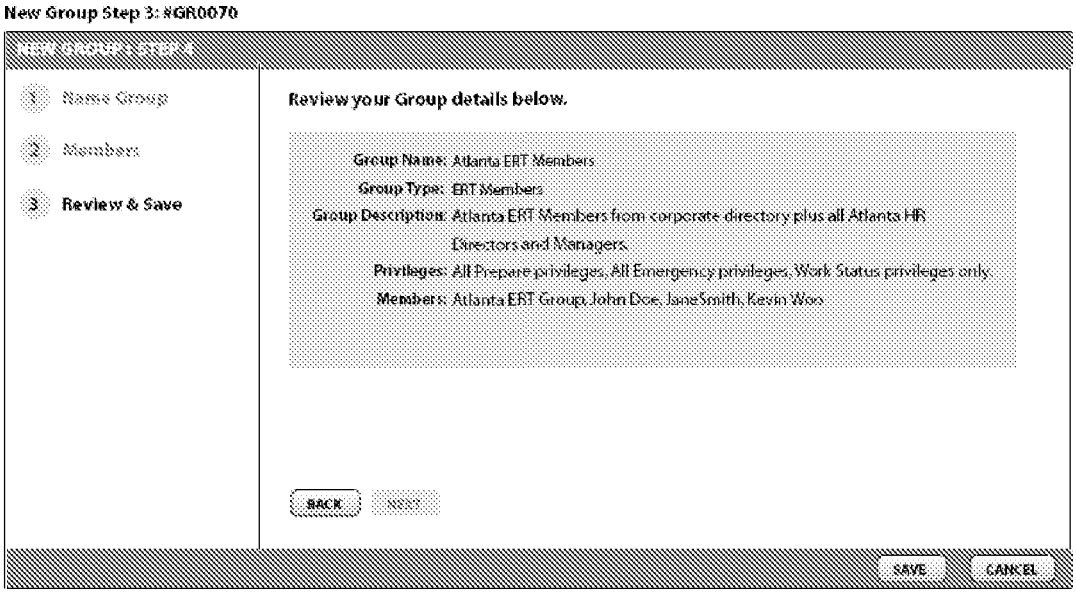
Object w/ Groups Information
- methods(delete)(update)(get)

Object w/ all group information
- methods(get)(search)

Object w/ all user information (corporate AD)
- methods(get)(search)

Server Side Validation

(e) Review and Save - #GR0080



Description

Step 3 is when you review your group information and, if correct, save it as an active group.

View

Pressing the save button will bring up a confirmation. Cancel will bring up a confirmation.

Navigation

- **BACK** goes to (c) (d)
- **SAVE** goes to (a)
- **CANCEL** goes to 4(b)

Client Side Validation

APIs

Object w/ Group Information
- methods(delete)(update)(get)

Server Side Validation

5. Zones

(a) View Zones - #ZN0010

Zones

The table below lists zones currently available.
Zones are used in scenarios to define what users receive Alerts and Remote Workforce activation in an emergency situation.

Click a Zone name to view details and associated user groups.

EDIT VIEW DELETE NEW ZONE

ZONE NAME	DESCRIPTION	GROUPS INCLUDED
Atlanta All	All 6 Atlanta offices.	Atlanta ERT, Admin, Manager & Employees
Atlanta South	Southgate, Tavis and Delila offices.	Atlanta South ERT, Admin, Manager & Employees
Atlanta North	Bogart and Crighton offices.	Atlanta NorthERT, Admin, Manager & Employees
Austin	Austin office.	Austin ERT, Admin & Employees
Chicago	Chicago office	Chicago ERT, Admin, Manager & Employees
DenverAll	All 14 Denver offices	Denver ERT, Admin, Manager & Employees
Denver East	Baldwin, Bradley and Plains offices.	Denver East ERT, Admin & Employees
Denver Mountains	Boulder and Foothill offices	Denver Mountains ERT, Admin, Manager & Employees
Los Angeles All	All 3 LA offices.	LA ERT, Admin, Manager & Employees
Los Angeles Santa Monica	Santa Monica only.	Santa Monica ERT, Admin, Manager & Employees
Memphis	Memphis Tennessee NOC	Memphis ERT, Admin, Manager & Employees
Sacremento	Sacremento custoper support office	Sacremento ERT, Admin, Manager & Employees
Santa Fe	Santa Fe Data center	Sant Fe ERT, Admin, Manager & Employees
San Francisco	San Francisco corporate offices.	San Francisco ERT, Admin, Manager & Employees
Seattle	Seattle corporate offices.	Seattle ERT, Admin, Manager & Employees

Description

Zones are a collection of groups that define a certain geographic area. These are used when you activate your scenarios and control who is alerted to, and allowed to view your active scenario. On this screen you are showed a list of all zones that have been created and allows you to select them to view, edit, or delete them, and allows you to go on and create new zone.

View

Sort by Zone Name. Default Sorting is Zone Name, alphabetical, ASC. Pressing the delete button will bring up a confirmation

Navigation

- **EDIT** goes to (c)
- **VIEW** goes to (b)
- **DELETE** goes to (b)
- **NEW ZONE** goes to (c)

Client Side Validation

APIs

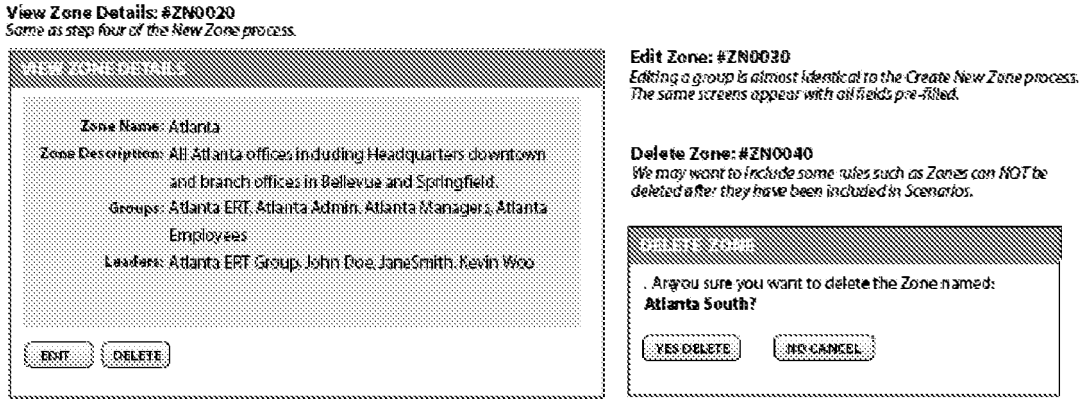
Object w/ all Zones Information
- methods(add)(delete)(update)(get)

Object w/ Zones Information
- methods(get)

Server Side Validation

Zone Object Level locking in data base.

(b) Zone Detail View - #ZN0020, Delete Zone - #ZN0040



Description

These screens are brought up when a user clicks either view, or delete from the main page. View shows all the details of the group, and gives the option to go directly into edit or to delete the record. Delete, brings up a confirmation asking if you are sure you would like to delete the group.

View

Navigation

- **EDIT** goes to (c)4(c)
- **DELETE** goes to (b)
- **YES, DELETE** delete, then goes to 4(b)(a)
- **NO, CANCEL** goes to (a)

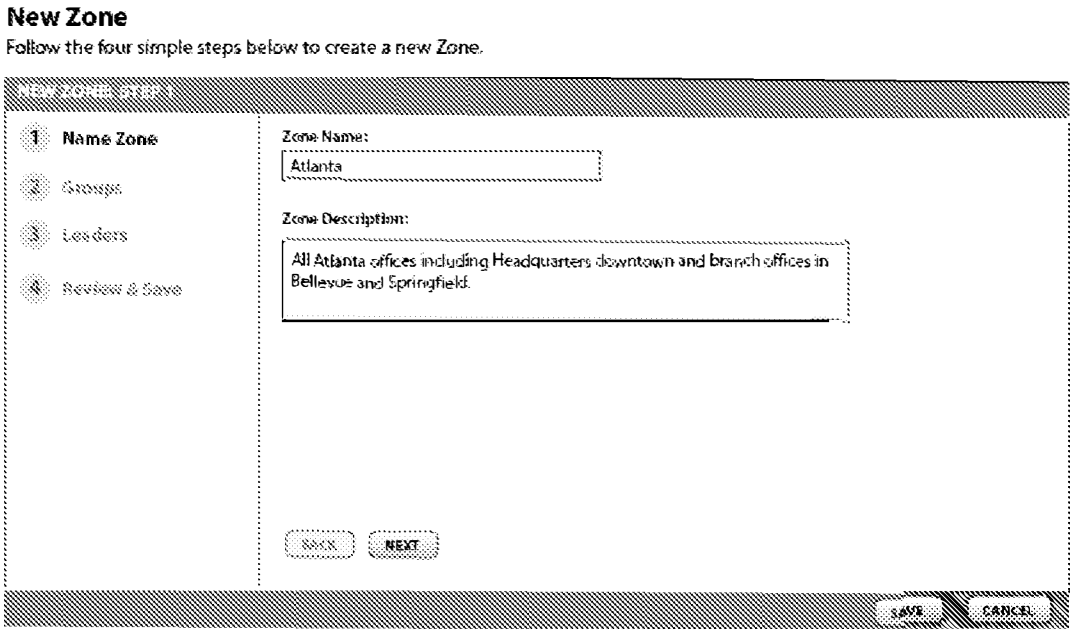
Client Side Validation

APIs

Object w/ Zones Information
- methods(get)(delete)

Server Side Validation

(c) Name Zone - #ZN0050



Description

Step 1 in creating a new zone requires that you give the zone a name and a description. This is used to identify the zone and make it easy when selecting it.

View

Navigation

- **NEXT** goes to 4(c)
- **SAVE** saves data.
- **CANCEL** goes to (a)

Client Side Validation

Error message is caused if any fields are not filled out and user clicks Next.

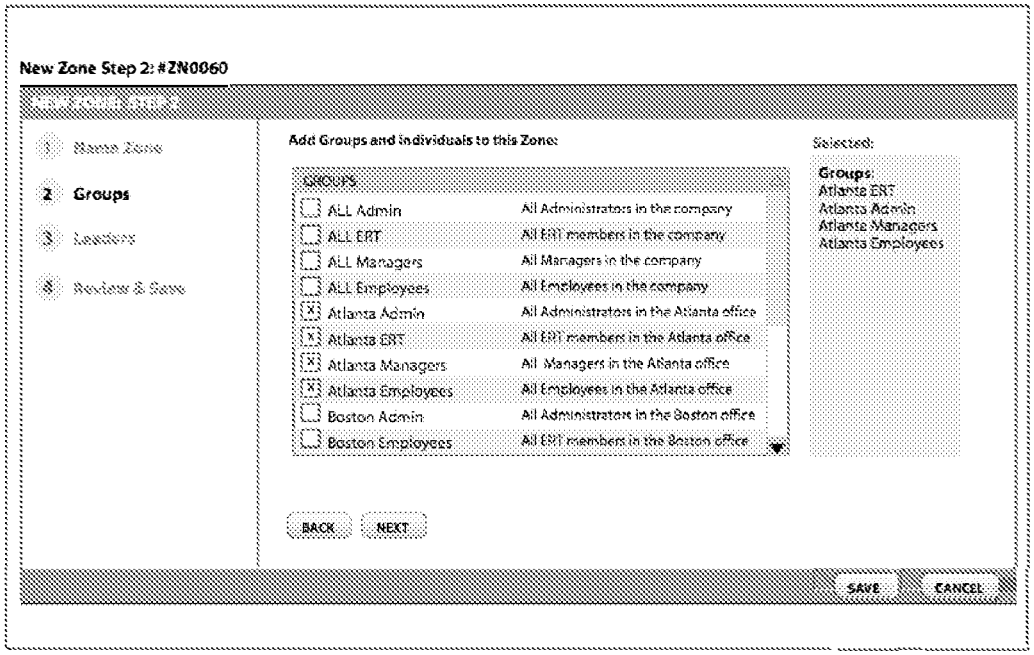
APIs

Object w/ Zone Information
- methods(add)(update)(get)(delete)

Server Side Validation

Validate Zone Name is Unique.

(d) Groups - #ZN0060



Description

Step 2 is when you select which groups will be a part of your zone.

View

Sorts by Group Names, alphabetical, ASC. Error message is caused if no groups are selected and user clicks Next. Cancel will give user a confirmation.

Navigation

- **BACK** goes to 4(c)
- **NEXT** goes to (e)
- **SAVE** saves data.
- **CANCEL** goes to (a)
- **SEARCH** searches through corporate AD for groups to add

Client Side Validation

Give Error if user clicks next without selecting at least 1 group.

APIs

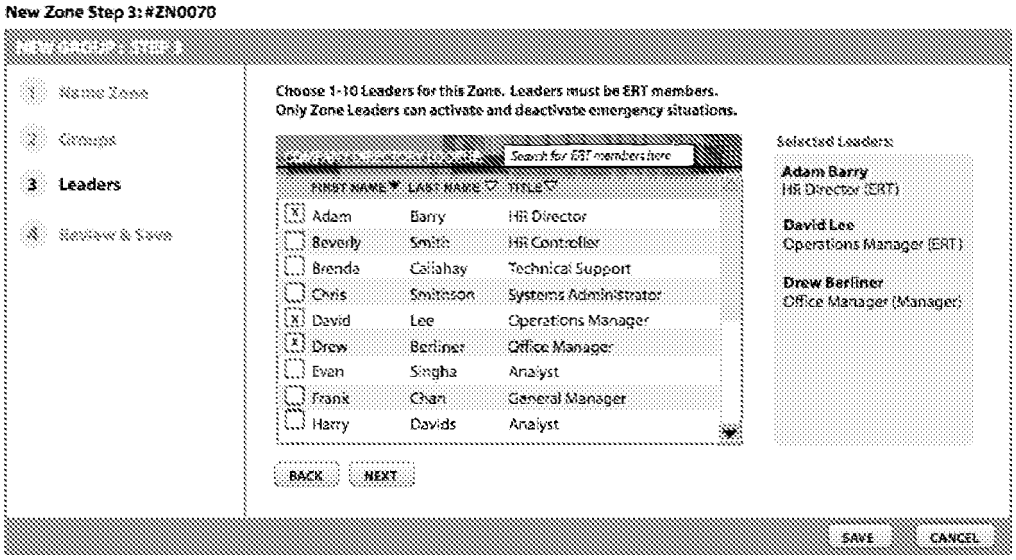
Object w/ zone information
- methods(update)(delete)(get)

Object w/ all group information
- methods(get all)

Object w/ all Corporate AD group
- methods(search)

Server Side Validation

(e) Leaders - #ZN0070



Description

Step 3 defines who the team leaders are for this zone. These are the users who will manage a scenario, including activation and de-activation.

View

Sort by first name, last name. Default sorting set to last name, ASC, Cancel will give user a confirmation.

Navigation

- **BACK** goes to (d)
- **NEXT** goes to (f)
- **SAVE** saves data.
- **CANCEL** goes to (a)
- **SEARCH** searches through the ERT Group

Client Side Validation

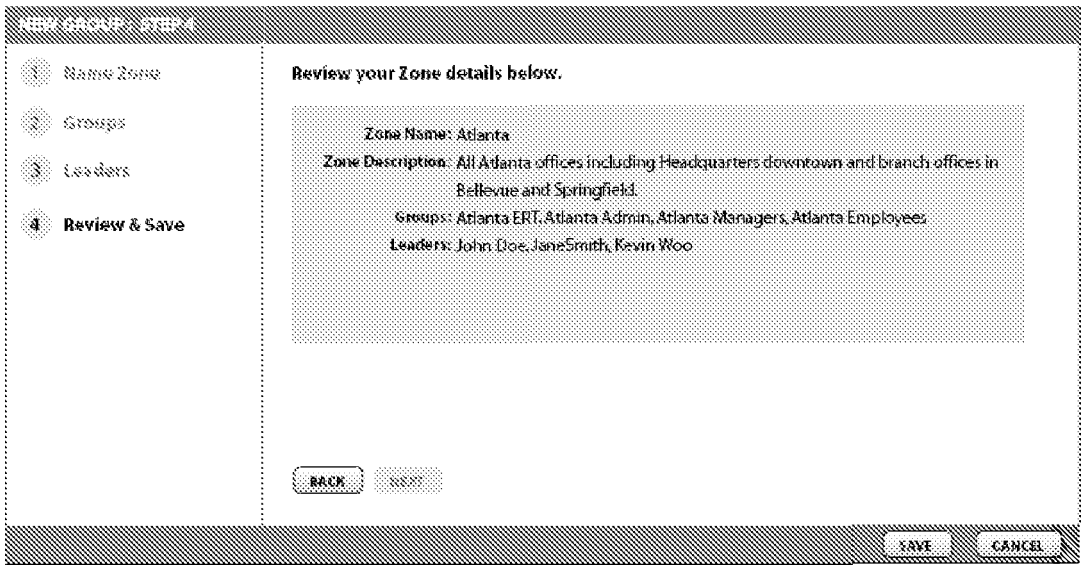
Validate that at least one leader has been selected.

APIs

Object w/ zone information
- methods(update)(get)(delete)
Object w/ all ERT members
- methods(get all)(search)

Server Side Validation

(f) Review and Save - #ZN0080



Description

Step 4, and the final step of creating a zone is reviewing all the zone data you have entered and then saving the zone.

View

Save will give user a confirmation. Cancel will give user a confirmation.

Navigation

- **BACK** goes to 4(c) 4(d)
- **SAVE** goes to (a)
- **CANCEL** goes to (a)

Client Side Validation

APIs

Object w/ zone information
- methods(update)(delete)

Server Side Validation

6. Notifications

(a) Notification Workflow - #NF0010

Notification Workflows

The table below lists Notification Workflows currently available. Notification Workflows are included in Scenarios to control how frequently Emergency Activation and Deactivation Alerts are sent to employees through SMS, email and the web portal. Responses to Emergency Alerts are required and control the employee Roll Call display.

EDIT VIEW DELETE NEW NOTIFICATION WORKFLOW

NOTIFICATION WORKFLOW NAME	DESCRIPTION	IMPORTANCE	LAST MODIFIED
Urgent, infinite alerts	Infinite Activation and Deactivation Alerts	★★	07/01/2006
Urgent, 10 alerts	10 Activation and Deactivation Alerts	★★	07/01/2006
Urgent, 3 alerts	3 Activation and Deactivation Alerts	★★	07/01/2006
Important, infinite alerts	Infinite Activation and Deactivation Alerts	★	07/01/2006
Important, 10 alerts	10 Activation and Deactivation . Alerts	★	07/01/2006
Important, 3 alerts	3 Activation and Deactivation Alerts	★	07/01/2006
Important, 1 alert	1 Activation and Deactivation Alerts	★	07/01/2006
Moderate, 5 alerts	5 Activation and 2 Deactivation Alerts	☆	07/01/2006
Moderate, 3 alerts	3 Activation and 1 Deactivation Alerts	☆	07/01/2006
Moderate, 1 alert	1 Activation and Deactivation Alerts	☆	09/11/2006
Low, 3 alerts	3 Activation and 1 Deactivation Alerts	☆	08/05/2006
Low, 1 alert	1 Activation and 1 Deactivation Alerts	☆	08/05/2006

Description

Notification Workflows are a way of defining how the initial alerts will be sent out to the users in a given emergency.

View

Can sort by Notification Name, Importance, and last modified. Default Sorting is by Importance, DESC. Pressing the delete button will bring up a confirmation.

Navigation

- **EDIT** goes to (d)
- **VIEW** goes to (b)
- **DELETE** goes to (b)
- **NEW NOTIFICATION** goes to (c)

Client Side Validation

APIs

Object w/ all Notification Workflow information

- methods(add)(delete)(get all)

Importance is object to pull from db. (get)
Object level locking for Notification.

Server Side Validation

(b) Notification Detail View - #NF0020, Delete Notification - #NF0040

View Notification Workflow Details: #NF0020
Same as step 5 of the New Notification Workflow process.

Name: Urgent, Hourly SMS Alerts
Description: Hourly SMS Activation Alerts sent; email alerts sent every twelve hours. Deactivation SMS Alerts sent every 4 hours; every 12 hours by email.
Importance Level: Urgent
SMS Activation Alerts: Hourly
Email Activation Alerts: Every 12 hours
SMS Deactivation: Every 4 hours
Email Deactivation: Every 12 hours

EDIT DELETE

Edit Notification Workflow : #NF0030
Editing a wirkflow is almost identical to the Create New Workflow process. The same screens appear with all fields pre-filled.

Delete Notification Workflow : #NF0040
We may want to include some rules such as Workflows can NOT be deleted after they have been included in Scenarios. Default workflows also can not be deleted.

Are you sure you want to delete the Notification Workflow named: **Urgent: Hourly SMS Alerts?**

YES DELETE NO CANCEL

Description

These screens are brought up when a user clicks either view, or delete from the main page. View shows all the details of the Notification Workflow, and gives the option to go directly into edit or to delete the record. Delete, brings up a confirmation asking if you are sure you would like to delete the Notification Workflow.

View

Navigation

- **EDIT** goes to (d)4(c)
- **DELETE** goes to (b)
- **YES, DELETE** delete, then goes to 4(b)(a)
- **NO, CANCEL** goes to (a)

Client Side Validation

APIs

Object w/ Notification Information
- methods(get)(delete)

Server Side Validation

(c) Start and Choose Source - #NF0050

New Notification Workflow

Follow the 5 simple steps below to create a new Alert Notification Workflow.

1 Start and Choose Source
2 Name Notification Workflow
3 Create Activation Workflow
4 Review & Save

Create a new Notification Workflow from scratch
Use an existing Notification Workflow to begin. Click a Notification Workflow name below to select it.

NOTIFICATION WORKFLOW NAME	DESCRIPTION	IMPORTANCE
Urgent, infinite alerts	Infinite Activation and Deactivation Alerts	★
Urgent, 10 alerts	10 Activation and Deactivation Alerts	★
Urgent, 3 alerts	3 Activation and Deactivation Alerts	★
Important, infinite alerts	Infinite Activation and Deactivation Alerts	☆
Important, 10 alerts	10 Activation and Deactivation Alerts	☆
Important, 3 alerts	3 Activation and Deactivation Alerts	☆
Important, 1 alert	1 Activation and Deactivation Alerts	☆
Moderate, 5 alerts	5 Activation and 2 Deactivation Alerts	☆
Moderate, 3 alerts	3 Activation and 1 Deactivation Alerts	☆
Moderate, 1 alert	1 Activation and Deactivation Alerts	☆

BACK NEXT

SAVE CANCEL

Description

At this point you can choose to create a Notification Workflow from scratch, or, use an existing one as a template.

View

Can sort by Notification Name, Importance. Default Sorting is by Importance, DESC. When using existing, default selects record 1.

Navigation

- **NEXT** goes to (d)4(c)
- **SAVE** save data
- **CANCEL** goes to (a)

Client Side Validation

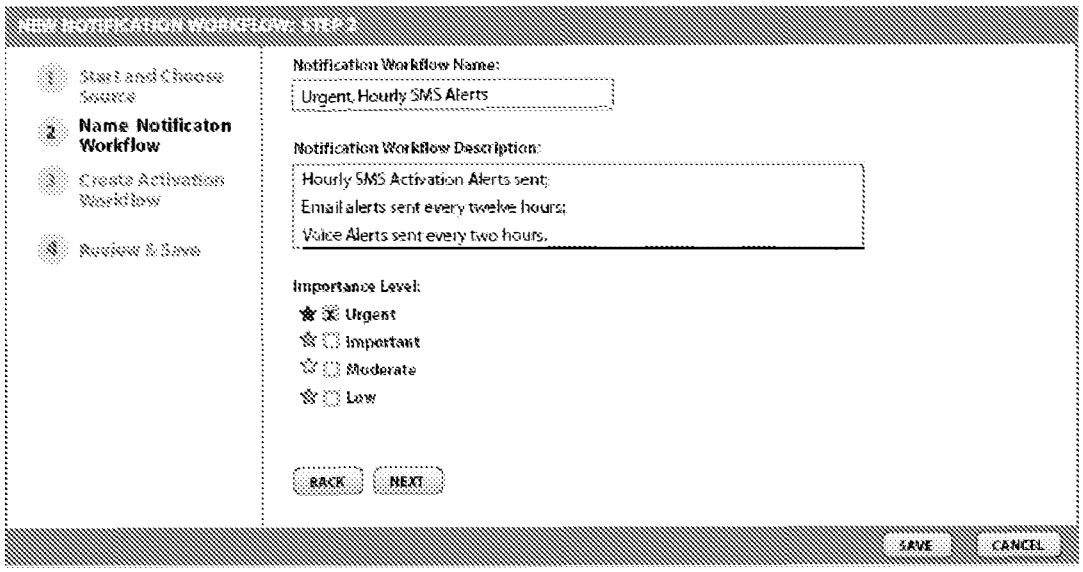
APIs

Object w/ Notification Workflow information
- methods(add)(get all)(clone)

Importance is object to pull from db. (get)

Server Side Validation

(d) Name Notification Workflow - #NF0060



Description

At this step, you enter in the name, description, and importance level of your Notification Workflow.

View

Navigation

- **BACK** goes to (c)
- **NEXT** goes to (e)4(c)
- **SAVE** save data
- **CANCEL** goes to (a)

Client Side Validation

Validate that all fields are filled out before moving on.

APIs

Object w/ Notification Workflow information

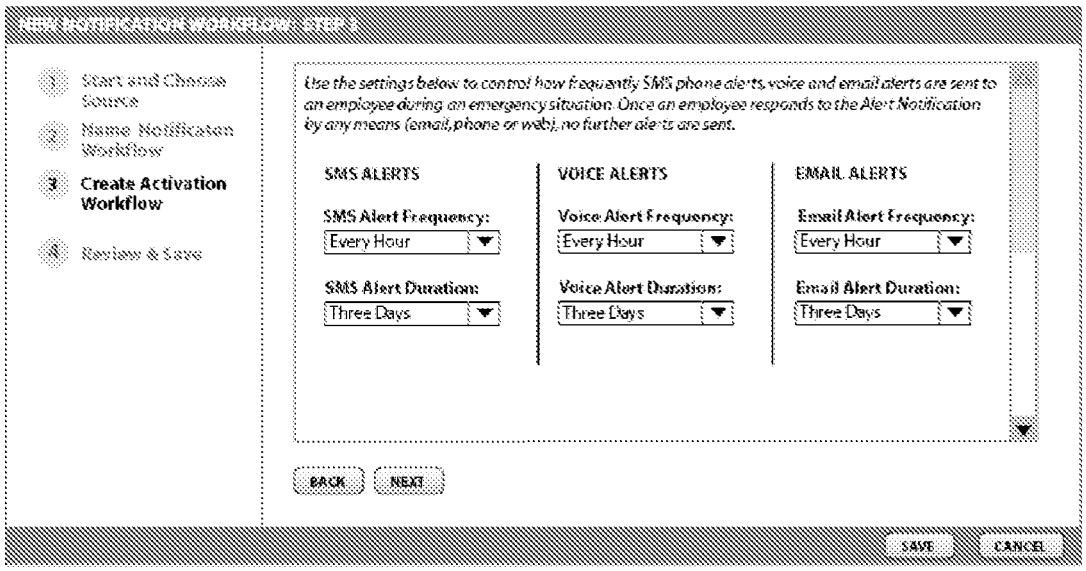
- methods(update)(get)(delete)

Importance is object to pull from db. (get)

Server Side Validation

Validate that Workflow Name is unique

(e) Create Activation & Deactivation Workflow - #NF0070



Alert Frequencies:	Alert Durations:
Every 15 Minutes	12 hours
Every Half Hour	1 day
Every Hour	2 days
Every 2 Hours	3 days
Every 4 Hours	4 days
Every 8 hours	5 days
Every 12 Hours	1 week
Every 24 Hours	2 weeks
	infinite

Description

Here you set the frequency and the duration that messages will go out for each delivery option.

View

Default values based on priority setting.

Navigation

- **BACK** goes to (d)
- **NEXT** goes to (f)4(c)
- **SAVE** save data
- **CANCEL** goes to (a)

Client Side Validation

APIs

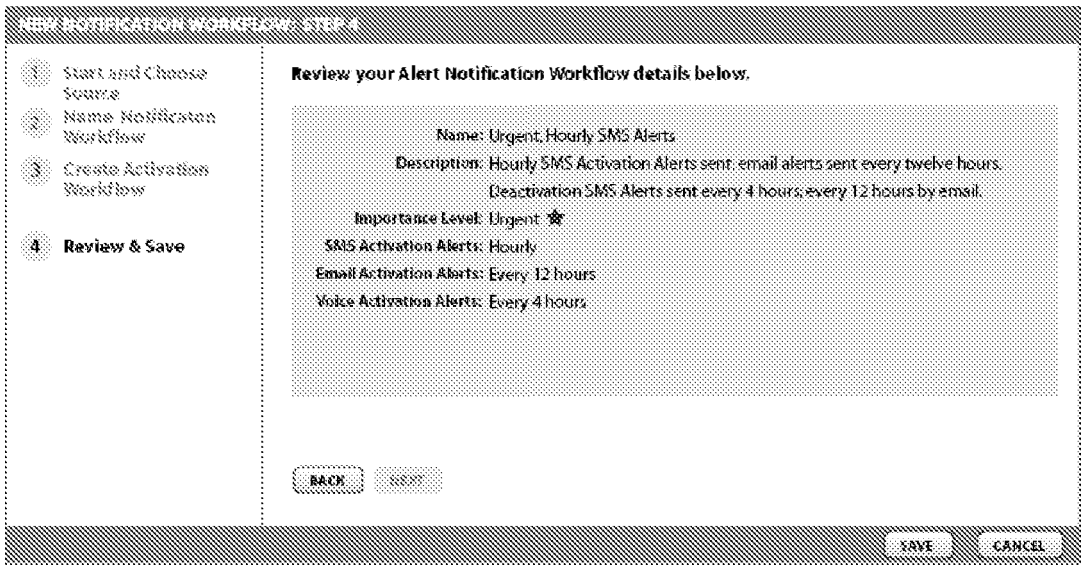
Object w/ Notification Workflow information
- methods(delete)(update)(get)

Object w/ frequency and duration
- methods(get)

Frequency is object to pull from db. (get)
Duration is object to pull from db. (get)

Server Side Validation

(f) Review and Save - #NF0080



Description

This is the final step where you review your information and save it for use.

View.

Navigation

- **BACK** goes to (e)
- **SAVE** save data, goes to (a)
- **CANCEL** goes to (a)

Client Side Validation

APIs

Object w/ Notification Workflow information
- methods(delete)(update)(get)

Server Side Validation

7. Surveys

(a) View Surveys - #SV0010

Surveys

The table below lists Surveys currently available. Surveys can be included in Scenarios and also sent to employees after an emergency situation has started. Surveys are displayed on the Remote Workforce Web Portal.

EDIT VIEW DELETE NEW SURVEY

SURVEY NAME	DESCRIPTION	LAST MODIFIED
Simple Status	Simple status check; one question and open response field	07/01/2006
General Health	Simple health check; one question and open response field	07/01/2006
Family Status	Simple family health check, one question and open response field	07/01/2006
Internet Status	Simple connectivity check; one question and open response field	07/01/2006
Equipment Status	Equipment Inventory; 10 open questions	07/01/2006
Commute Status	Commute status, 5 questions	07/01/2006
Phone Status	Simple phone check, one question	07/01/2006
NetMeeting Status	NetMeeting check, one question	07/01/2006
GoToMyPC Status	GoToMyPC check one question	07/01/2006
Long Work Status	Remote employee satisfaction questionnaire, 20 questions	08/11/2006
Evacuation Status	Evacuation status, 5 questions	08/05/2006
DamageStatus	Damage inventory, 10 questions	08/05/2006
Remote Status	Remote relocation employees roll call, 10 questions	07/01/2006
Travel Status	Travel planning survey, 10 questions	07/01/2006
Long Planning	Emergency deactivation planning, 20 questions	07/01/2006

Description

Surveys are used to collect information from users through the portal. On this page, you can see all of the surveys that have been created. From this page you can edit, view, and delete surveys as well as create a new survey.

View

Sort by Survey Name, Last Modified. Default sort is by survey name, ASC. Pressing the delete button will bring up a confirmation.

Navigation

- **EDIT** goes to (d)
- **VIEW** goes to (b)
- **DELETE** goes to (b)
- **NEW SURVEY** goes to6(c)

Client Side Validation

APIs

Object w/ survey data
- methods(delete)(get all)
Object level locking for surveys.

Server Side Validation

(b) Survey Detail View - #SV0020, Delete Survey - #SV0040

View Survey Details: #SV0020
Same as step 4 of the New Survey process.

Survey Name: Atlanta Employee Relocation
Group Description: What employees would interested in relocating to the Houston or New York offices and what family members would accompany them
Questions: 1. Would you be interested in relocating to the New York or Houston offices? (yes/no)
2. If you would like to relocate, which location would you prefer? (New York, Houston)
3. How many family members would relocate with you? Please list by name and relationship. (Open-ended multi-line response)

EDIT DELETE

Edit Survey: #SV0030
Editing a survey is almost identical to the Create New Survey process. The same screens appear with all fields pre-filled.

Delete Survey: #SV0040
We may want to include some rules such as Surveys can NOT be deleted after they have been included in Scenarios. Default scenarios also can not be deleted.

DELETE SURVEY

Are you sure you want to delete the Survey named:
Atlanta Hurricane Amelia Test?

YES DELETE NO CANCEL

Description

These screens are brought up when a user clicks either view, or delete from the main page. View shows all the details of the survey, and gives the option to go directly into edit or to delete the record. Delete, brings up a confirmation asking if you are sure you would like to delete the survey.

View

Navigation

- **EDIT** goes to (c)4(c)
- **DELETE** goes to (b)
- **YES, DELETE** delete, then goes to 4(b)(a)
- **NO, CANCEL** goes to (a)

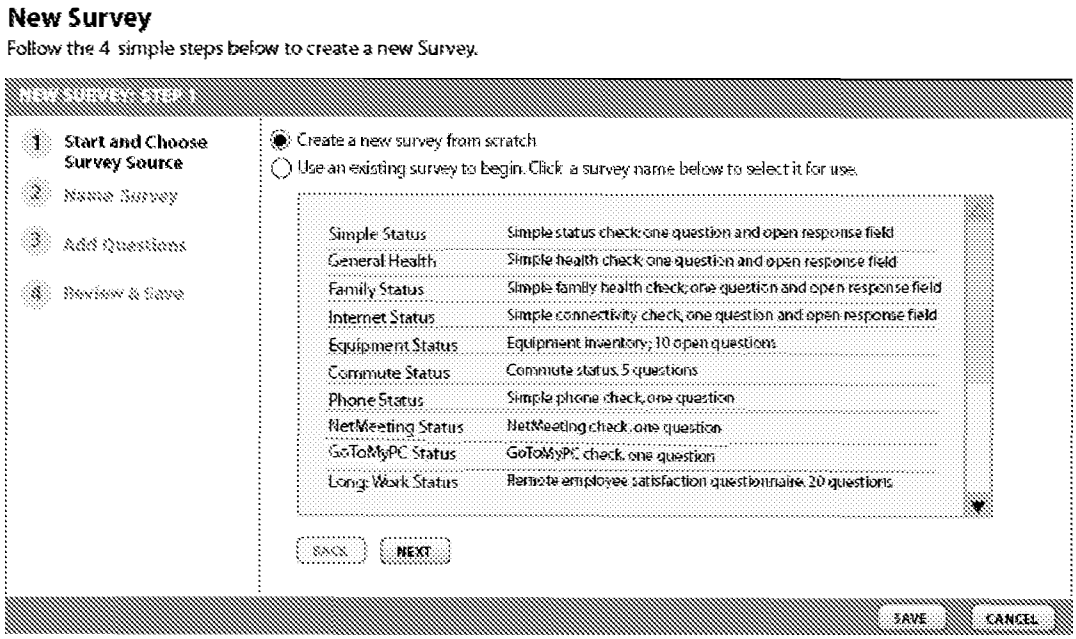
Client Side Validation

APIs

Object w/ Survey Information
- methods(get)(delete)

Server Side Validation

(c) Start and Choose Survey Source - #SV0050



Description

Step 1 of creating a survey is selecting between using an existing survey as a template or creating a new survey from scratch.

View

Default Sorting is by Name, ASC. Cancel button will bring up a confirmation. Selecting existing, default to record 1.

Navigation

- **NEXT** goes to (d)
- **SAVE** saves data
- **CANCEL** goes to (a)

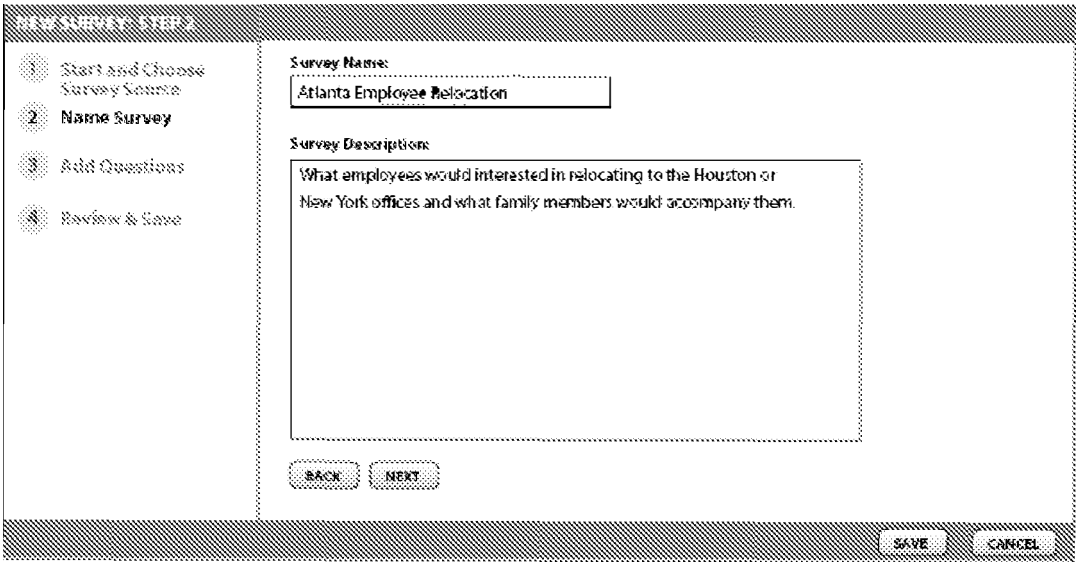
Client Side Validation

APIs

Object w/ all survey data
- methods(clone)(get all)

Server Side Validation

(d) Name Survey - #SV0060



Description

Step 2 is defining the Name and Description of your survey for selection purposes.

View

Default Sorting is by Name, ASC. Cancel button will bring up a confirmation. Selecting existing, default to record 1.

Navigation

- **BACK** goes to (c)
- **NEXT** goes to (e)
- **SAVE** saves data
- **CANCEL** goes to (a)

Client Side Validation

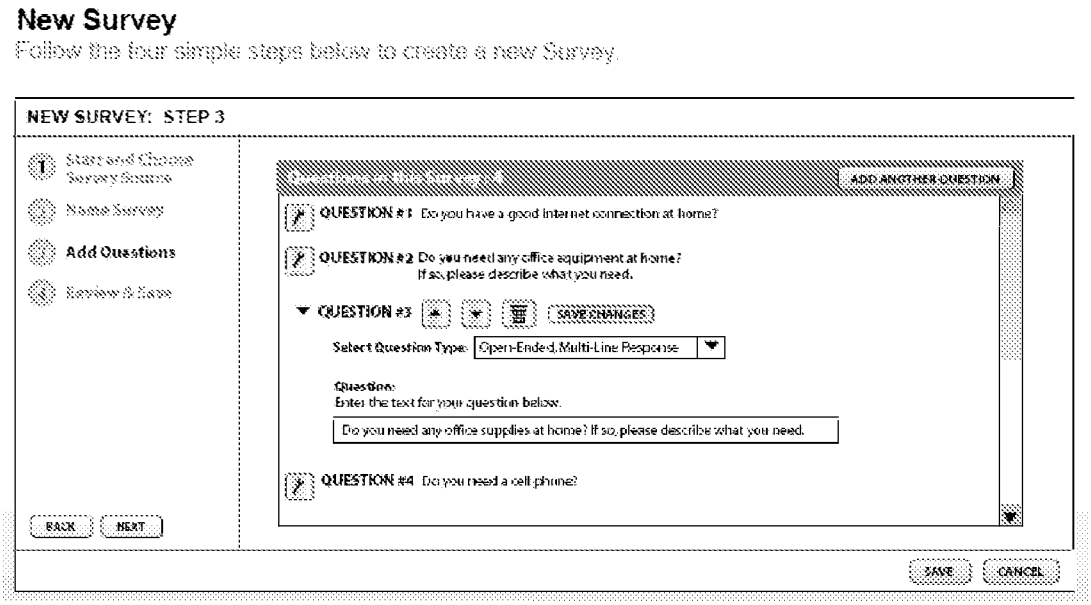
Error message is caused if any fields are not filled out and user clicks Next.

APIs

Object w/ survey data
- methods(update)(get)(delete)

Server Side Validation

(e) Add Questions - #SV0070



Description

Step 3 is when you add your questions to the survey. First you select the type of question you want, this associates to the type of answers you accept from the user. You then enter an answer. Then you can add another question, or move on to the next step.

View

Error message is caused if no questions are entered and user clicks Next. All buttons except for Save(in the question) will be grayed out during the creation of a new question. Cancel will give user a confirmation. Delete(question) will give confirmation. No move up button for first question. No move down button for last question. Cancel button needs to be in new question.

Navigation

- **BACK** goes to (d)
- **NEXT** goes to (f)
- **SAVE** saves data
- **CANCEL** goes to (a)

- **ADD ANOTHER QUESTION** brings up another question to be added.
- **MOVE UP** moves question up in order of questions
- **MOVE DOWN** moves question down in order of questions
- **EDIT** brings up edit fields for questions
- **REMOVE** removes question from survey
- **SAVE (in question area)** Saves new question to survey.

Client Side Validation

Validate that at least one question has been entered before proceeding.

APIs

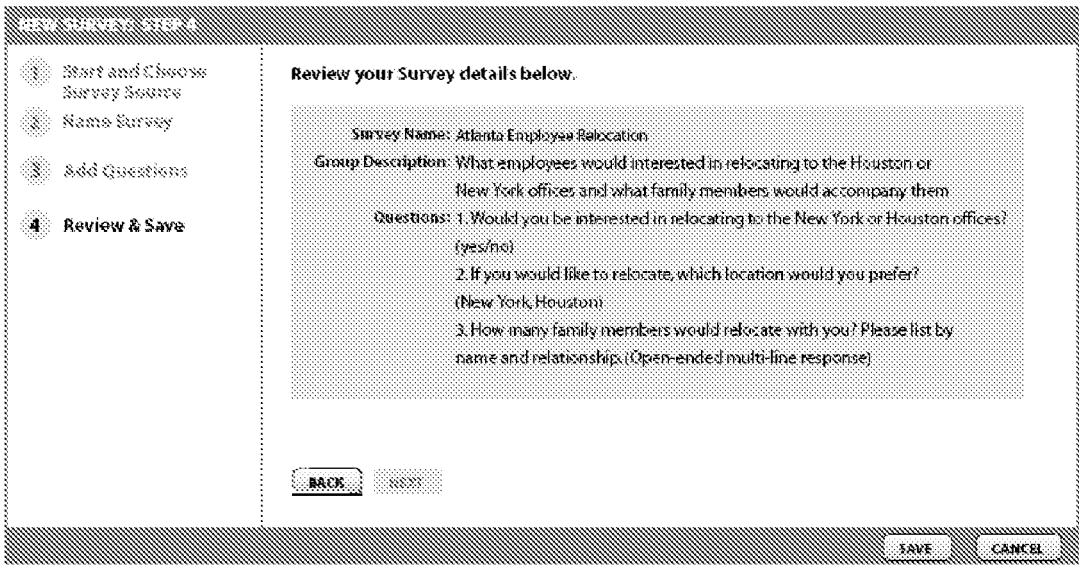
Object w/ survey data

- methods(add question)(delete question)(get question) (update)(get) (delete)

Question type is object to pull from db. (get)

Server Side Validation

(f) Review and Save - #SV0080



Description

This is the final step where you review your information and save it for use.

View.

Navigation

- **BACK** goes to (e)
- **SAVE** save data, goes to (a)
- **CANCEL** goes to (a)

Client Side Validation

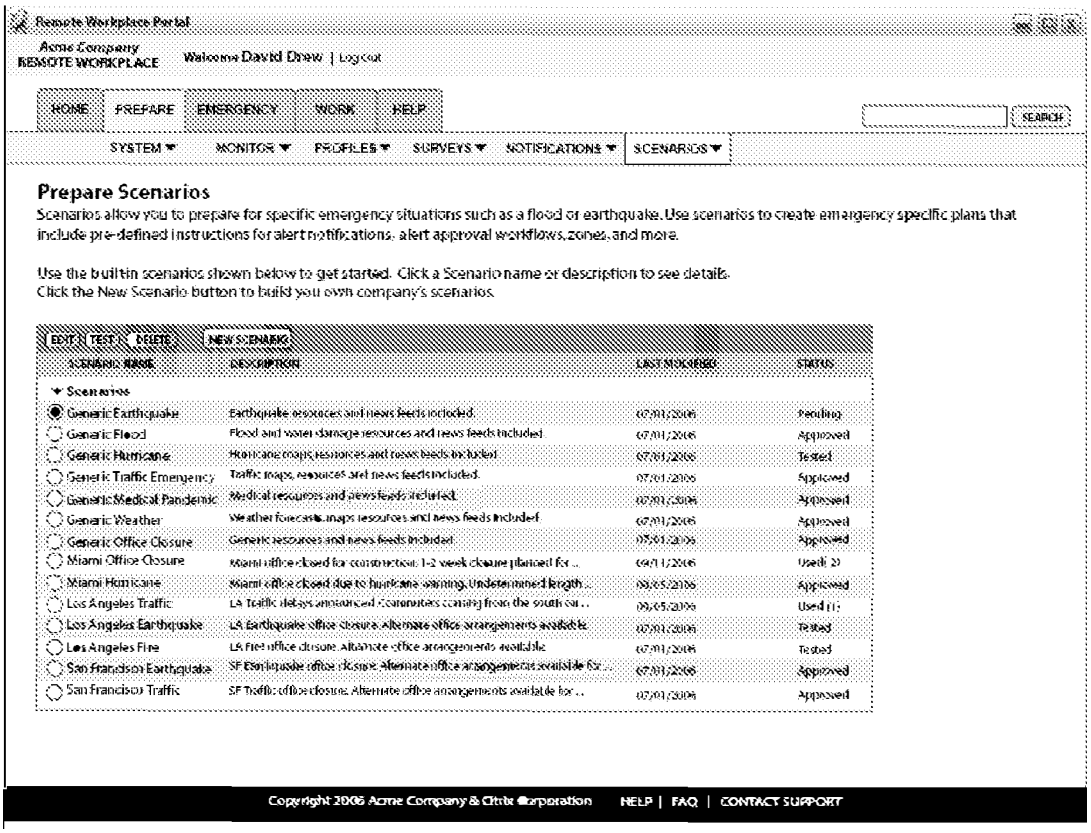
APIs

Object w/ survey data
- methods(update)(delete)(get)

Server Side Validation

8. Scenario Creation

(a) View Scenarios - #SC0010



For Pending Scenarios: If a user who is not an approver for the said scenario clicks the Edit button or scenario name, they see the standard Details screen. An approver however will also see approve/deny buttons on the Details window.

Description

When you first to the scenario preparation screen you see a list of all the scenarios that have been created by ERT members. As well as controls to edit and delete a scenario, and to create a new scenario. There is also an option to test a scenario. This activates a scenario for a small number of users defined in the *test* group.

View

Sort by Scenario Name, last modified, status. Default Sorting is Scenario Name, alphabetical, ASC. Pressing the delete button will bring up a confirmation.

Navigation

- **EDIT** goes to (d)
- **VIEW** goes to (b)
- **DELETE** goes to (b)
- **NEW SCENARIO** goes to 4(c)

Client Side Validation

APIs

Object w/ all scenario data
- methods(add)(delete)(get all)
Object w/ scenario data
-methods(get)

Server Side Validation

Object level locking for scenarios.

By default, status is in-progress. Status is object from database.

(b) Scenario Detail View - #SC0020, Delete Scenario - #SC0040

View Scenario Details : #SC0020
If a scenario has already been approved/used, the Delete button does not appear.

VIEW SCENARIO DETAILS

Scenario Name: Atlanta Hurricane Southern Offices Closure
Scenario Description: A hurricane warning for the southern coast of Georgia ...
Alert Workflow: SMS, Email, Urgent, every four hours until response received
Alert SMS Message: A hurricane has forced office closure. Respond and activate USB device.
Alert Email Message: A hurricane warning has forced office closure for your area ...
Web Status Message: <date stamp> A hurricane warning has forced office ...
Selected Zones: Atlanta South
Selected Survey: Family Health
News: Atlanta Times, Atlanta Special Edition, New York Times
Resources: Atlanta Employee Status Map, Hurricane Maps

EDIT TEST DELETE

Delete Scenario : #SC0050
We may want to include some rules such as Scenarios can NOT be deleted after they are approved/used (or only admins can delete them.

DELETE SCENARIO

Are you sure you want to delete the Scenario named:
Atlanta Hurricane?

YES DELETE NO CANCEL

Description

These screens are brought up when a user clicks either view, or delete from the main page. View shows all the details of the scenario, and gives the option to go directly into edit or to delete the record. Delete brings up a confirmation asking if you are sure you would like to delete the scenario. If a Scenario has already been approved and/or used, the Delete button does not appear. If the user is an Approver for a scenario they will also see Approve and Deny buttons on the View Details window.

View

Navigation

- **EDIT** goes to (d)4(c)
- **DELETE** goes to (b)
- **TEST** goes to test page in Emergency Section
- **YES, DELETE** delete, then goes to 4(b)(a)
- **NO, CANCEL** goes to 4(b)(a)

Client Side Validation

APIs

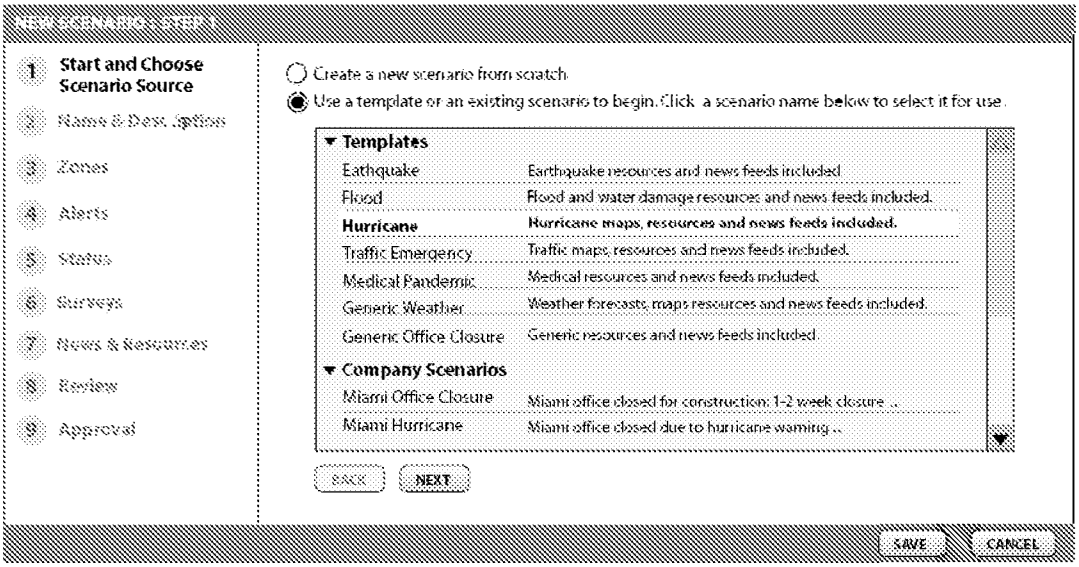
Object w/ Scenario Information
- methods(get)(delete)

Server Side Validation

(c) Choose Scenario Sources - #SC0060

New Scenario

Follow the nine simple steps below to create a new Scenario from an existing scenario or from scratch.



Description

After choosing to create a new scenario you choose a source for your new scenario. This allows you to pick from either templates or already prepared scenarios to pre-populate data into the scenario. The option is to create a scenario from scratch where no data is pre-populated.

View

Sort by Scenario Name. Default Sorting is by Scenario Name, ASC. Cancel button will bring up a confirmation. Default when select existing, selects record 1.

Navigation

- **NEXT** goes to (d)
- **SAVE** saves data
- **CANCEL** goes to (a)

Client Side Validation

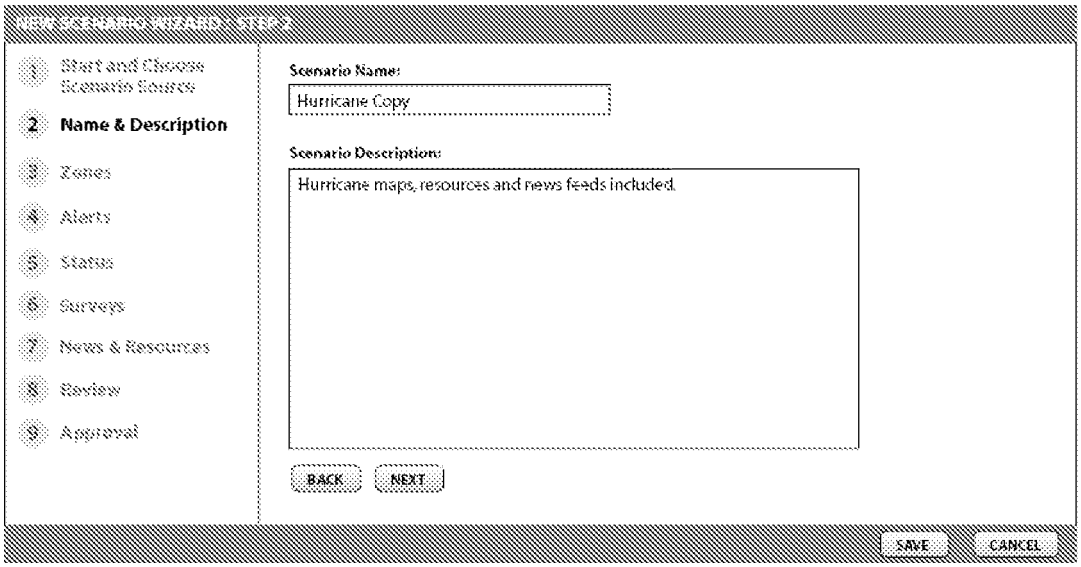
APIs

Object w/ all scenario data

- methods(get all corporate scenarios)(get all template scenarios)(clone scenario)(clone template)

Server Side Validation

(d) Name and Description - #SC0070



Description

At this point you will be setting up the name and description of your scenario. These are for selection purposes later on when activating or editing your scenario.

View

Navigation

- **BACK** goes to (c)
- **NEXT** goes to (e)
- **SAVE** saves data
- **CANCEL** goes to (a)

Client Side Validation

Error message is caused if any fields are not filled out and user clicks Next.

APIs

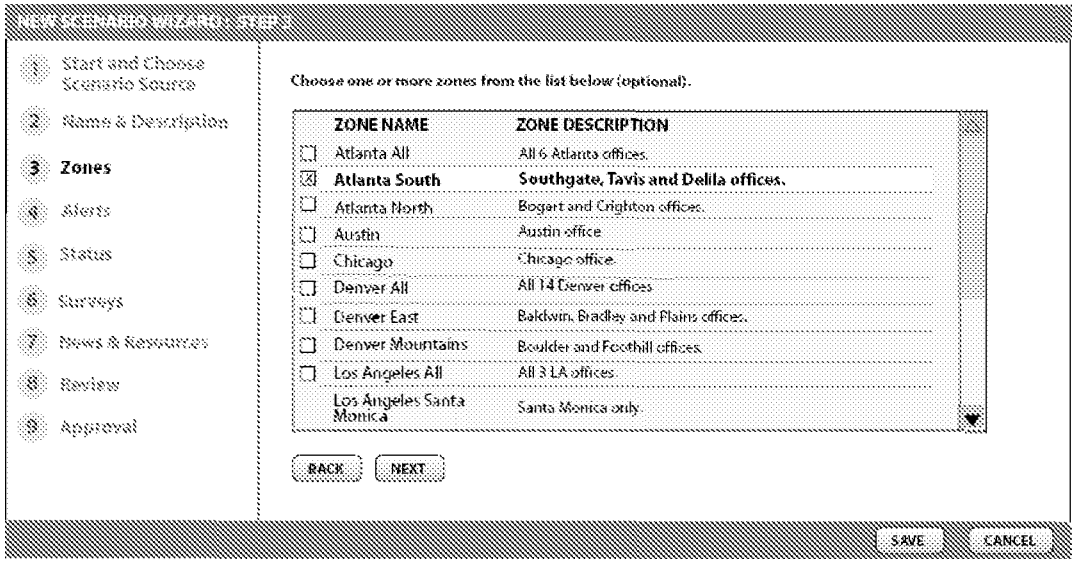
Object w/ scenario data

- methods(delete)(update)(get)

Server Side Validation

Make sure that scenario name is unique.

(e) Zones - #SC0080



Description

Configuring zones is optional at this point. You can choose to assign which zones will be affected by the scenario or leave it blank and assign zones on activation. (even if you assign zones now, you can change those choices on activation)

View

Zone is not a required field.

Navigation

- **BACK** goes to (d)
- **NEXT** goes to (f)
- **SAVE** saves data
- **CANCEL** goes to (a)

Client Side Validation

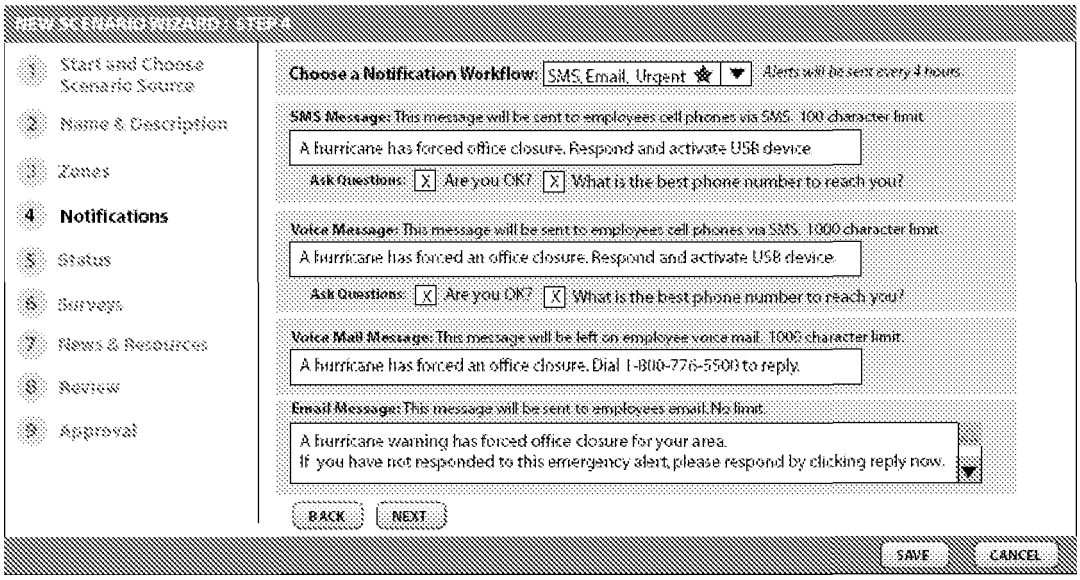
APIs

Object w/ scenario data
- methods(delete)(update)(get)
Object w/ all zone information
- methods(get all)

Server Side Validation

Zone is not required field.

(f) Notifications - #SC0090



Description

Here you will configure the messages that get sent out for each device to users in an emergency.

View

Questions not required.

Navigation

- **BACK** goes to (e)
- **NEXT** goes to (g)
- **SAVE** saves data
- **CANCEL** goes to (a)

Client Side Validation

Error message is caused if any fields are not filled out and user clicks Next. Questions not required

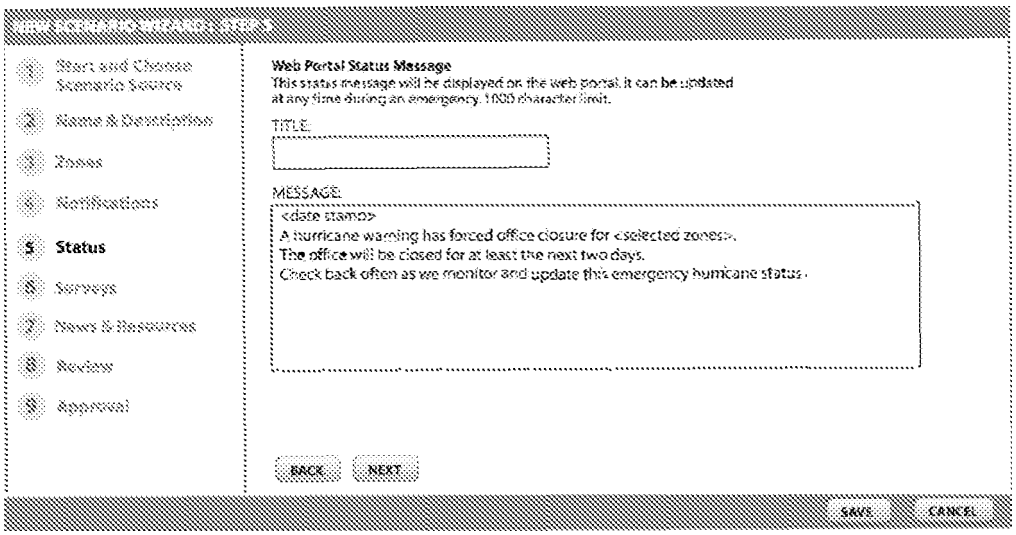
APIs

Object w/ scenario data
- methods(delete)(update)(get)
Object w/ all Notification Workflow information
- methods(get all)
Questions come from the database, and Notification info from db.

Server Side Validation

Questions not required.

(g) Status - #SC0100



Description

At this point you will configure the initial Status message that will be deployed with your scenario when activated. This message will appear on the main portal page and the sidebar for all employees and can be changed before deploying a scenario and during a scenario.

View

Navigation

- **BACK** goes to (f)
- **NEXT** goes to **Error! Reference source not found.**
- **SAVE** saves data
- **CANCEL** goes to (a)

Client Side Validation

Error message is caused if field are not filled out and user clicks Next.

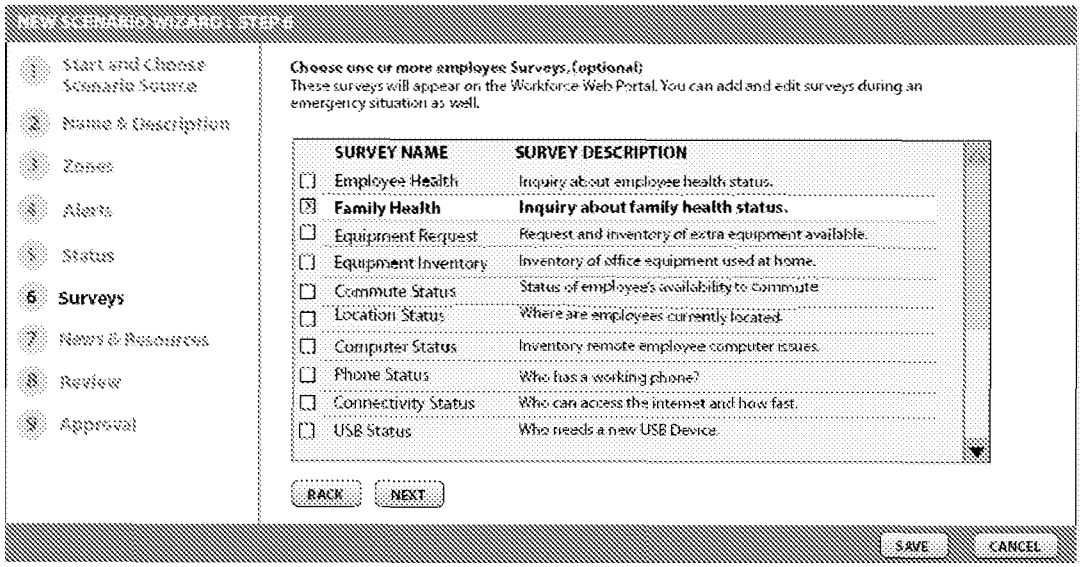
APIs

Object w/ scenario data

- methods(delete)(update)(get)

Server Side Validation

(h) Surveys - #SC0110



Description

The surveys that you choose here will appear for users to fill out on the main portal page. You can choose as few or as many as you want. You will be able to deploy new surveys after a scenario is activated.

View

Sort by Survey Name, ASC

Navigation

- **BACK** goes to (g)
- **NEXT** goes to (i)
- **SAVE** saves data
- **CANCEL** goes to (a)

Client Side Validation

Not a required field.

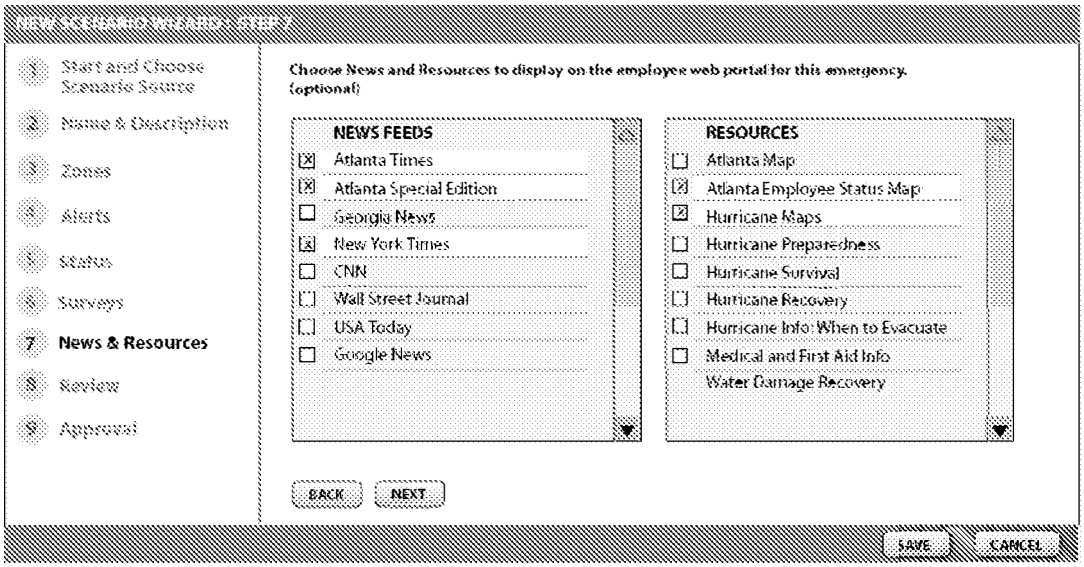
APIs

Object w/ scenario data
- methods(delete)(update)(get)
Object w/ all surveys
- methods(get all)

Server Side Validation

Not a required field.

(i) News and Resources - #SC0120



Description

Here is where you add news feeds and resources to your scenario. Again you can choose as few as or as many as you would like. You can add more after the scenario has been activated.

View

Sort by News Feed Name, ASC. Sort by Resource Name, ASC

Navigation

- **BACK** goes to **Error! Reference source not found.**
- **NEXT** goes to (j)
- **SAVE** saves data
- **CANCEL** goes to (a)

Client Side Validation

Not a required field.

APIs

Object w/ scenario data
- methods(delete)(update)(get)

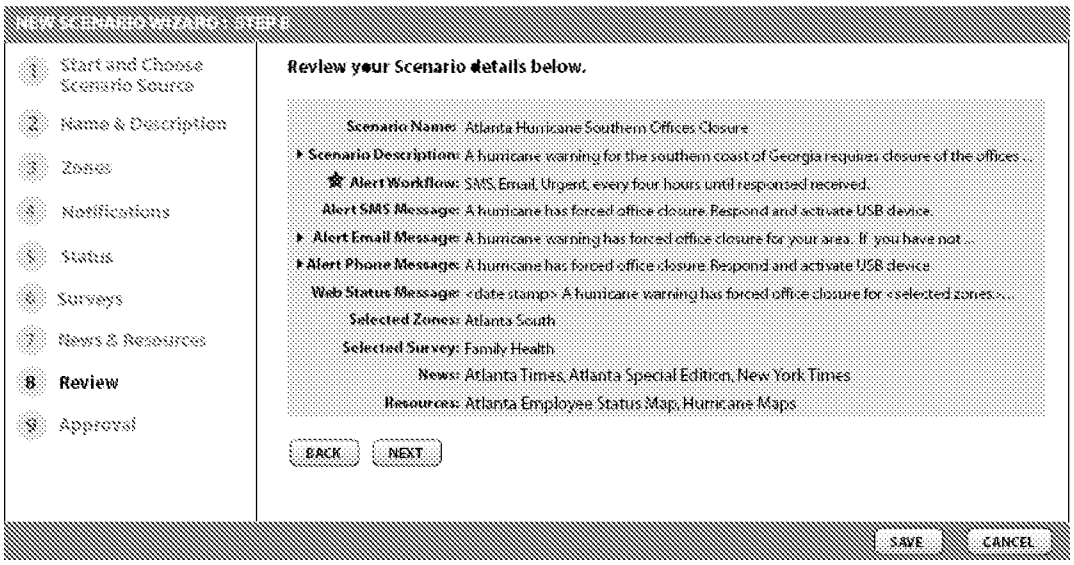
Object w/ all news info
- methods(get all)

Object w/ all Resources info
- methods(get all)

Server Side Validation

Not a required field.

(j) Review - #SC0130



Description

This is the final step where you review your information and save it for approval (if required)

View.

Navigation

- **BACK** goes to (i)
- **SAVE** save data, goes to (k)
- **CANCEL** goes to (a)

Client Side Validation

If validation is required, send to (k), otherwise, save data and go to (a)

APIs

Object w/ scenario data
- methods(delete)(update)(get)

Server Side Validation

Step 8: Review Alternative: No Approval Required

NEW SCENARIO WIZARD - STEP 8

1 Start and Choose Scenario Source
2 Name & Description
3 Zones
4 Notifications
5 Status
6 Surveys
7 News & Resources
8 Review

Review your Scenario details below. When you are finished, click the Save button. Your Scenario wil then be complete and ready for testing.

Scenario Name: Atlanta Hurricane Southern Offices Closure
Scenario Description: A hurricane warning for the southern coast of Georgia requires closure of the offices ...
Alert Workflow: SMS, Email, Urgent, every four hours until responsed received
Alert SMS Message: A hurricane has forced office closure. Respond and activate USB device.
Alert Email Message: A hurricane warning has forced office closure for your area. If you have not ...
Alert Phone Message: A hurricane has forced office closure. Respond and activate USB device.
Web Status Message: <date stamp> A hurricane warning has forced office closure for <selected zones> ...
Selected Zones: Atlanta South
Selected Survey: Family Health
News: Atlanta Times, Atlanta Special Edition, New York Times
Resources: Atlanta Employee Status Map, Hurricane Maps

BACK NEXT

SAVE CANCEL

(alternative, no approval required)

If no approval, automatically sets status to approved. Otherwise, sets status to pending.

(k) Approval - #SC0140

NEW SCENARIO WIZARD - STEP 9

1 Start and Choose Scenario Source
2 Name & Description
3 Zones
4 Alerts
5 Status
6 Surveys
7 News & Resources
8 Review
9 Approval

Scenarios must be approved by at least one other ERT Member to be deployed.
Select one or two ERT members below to receive a Scenario Approval Request via email.

EMERGENCY RESPONSE TEAM
- [x] Adam Kingsley
- [ ] Bob Woo
- [ ] Chris Singha
- [x] Debbie Smith
- [ ] Earl Erlington
- [ ] Francine Black
- [ ] Heather Bishop
- [ ] John Snitherton
- Kevin Chan
- Michael Bloomberg

BACK SEND APPROVAL REQUEST

SAVE CANCEL

Your Scenario Approval Request has been sent to Adam Kingsley and Debbie Smith.
If you do not receive a response within 24 hours, you may send out approval requests to other ERTs. To send out more requests, choose this scenario from the Prepare > Scenarios page and click the Edit button.,

Description

This is the final step if approval is required. At this point you select the people that need to approve the scenario for it to become active. A confirmation message appears after clicking the Send Approval Request. Sample text for this message is shown above. An Email message is sent to the selected Approvers (see below for details).

View.

Default Sort is by Last Name, Alphabetical, ASC. Save will bring up a confirmation. Cancel will give user a confirmation. If ERT members selected, will get an email.

Navigation

- **BACK** goes to (j)
- **SEND APPROVAL REQUEST** goes to (a)
- **SAVE** save data
- **CANCEL** goes to (a)

Email Approval Request Message

- Title: Scenario Approval Request: <name of scenario>
- To: <Approver>
- From: <Scenario Creator>
- Date: <Date Stamp>
- Message: You have been asked to approve the following Emergency Response Scenario <Scenario Name & Description>. Click the link below to review full Scenario details and either approve or deny this scenario. Thank you, <Company Name> Emergency Response Team.
- Link <url to 9.3 Approval screen>

Client Side Validation

Error if user clicks "Send Approval Request" with less than the minimum required number of ERT members selected

APIs

Object w/ scenario data
- methods(delete)(update)(get)
Object with all ERT members
- methods(get all)
Object w/ config data
- method (get)

Server Side Validation

Email goes out to server side. Configuration for exchange server to be used.
When sent for approval, status is set to pending.

9. Scenario Approvals

(a) Approval Process

After approval, data is sent to the DB. After data is confirmed an email is sent to all selected approvers. This email contains some explanation text and a link to a page for approval (link contains scenario ID). When approver clicks link they go to

Log in screen (if not already logged in)

Then to scenario review page where all scenario data can be seen. On this page is also 2 buttons (approve) (deny) and a comments field.

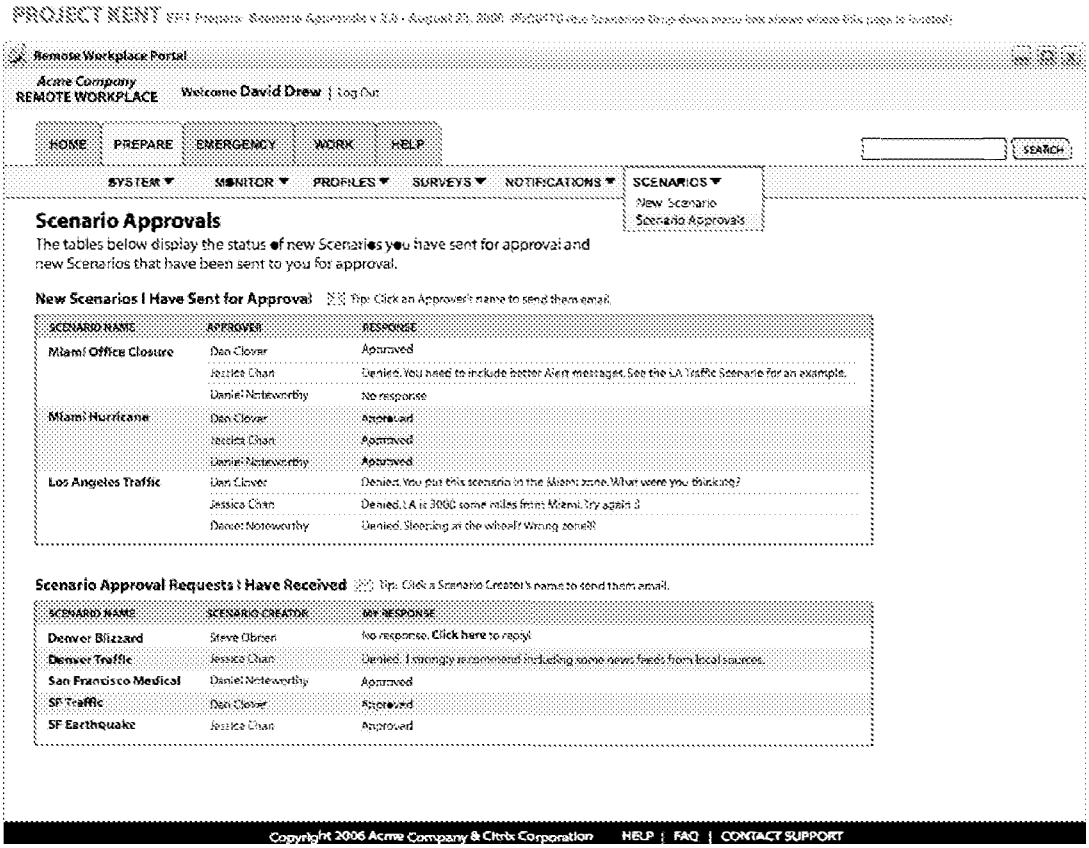
After approval or denial, inserts data into DB.

Go to confirmation page.

After all approvers have responded, system sends an email to the creator of the scenario letting them know if it was approved or denied and a has a link to a page where they can see the comments.

If approved, scenario becomes approved and able to activated, if not, can be edited and then resubmitted.

(b) Approvals Screen



Description

This is the screen that a user goes to check on approvals that they must make and the status of items they have sent out for approval. When the user clicks on a page that needs their approval, they go to the review and approval page shown above.

View.

Sort by Scenario Name. Default is by Scenario Name, ASC.

Navigation

- **CLICK ON NAME** goes to (c)

Client Side Validation

APIs

Object with all scenarios user has sent out for approval
- method(get)

Object with all scenarios user has to approve
- method (get)

Server Side Validation

(c) Approve Scenario Screen

Approve or Deny Page (linked from Approval Request email)

You have been asked to approve the new Emergency Scenario shown below.
Please review the Scenario details below. When you are finished, click the Approve or Deny button.
If you deny this Scenario, please include comments explaining why.

Scenario Name: Atlanta Hurricane Southern Offices Closure
Scenario Description: A hurricane warning for the southern coast of Georgia requires closure of the offices
Workflow: Urgent, every four hours until responced received.
SMS Message: A hurricane has forced office closure. Respond and activate USB device.
Email Message: A hurricane warning has forced office closure for your area. If you have not
Phone Message: A hurricane has forced office closure. Respond and activate USB device.
Voice Mail Message: <date stamp> A hurricane warning has forced office closure for <selected zones>
Web Status Message: <date stamp> A hurricane warning has forced office closure for <selected zones>. Dial 1-800-867-5500 to reply.
Selected Zones: Atlanta South
Selected Survey: Family Health
News: Atlanta Times, Atlanta Special Edition, New York Times
Resources: Atlanta Employee Status Map, Hurricane Maps

APPROVE DENY *Include the reason for denying this Scenario here ...*

Description

This is the screen that a person comes to, to approve or deny a scenario.

View.

Navigation

- **APPROVE** will give a confirmation
- **DENY** will give a confirmation

Client Side Validation

Error if user clicks Deny with no comment filled in. Deny gives confirmation.

APIs

Object w/ scenario data including all dependent data (news, resources, etc.)
Methods(get all)(approve/deny)(add comment)

Server Side Validation

if user denies, require comment.
Track each individual approval. If any deny, status is set to deny. Approved only when each approver approves it.

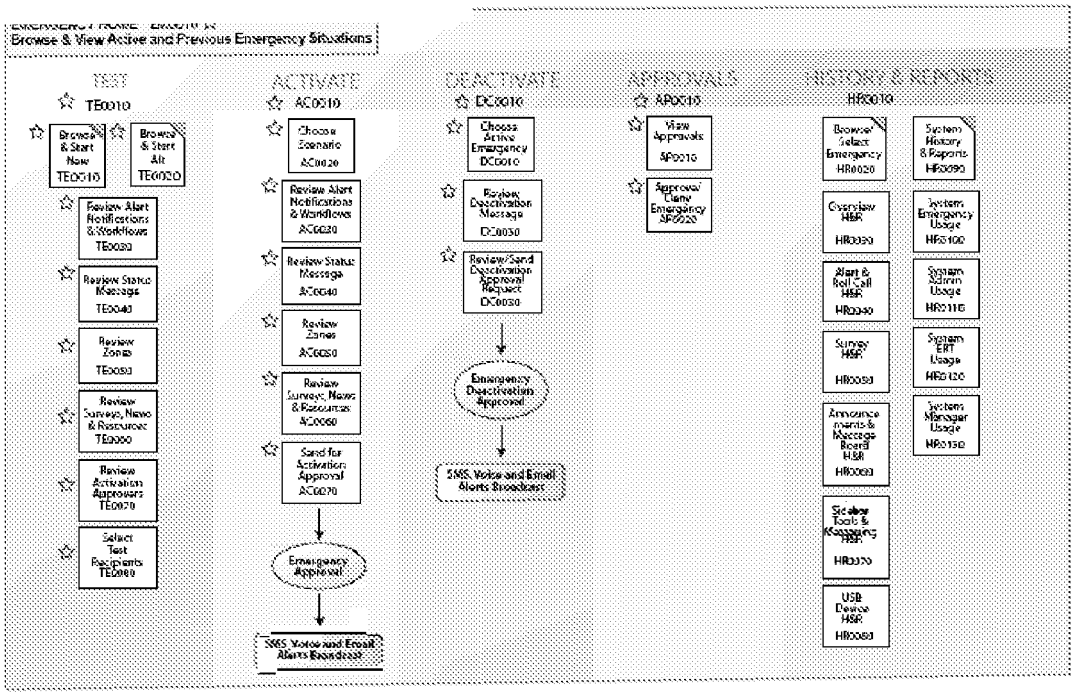
APPENDIX B

FUNCTIONALITY OF

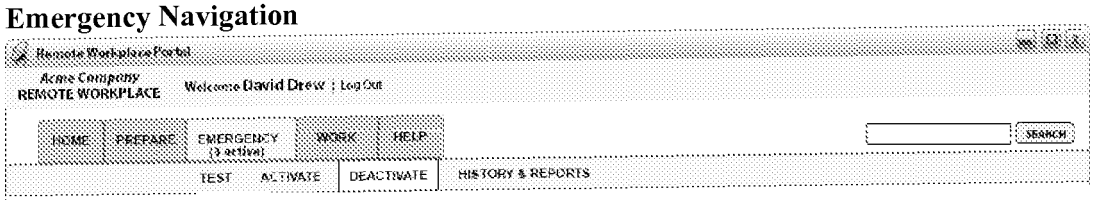
PORTAL - EMERGENCY

10. Introduction

11. Site Architecture



Emergency Navigation



12. Global Settings

(a) Global Navigation

- **NEXT** -validates that all required fields have been filled out (grayed if not all filled, ungrayed if filled) and saves to bean. Grayed out for last page.
- **BACK** – grayed out at first page, saves to bean.
- **SAVE/FINISH/ACTIVATE/TEST** - validates that all required fields have been filled out (grayed if not all filled, ungrayed if filled) and saves to bean which saves to db.
- **CANCEL** – undoes all changes (up to last save point) made to existing record, delete record if new record. Then exits to list view of workflow.
- **CLEAR** - undoes changes made to page.
- **If click a tab to exit**, warn that data will be lost.

(b) Global Image Names

(c) Global Style Sheet

13. Test Scenario

(a) Choose Scenario

Test the Emergency Activation and Notification System

You have no tests currently running.

To test an Emergency Activation and Notification, select an Emergency Scenario, and click the Test button.
The next three screens will display a choice of test message recipients and a response method.
A scenario must be approved and tested before it can be activated.

TEST SCENARIO

SCENARIO NAME	DESCRIPTION	LAST MODIFIED	STATUS
Scenarios			
Generic Earthquake	Earthquake resources and news feeds included.	07/01/2006	Approved
Generic Flood	Flood and water damage resources and news feeds included.	07/01/2006	Approved
Generic Hurricane	Hurricane maps, resources and news feeds included.	07/01/2006	Tested
Generic Traffic Emergency	Traffic maps, resources and news feeds included.	07/01/2006	Approved
Generic Medical Pandemic	Medical resources and news feeds included.	07/01/2006	Approved
Generic Weather	Weather forecasts, maps resources and news feeds included.	07/01/2006	Approved
Generic Office Closure	Generic resources and news feeds included.	07/01/2006	Approved
Miami Office Closure	Miami office closed for construction; 1-2 week closure planned for ...	09/11/2006	Used(2)
Miami Hurricane	Miami office closed due to hurricane warning. Undetermined length ...	08/05/2006	Approved
Los Angeles Traffic	LA Traffic delays announced. Commuters coming from the south on ...	08/05/2006	Used (1)
Los Angeles Earthquake	LA Earthquake office closure. Alternate office arrangements available.	07/01/2006	Tested
Los Angeles Fire	LA Fire office closure. Alternate office arrangements available.	07/01/2006	Tested
San Francisco Earthquake	SF Earthquake office closure. Alternate office arrangements available for ...	07/01/2006	Approved
San Francisco Traffic	SF Traffic office closure. Alternate office arrangements available for ...	07/01/2006	Approved

Description

This screen has all scenarios that have been approved and can now be tested. You select one, and click the Test Scenario button to start the process.

View

Sort by Scenario Name, Last Modified, Status. Default Sorting is Scenario Name, alphabetical, ASC.

Navigation

- **TEST SCENARIO** goes to (b)

Client Side Validation

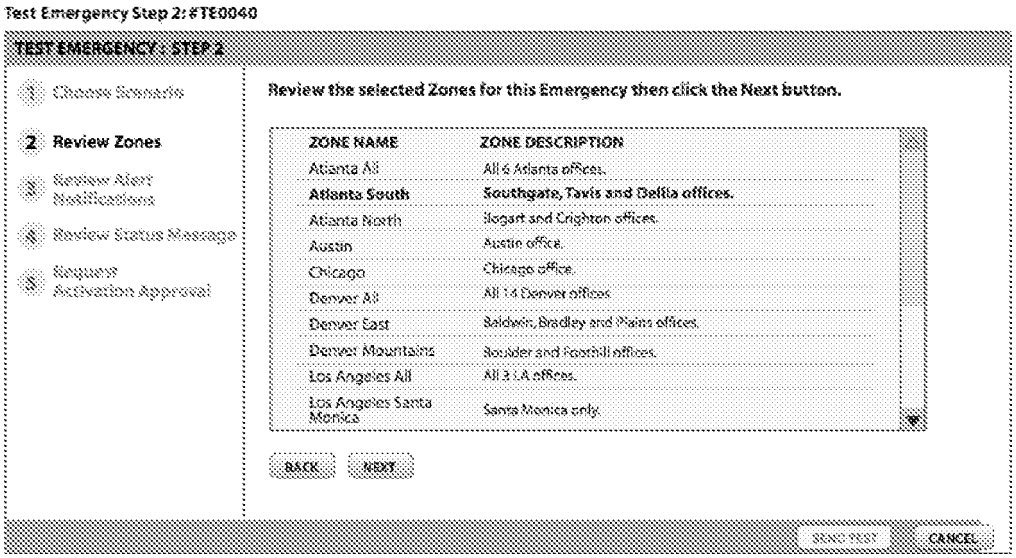
APIs

Object w/ all approved scenarios
- method (get)

Server Side Validation

Scenario can not be tested more than once at same time.
Object level lock on test scenario.

(b) Review Zones



Description

This screen is here to show what zones would be effected in an actual activation. You can not change any of the data on this screen for a test.

View

Sort by Zone Name. Default Sorting is by Zone Name, alphabetical, ASC. Highlighting selected zones for this scenario.

Navigation

- **BACK** goes to (a)
- **NEXT** goes to (c)
- **CANCEL** goes to (a)

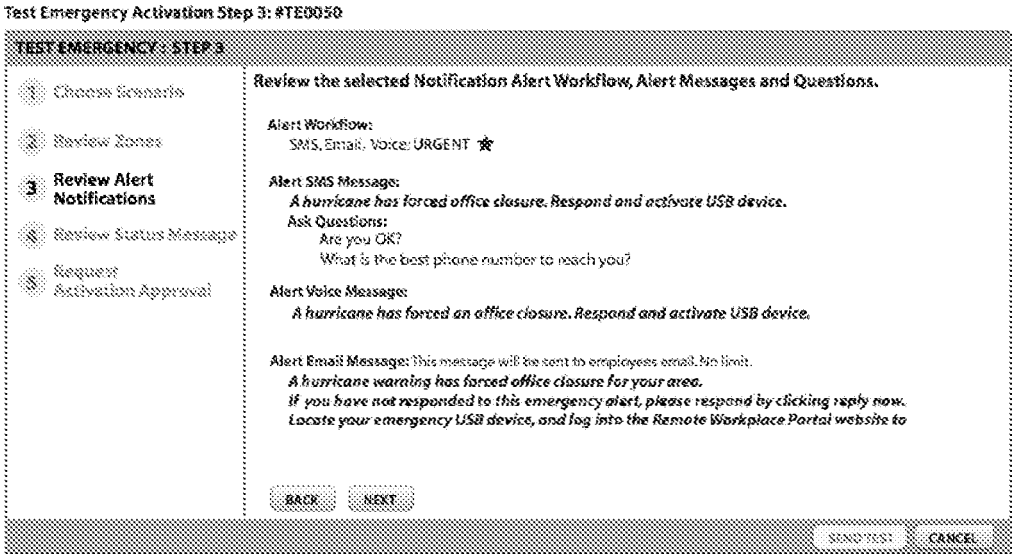
Client Side Validation

APIs

Object w/ scenario data - zones
- method (get)
Object w/ zone data
- method(get)

Server Side Validation

(c) Review Alert Notification



Description

Here you can see the messages that will get sent out by the notification system. Again, you can't change this data here, though you will be able to when actually activating an emergency.

View

Navigation

- **BACK** goes to (b)
- **NEXT** goes to (d)
- **CANCEL** goes to (a)

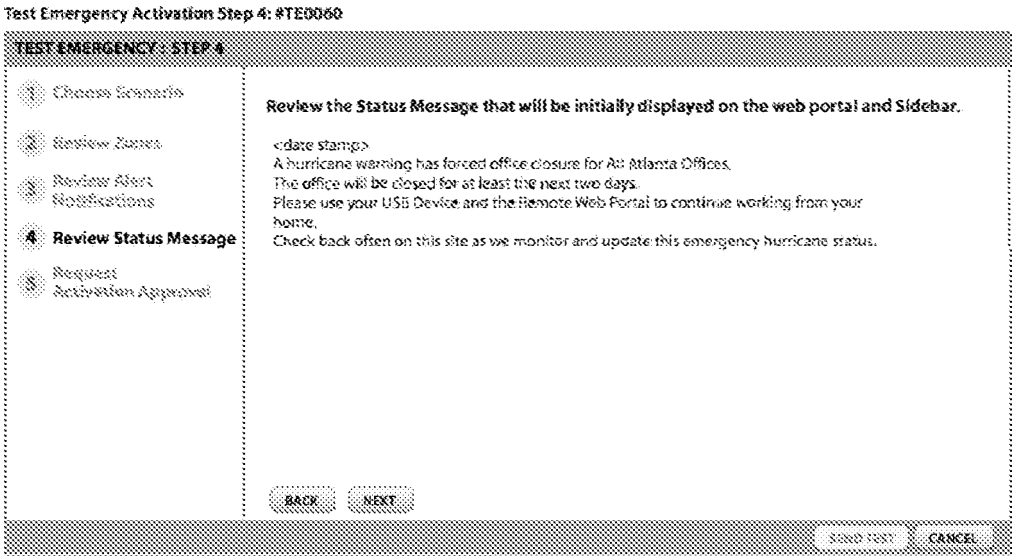
Client Side Validation

APIs

Object w/ scenario data - notifications
- method (get)

Server Side Validation

(d) Review Status Message



Description

Here you review the scenario status that will be initially deployed with an activated scenario.

View

Navigation

- **BACK** goes to (c)
- **NEXT** goes to (e)
- **CANCEL** goes to (a)

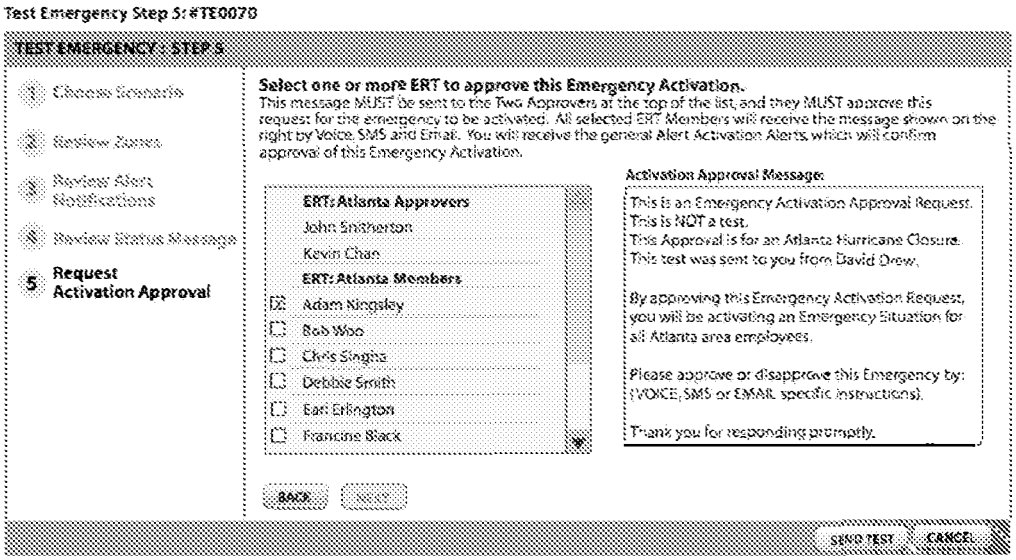
Client Side Validation

APIs

Object w/ scenario data - status
- method (get)

Server Side Validation

(e) Request Activation Approval



Description

Here you select who will approve the scenario to start the test.

View

Navigation

- **BACK** goes to (d)
- **NEXT** goes to (f)
- **CANCEL** goes to (a)

Client Side Validation

Make sure min. number of approvers is met.

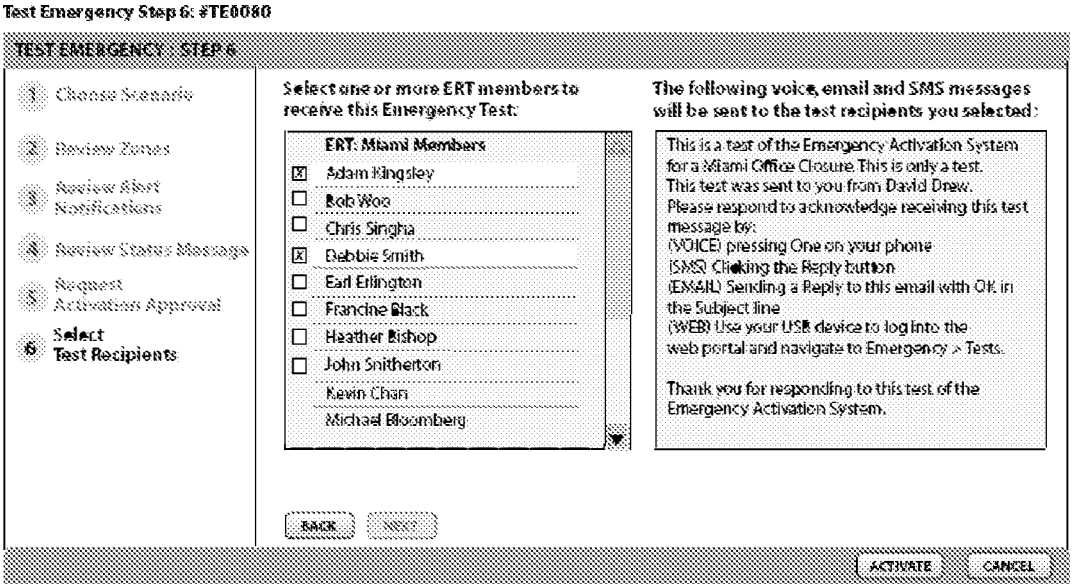
APIs

Object w/ scenario data
- method (get)
Object w/ ERT Members data
- method (get)
Config Object - Number of approvers needed is

Server Side Validation

Must select minimum number of approvers. Email is sent out from server to recipients.

(f) Select Test Recipients



Description

Here you select who will participate in this test. These are members of the ERT team.

View

Can sort by ERT Member Name. Default Sorting is by Member Last Name, alphabetical, ASC.

Navigation

- **BACK** goes to (b)
- **ACTIVATE** sends scenario for activation
- **CANCEL** goes to (b)

Client Side Validation

Must select one recipient at least. User will automatically be selected as a user.

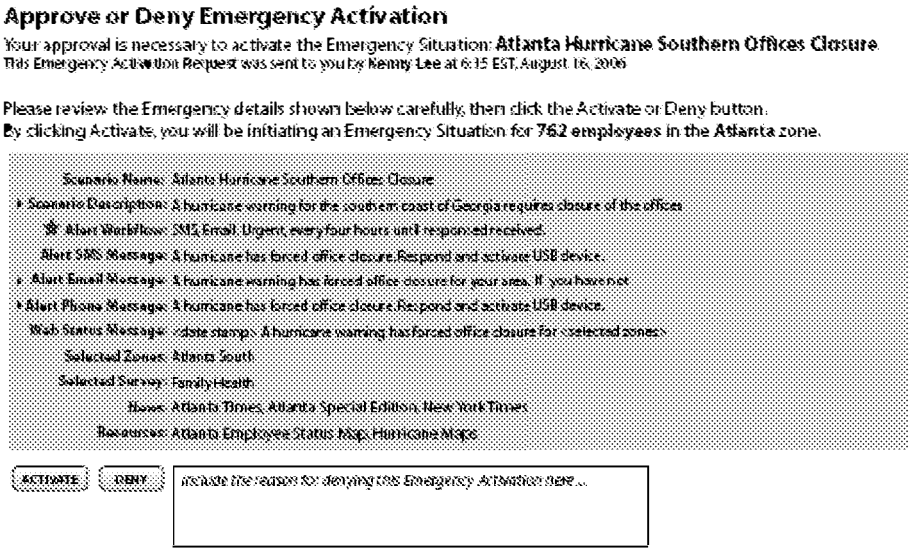
APIs

Object w/ scenario data
- method (get)(update)
Object w/ ERT members
- (get)

Server Side Validation

Status changes to pending.

(g) Approve or Deny



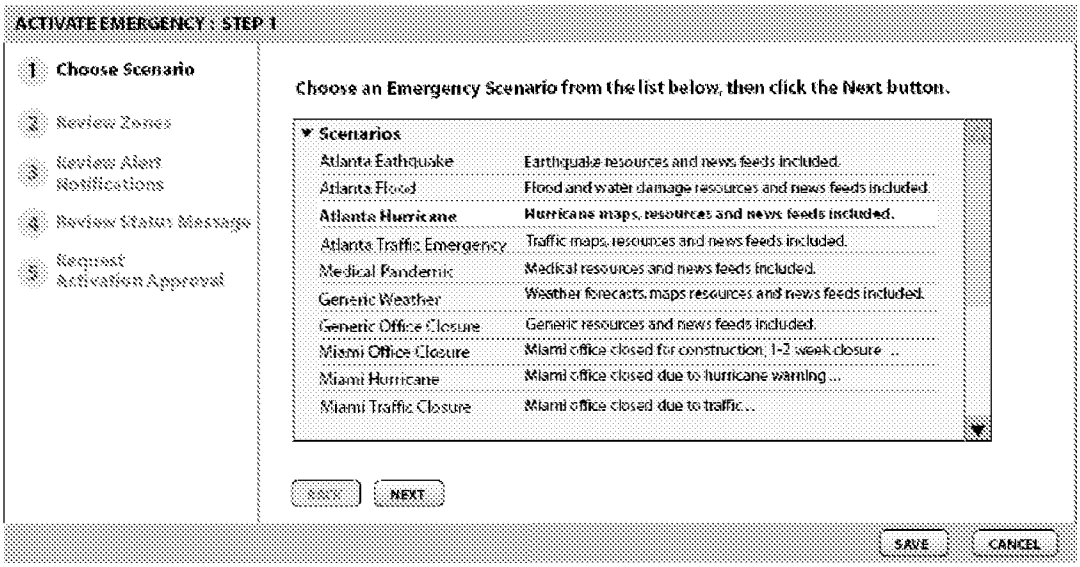
5 **MAKE NOTES**
Similar screen to scenario approval.
# of people to initiate a test is configurable parameter from the database.

Confirmation is needed for approval and deny.

10

15 14. Activate Scenario

(a) Choose Scenario



Description

Here you choose from scenarios that are possible to activate. This is the first step in an emergency activation.

View

Can sort by Scenario Name. Default Sorting is by Scenario Name, alphabetical, ASC.

Navigation

- **NEXT** goes to (b)
- **CANCEL** goes to (a)

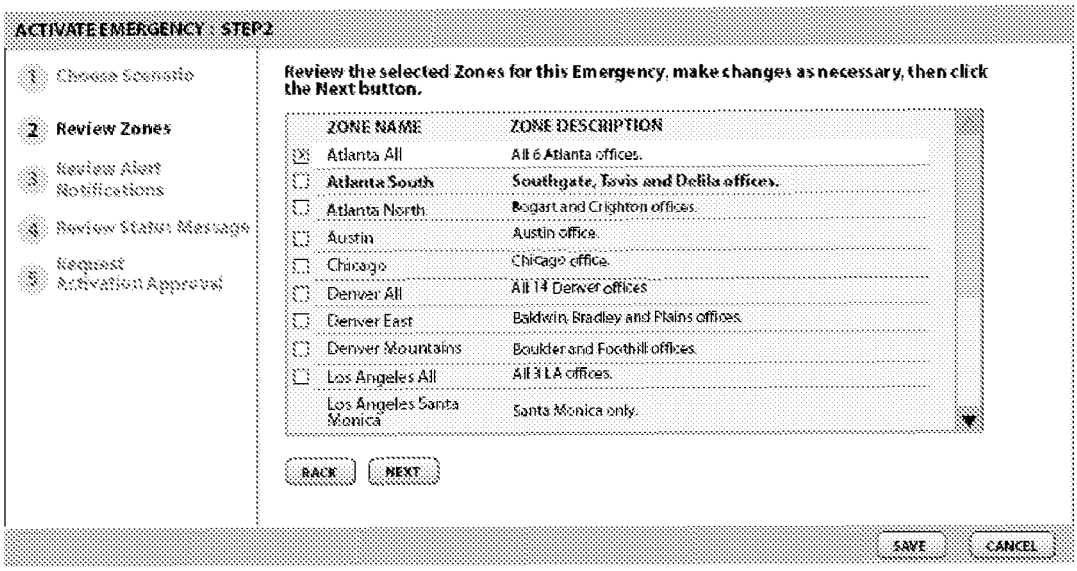
Client Side Validation

APIs

Object w/ all approved scenario data
- method (get)(clone)

Server Side Validation

(b) Review Zones



Description

Here you select which zones will be affected by the emergency. Some of these may already be selected from when the scenario was created. You can change these to reflect the current needs of the emergency.

View

Can sort by Zone Name. Default Sorting is by Zone Name, alphabetical, ASC.

Navigation

- **BACK** goes to (a)
- **NEXT** goes to (c)
- **SAVE** saves data
- **CANCEL** goes to (a)

Client Side Validation

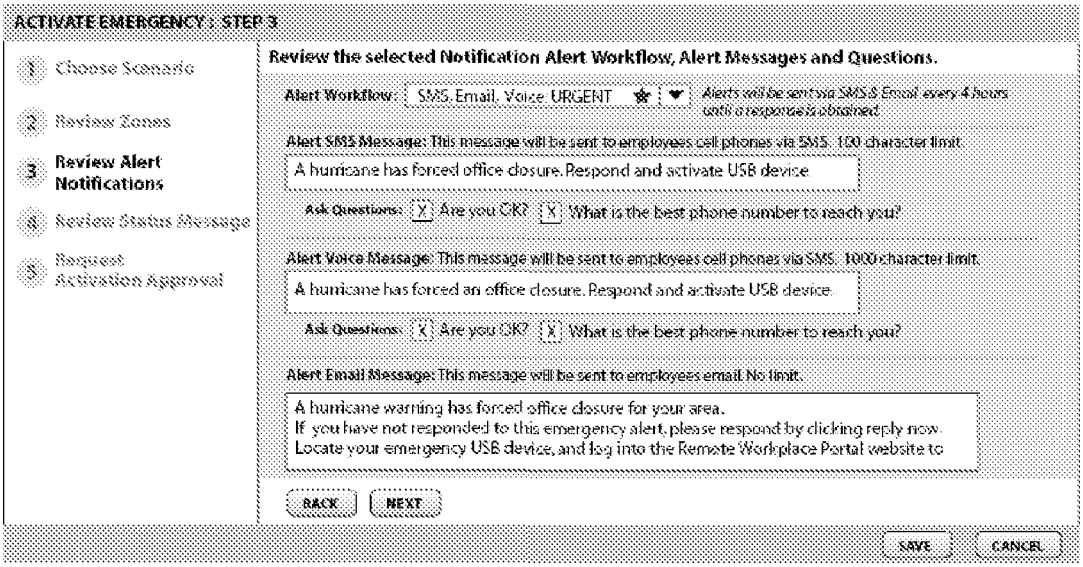
Error if no zones are selected and user clicks Next.

APIs

Object w/ active scenario data – all zones (flagged selected)
- method (get)(update)

Server Side Validation

(c) Review Alert Notifications



Description

This is where you define the messages that will be sent out over the various mediums upon activation of the scenario.

View

Worflows sorted by importance, DESC.

Navigation

- **BACK** goes to (b)
- **NEXT** goes to (d)
- **SAVE** saves data
- **CANCEL** goes to (a)

Client Side Validation

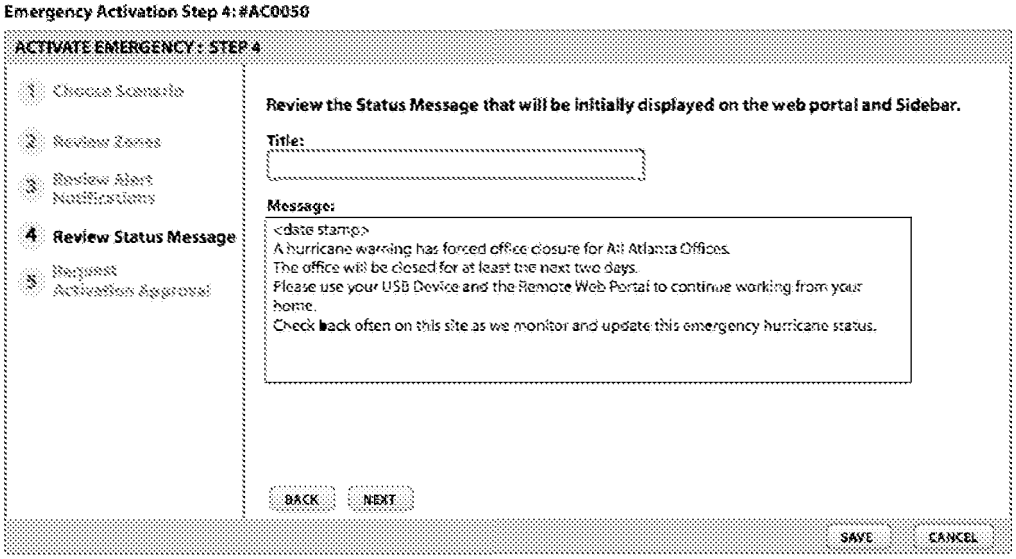
If any information is not filled out, next will give an error.

APIs

Object w/ active scenario data
- method (get)(update)
Object w/ notifications workflows
- method (get)

Server Side Validation

(d) Review Status Message



Description

View

Navigation

- **BACK** goes to (c)
- **NEXT** goes to (e)
- **SAVE** saves data
- **CANCEL** goes to (a)

Client Side Validation

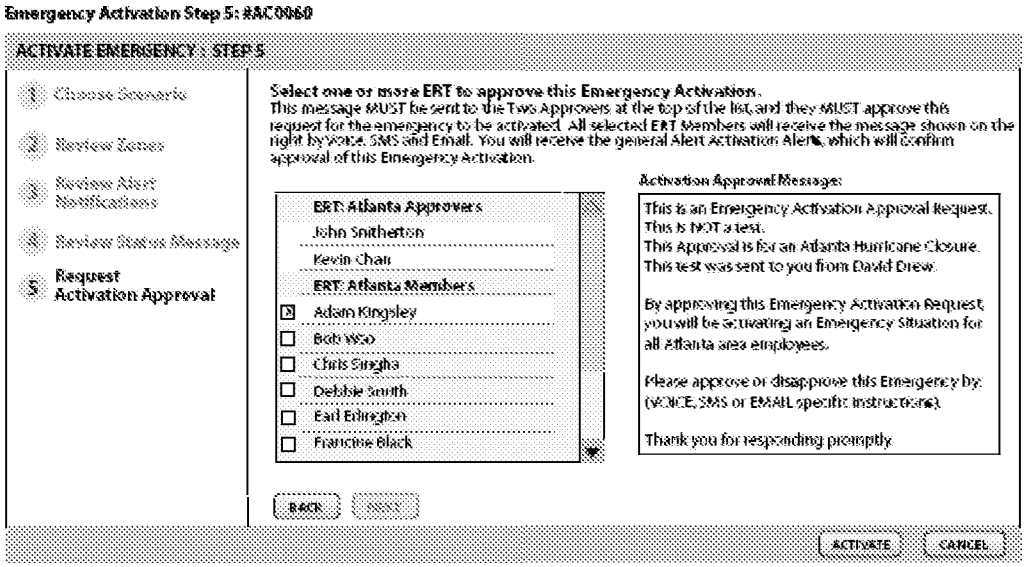
If any information is not filled out, next will give an error.

APIs

Object w/ active scenario data - status
- method (get)(update)

Server Side Validation

(e) Request Activation Approval



Description

Here you select who will approve this emergency activation. The number of people who are required is set in the IT setup and must be met here. When the user clicks activate, it starts the activation process.

View

ERT members sorted by last name, ASC.

Navigation

- **BACK** goes to (d)
- **ACTIVATE** sets activation process in motion
- **CANCEL** goes to (a)

Client Side Validation

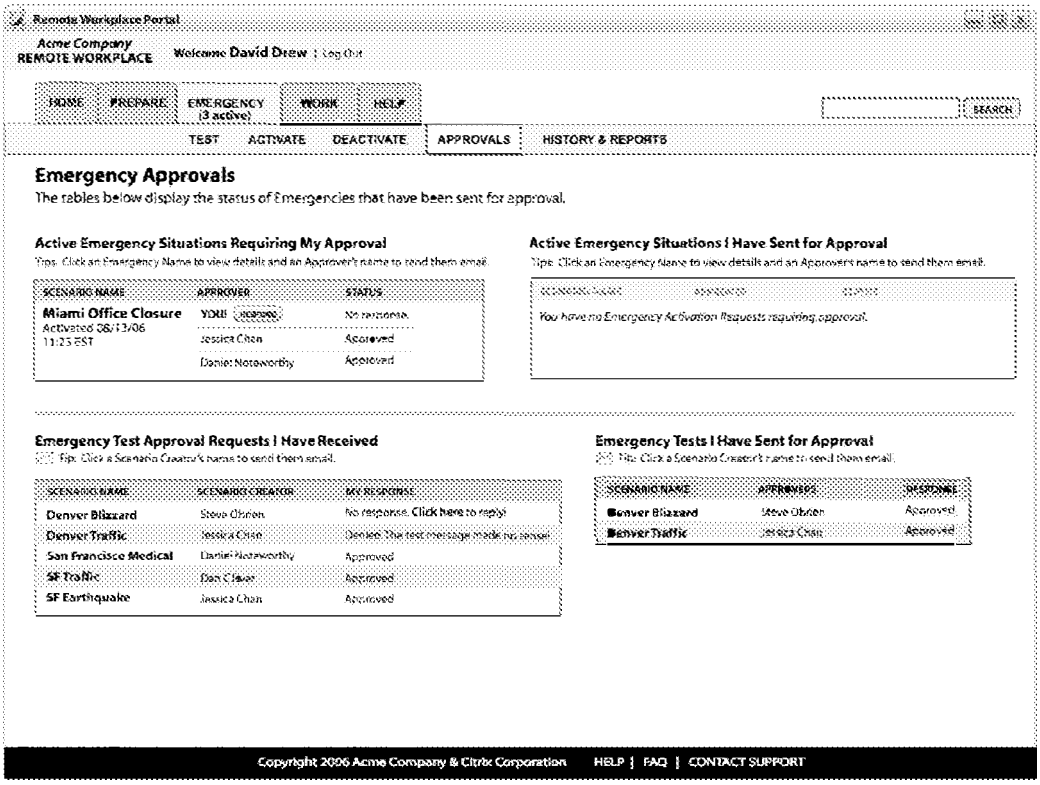
If the necessary amount of approvers has not been selected, will get an error.

APIs

Object w/ active scenario data
- method (get)(update)
Object w/ ERT members
- method (get)
Configuration Object – number of approvers required

Server Side Validation

(f) Emergency Approval



Description

This is the screen that a user goes to check on approvals that they must make and the status of items they have sent out for approval. When the user clicks on a page that needs their approval, they go to the review and approval page shown above.

View

Sort by Scenario Name, ASC.

Navigation

- **RESPOND** goes to (g)

Client Side Validation

APIs

Object w/ all active scenarios pending approval from you
- method (get)
Object w/ all active scenarios sent for approval from you

- method (get)

Object w/ all test scenarios sent for approval from you
- method (get)
Object w/ all test scenarios pending approval from you
- method (get)

Server Side Validation

(g) Approve or Deny

Approve or Deny Emergency Activation

Your approval is necessary to activate the Emergency Situation: **Atlanta Hurricane Southern Offices Closure**
This Emergency Activation Request was sent to you by **Kenny Lee** at 6:15 EST, August 16, 2006

Please review the Emergency details shown below carefully, then click the Activate or Deny button.
By clicking Activate, you will be initiating an Emergency Situation for **762 employees** in the **Atlanta** zone.

Scenario Name: Atlanta Hurricane Southern Offices Closure
* Scenario Description: A hurricane warning for the southern coast of Georgia requires closure of the offices
Alert Workflow: SMS, Email. Urgent, every four hours until responses received.
Alert SMS Message: A hurricane has forced office closure. Respond and activate USB device.
* Alert Email Message: A hurricane warning has forced office closure for your area. If you have not
* Alert Phone Message: A hurricane has forced office closure. Respond and activate USB device.
Web Status Message: <date stamp> A hurricane warning has forced office closure for <selected zones>
Selected Zones: Atlanta South
Selected Surveys: Family Health
News: Atlanta Times, Atlanta Special Edition, New York Times
Resources: Atlanta Employee Status Map, Hurricane Maps

ACTIVATE DENY *Include the reason for denying this Emergency Activation here...*

Description

This is the screen that a person comes to, to approve or deny activation of a scenario.

View.

Navigation

- **APPROVE** will give a confirmation
- **DENY** will give a confirmation

Client Side Validation

Error if user clicks Deny with no comment filled in. Deny gives confirmation.

APIs

Object w/ scenario data including all dependent data (news, resources, etc.)
Methods(get all)(approve/deny)(add comment)

Server Side Validation

if user denies, require comment.
Track each individual approval. If any deny, status is set to denied. Approved only when each approver approves it.

15. Deactivate Scenario

(a) Choose Scenario

Deactivate Emergency

When an Emergency Situation is over, select it below and click the Deactivate button, to send an Emergency Over message to all employees. This message will be sent by Voice, SMS, Email and will also appear on the Remote Workplace Web Portal.

Active Emergencies (3)

DEACTIVATE

EMERGENCY NAME	DESCRIPTION	ZONES	DATE STARTED	NUMBER OF EMPLOYEES
Atlanta South Office Closure	Atlanta office closed due to gas leak	Atlanta South	07/03/2006	354
Houston Hurricane Tricia	All Houston offices closed in preparation for hurricane ...	Houston	07/02/2006	1023
Boston Transit Strike	Boston office closed for one day only due to major ...	Boston	07/01/2006	78

Description

This screen shows all of the active scenarios. To deactivate a scenario, select it, then press the deactivate button.

View

Sort by Emergency Name and Date Started. Default is by scenario Name.

Navigation

- **DEACTIVATE** goes to (b)

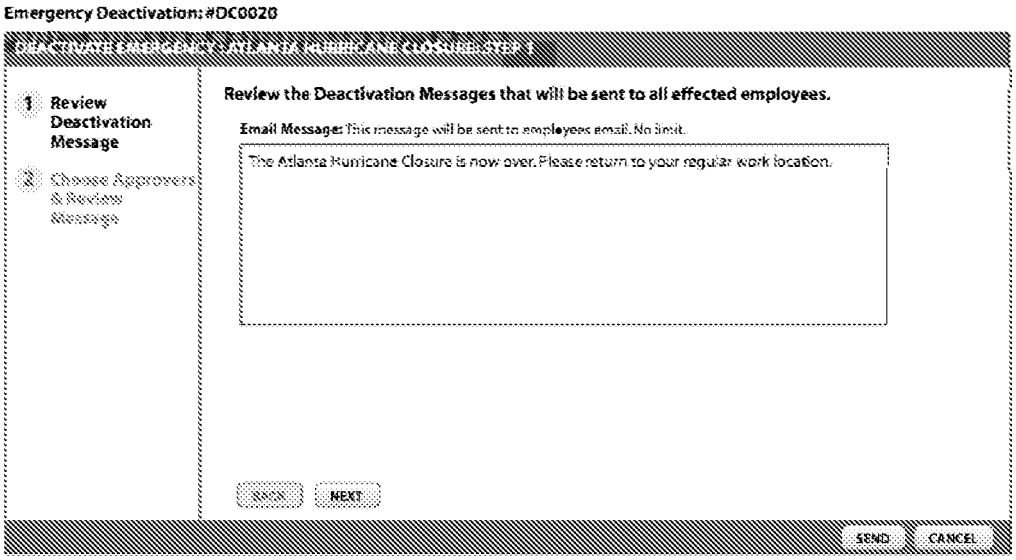
Client Side Validation

APIs

Object w/ all active scenarios
- method (get)

Server Side Validation

(b) Review Deactivation Message



Description

Here you define what the messages that will be sent out for deactivation to all the users. You define them by message type.

View

Send will be grayed out.

Navigation

- **BACK** goes to (a)
- **NEXT** goes to (c)
- **CANCEL** goes to (a)

Client Side Validation

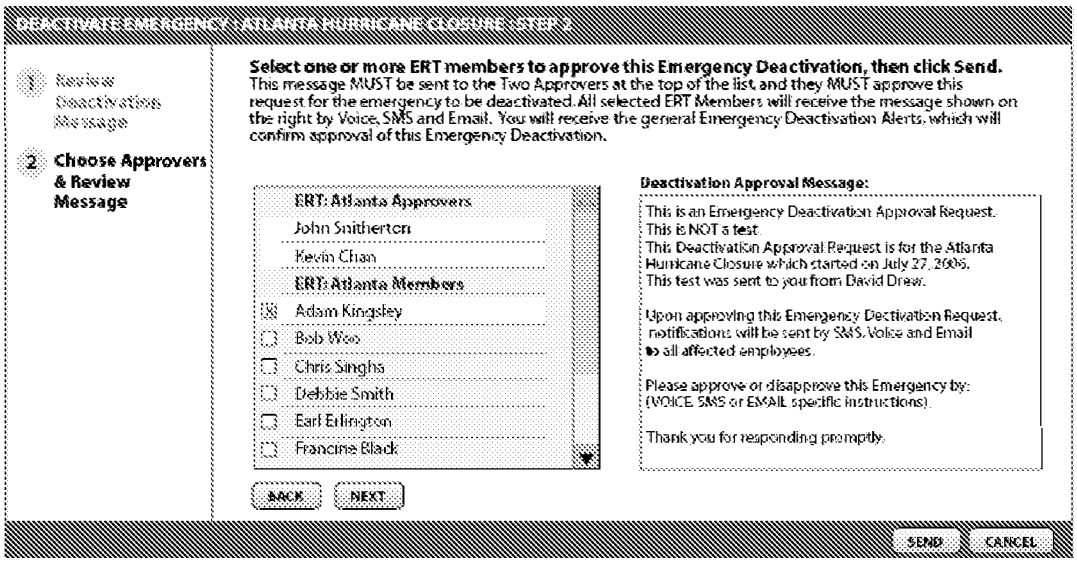
Error message is caused if any fields are not filled out and user clicks Next.

APIs

Object w/ active scenario
- method (update)

Server Side Validation

(c) Choose Approvers & Review Message



Description

This is the final step if approval is required to deactivate. You select the people that need to approve the scenario for it to be deactivated.

View

Next will be grayed out.

Navigation

- **BACK** goes to (b)
- **SEND** starts process to deactivate a scenario.
- **CANCEL** goes to (a)

Client Side Validation

Error message is caused if no ERT members are selected and user clicks Send.

APIs

Object w/ active scenario
- method (get)(update)
Object w/ all ERT members
- method (get)

Server Side Validation

APPENDIX C

FUNCTIONALITY OF

PORTAL - WORK

1. Introduction - 93 -
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4.3 User Portal - 98 -
5. Roll Call - 100 -
5.1 Roll Call Homepage - 100 -
5.2 Edit User Details - 101 -
5.3 Send SMS or Email - 102 -
5.4 Add user to roll call - 103 -
6. Status - 104 -
6.1 Status Home - 104 -
7. Announcements - 105 -
7.1 Announcements Home - 105 -
7.2 New Announcement - 106 -
7.3 Edit Announcement - 107 -
7.4 Delete Announcement - 108 -
8. Surveys - 109 -
8.1 Survey Home - 109 -
8.2 Survey Results - 110 -
8.3 Post New Survey - 111 -
8.4 Post Survey Confirmation - 112 -
8.5 Close Survey - 113 -
8.6 Survey Details - 114 -
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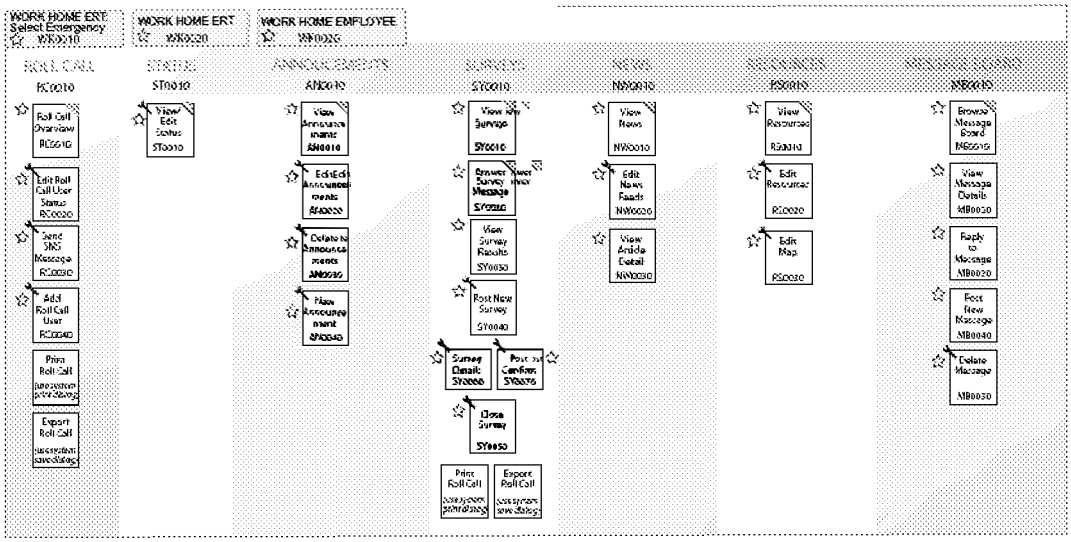
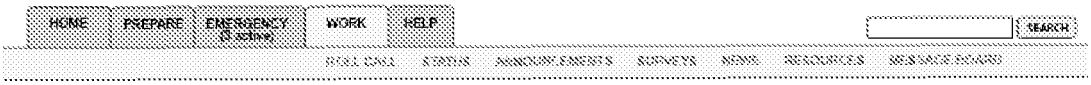
9.1 News Home - 115 -
9.2 Edit News Feeds - 116 -
10. Resources - 117 -
10.1 Resources Home - 117 -
10.2 Edit Resources - 118 -
10.3 Edit Map - 119 -
11. Message Board - 120 -
11.1 Message Board Home - 120 -
11.2 View Post Details - 121 -
11.3 Reply to Post - 122 -
11.4 Post New Message - 123 -
11.5 Edit(delete) Posts - 124 -

16. Introduction

17. Site Architecture



Work Navigation



18. Global Settings

(a) Global Navigation

(b) Global Image Names

(c) Global Style Sheet

19. Work Portal

(a) Portal Home Page

Work

To work and manage an Emergency Situation, please select an active emergency from the list below, then click the Work button. You will then be able to manage and edit Roll Call, Status, Announcements, Surveys and other tools for that Emergency.

Active Emergencies (3)

WORK

EMERGENCY NAME	DESCRIPTION	ZONES	DATE STARTED	NUMBER OF EMPLOYEES
Atlanta South Office Closure	Atlanta office closed due to gas leak.	Atlanta South	07/03/2006	354
Houston Hurricane Tricia	All Houston offices closed in preparation for hurricane ...	Houston	07/02/2006	1023
Boston Transit Strike	Boston office closed for one day only due to major ...	Boston	07/01/2006	78

Description

When a user, either ERT or a user comes to this screen, they will see a list of all active emergencies that apply to them. When they select one and click the **WORK** button, they get brought into the portal populated with the data from the selected emergency.

View

Sort by Emergency Name, Date Started. Default Sorting is Scenario Name, alphabetical, ASC.

Navigation

- **WORK (for user)** goes to (c)
- **WORK (for ERT)** goes to (b)

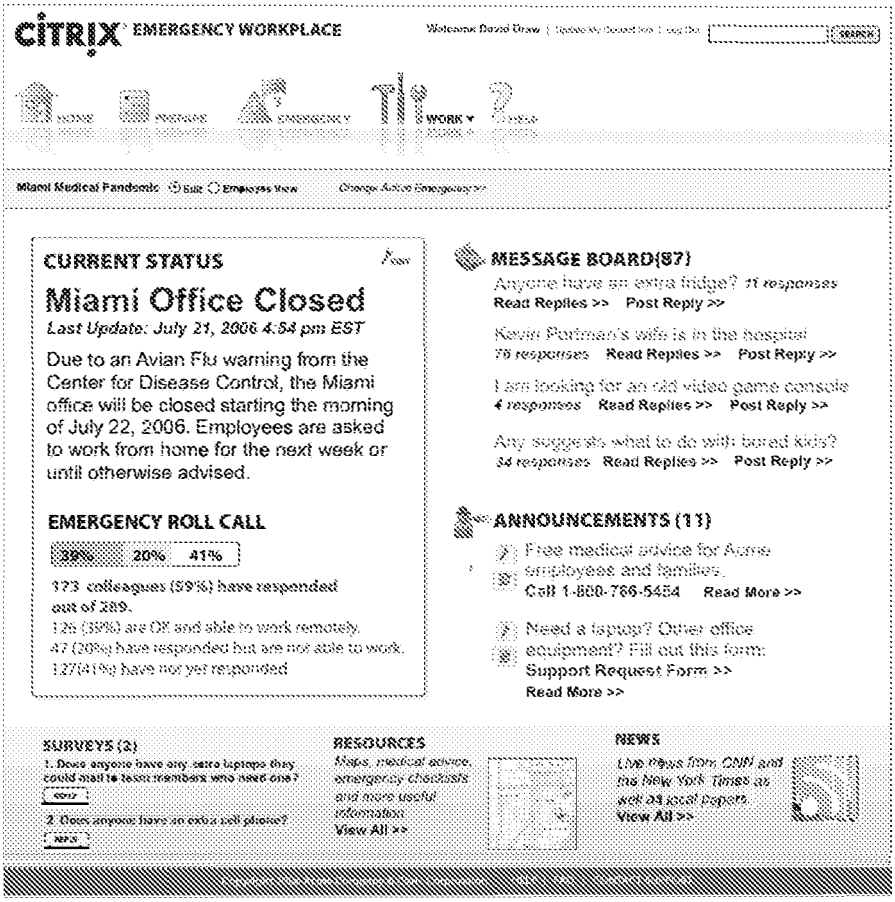
Client Side Validation

APIs

Object w/ all Active Emergencies
- method (get)

Server Side Validation

(b) ERT Portal



Description

This screen is where an ERT member come after selecting an emergency. This screen is identical to the user portal, except that it has edit buttons for the various elements.

View

Message Boards sorted by date modified. Announcements sorted by date modified.

Navigation

- **EDIT STATUS** goes to 20(a)
- **MANAGE ROLL CALL** goes to (d)
- **NEW ANNOUNCEMENT** goes to 21(b)
- **EDIT** goes to 21(c)
- **DELETE** goes to 21(d)
- **EDIT (MESSAGE BOARD)** goes to 25(a)
- **EDIT (RESOURCES)** goes to 24(b)
- **NEWS (EDIT)** goes to 23(b)

Client Side Validation

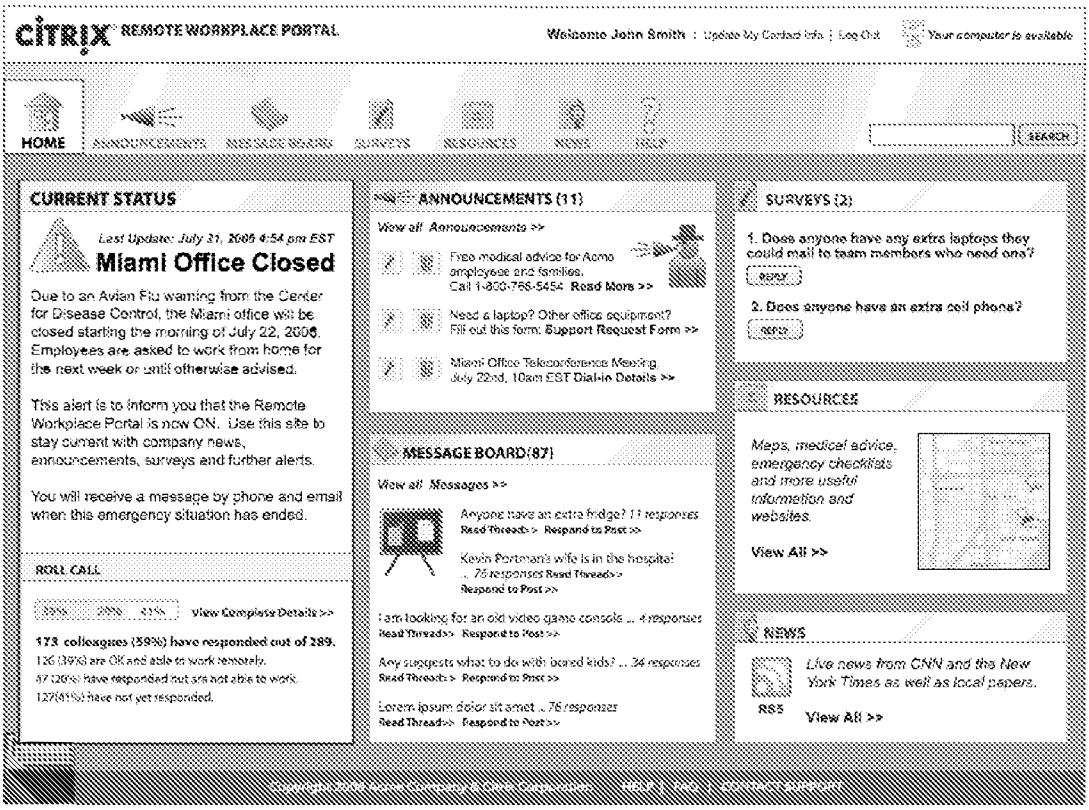
APIs

Object w/ Emergency Status
- method (get)
Object w/ all Roll Call
- method (get)
Object w/ top n Announcements (n is configurable)

- method (get) (get all)
Object w/ all active Surveys (titles)
- method (get)(get all)

Server Side Validation

(c) UserPortal



Description

This page is the first page a user comes to after selecting an emergency. This page give a user access to all of the available information on the Portal.

View

Message Boards sorted by date modified. Announcements sorted by date modified.

Navigation

- **VIEW ALL POSTS** goes to 25(a)
- **VIEW ALL (ANNOUNCEMENTS)** goes to 21(a)
- **RESOURCES** goes to 24(a)
- **NEWS** goes to 23(a)
- **SURVEY LINK** opens specified survey in new window
- **VIEW COMPLETE DETAILS (ROLL CALL)** goes to (d)

Client Side Validation

APIs

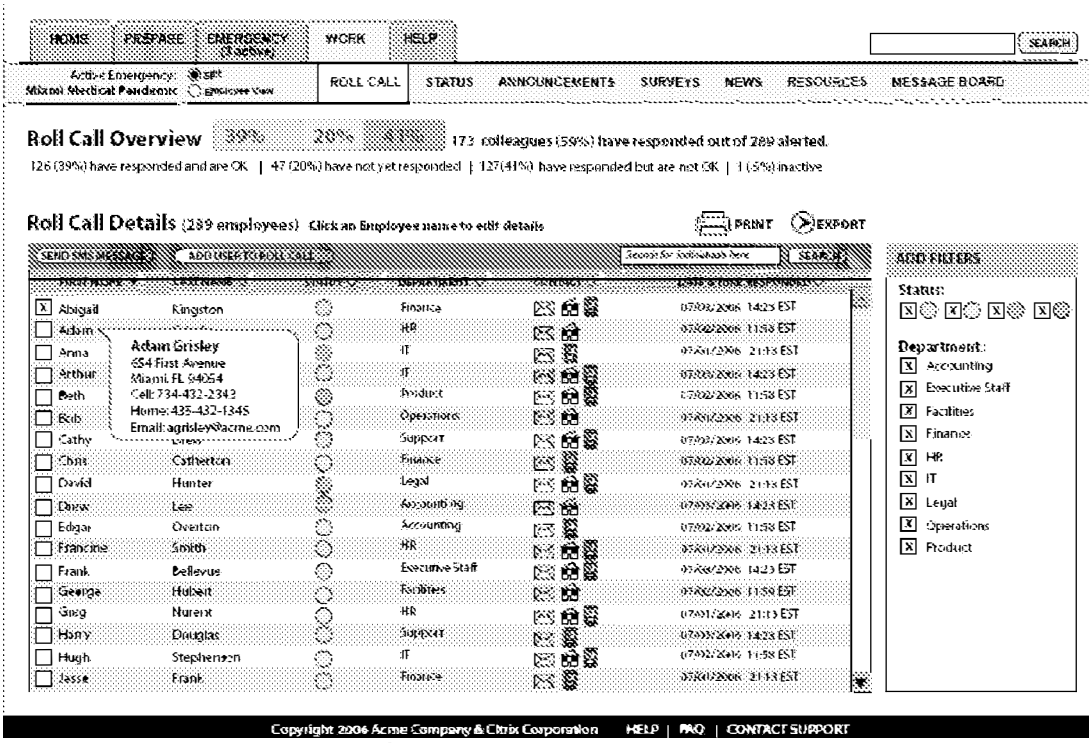
Object w/ Emergency Status
- method (get)
Object w/ all Roll Call
- method (get)
Object w/ all Announcements
- method (get) (get all)

Object w/ all active Surveys (titles)
- method (get)(get all)

Server Side Validation

Roll Call

(d) Roll Call Homepage



ADD SEND EMAIL MESSAGE BUTTON, SAME AS SMS DEPARTMENT FILTER AS DROPDOWN.

Description

The roll call page is where an ERT comes to see all of the contact and status information for all users that are a part of the emergency. From here, an ERT can make a phone call using a soft phone. Can select users to send an sms or email message to, and can sort through the results.

View

Sort by First Name, Last Name, Status, Department, Contact, Date/Time Responded. Default is by Status. Hover region is over First and Last name.

Navigation

- **SEND SMS MESSAGE** goes to (f)
- **SEND EMAIL MESSAGE** goes to(f)
- **ADD USER TO ROLL CALL** goes to (g)
- **SEARCH** Searches all roll call data
- **PRINT** just data on screen. Brings up a print review page, with a print button that goes to a print dialog box and prints data on screen
- **EXPORT** save all data, brings up a save dialog box, exports the data on screen to an excel file
- **FILTERS** when selected, it narrows down the results visible on screen.
- **ROLL OVER** pops up with users info, phone numbers are click to call

Client Side Validation

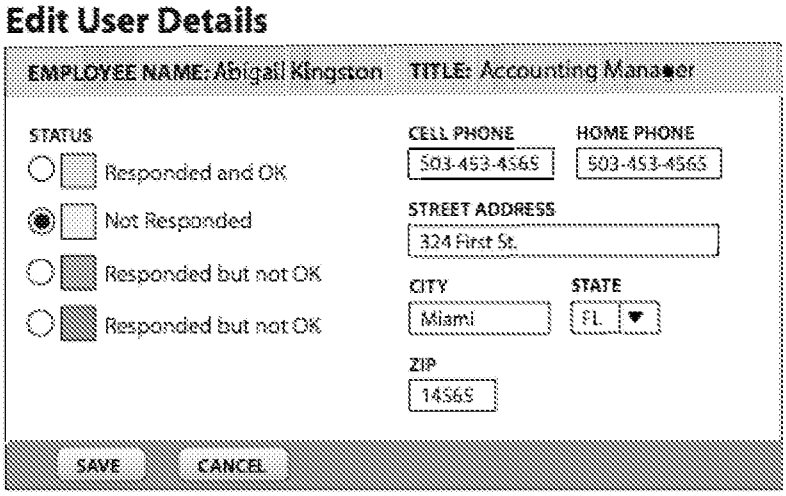
APIs

Object with all roll call and data.
- method (get)(get all)(get filtered)(search)(SMS multicast)(Email multicast)

Object w/ user data
- method (get)(send SMS)(send Email)

Server Side Validation

(e) Edit User Details



Description

This page is used to edit a users details, such as status, phone number, and address.

View

Navigation

- **SAVE** saves data, goes to (d)
- **CANCEL** goes to (d)

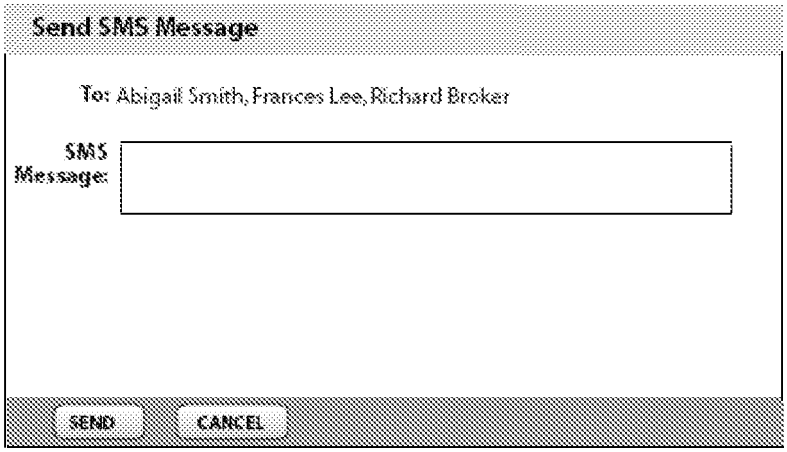
Client Side Validation

APIs

Object w/ user data
- method (get)(update)
Object w/ roll call data for user
- method (get)(update)
Object w/ status
- method (get all)

Server Side Validation

(f) Send SMS or Email



Description

After selecting users and clicking send sms or send email. You see this screen where you write your message and send it.

View

Navigation

- **SEND** sends an SMS Message, goes to (d)
- **CANCEL** goes to (d)

Client Side Validation

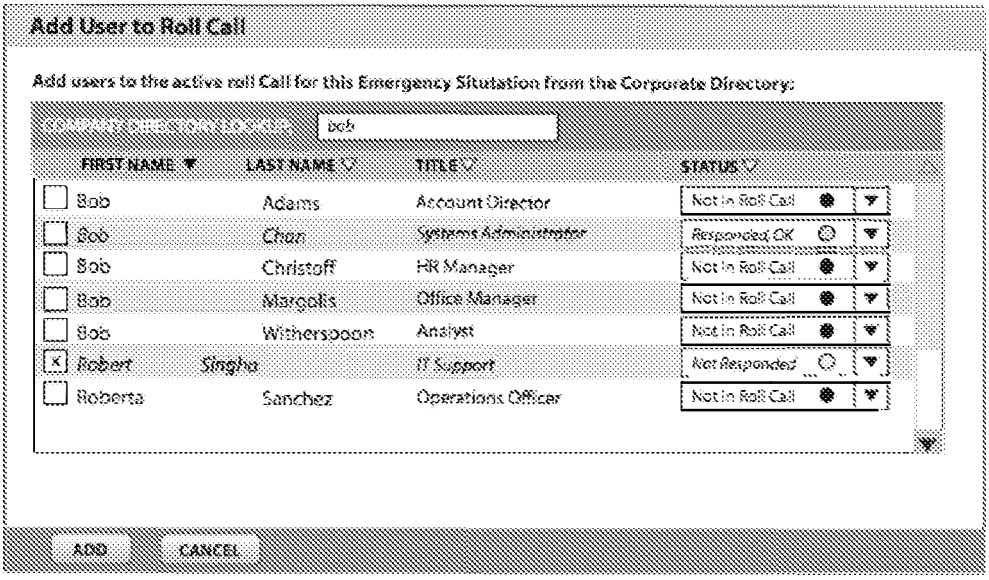
if no data is entered, gives an error

APIs

Object w/ roll call selected users from previous screen
- method (get all)(Send SMS multicast)(Send Email Multicast)

Server Side Validation

(g) Add user to roll call



Description

At this page, you can search the corporate AD for a user to add to the roll call.

View

Navigation

- **ADD** saves data, goes to (d)
- **CANCEL** goes to (d)

Client Side Validation

If user leaves out data, will get error

APIs

Object w/ roll call data
- method (get)(add)(search)
Object w/ status data
- method (get all)
Object w/ ad users
- method (search)(get)

Server Side Validation

20. Status

(a) Status Home

Status

The following message is displayed on the Remote Workforce Portal. It informs employees of the current state of the emergency situation.

To update the Status message, just edit the text in the window below and then click Save.

CURRENT STATUS MESSAGE Last Modified: 08/17/06 04:32 PST

Title: Miami Office Closed

Message:

Due to an Avian Flu warning from the Center for Disease Control, the Miami office will be closed starting the morning of July 22, 2006. Employees are asked to work from home for the next week or until otherwise advised.

Any employees who feel they may be developing flu-like symptoms please contact our HMO's hotline at 1-800-754-00787

The Remote Workplace Portal is now ON. Use this site to stay current with company news, announcements, surveys and further alerts. You can access your computer, work files, voice mail and buddy list from this site and the sidebar.

SAVE CANCEL

Description

This is where an ERT will come to change the status of an emergency. When they change the data, a record of it will be kept in the backend.

View

Populate with current status message.

Navigation

- **SAVE** saves status, goes to 19(b)
- **CANCEL** goes to 19(b)

Client Side Validation

If any fields are not filled out, give an error.

APIs

Object w/ Current Emergency Status.
- method (get)(update)

Server Side Validation

Create a backup of status when new one saved.

21. Announcements

(a) Announcements Home

Announcements (11)

The following announcements have been issued to all employees during this emergency situation.

EDIT DELETE NEW ANNOUNCEMENT

New Center For Disease Control Updates August 16th, 2006 06:23 EST
The CDC has just issued new precautionary guidelines for health and safety during this situation. http://www.cdc.gov/3423443/

Lorem Ipsum Dolor Sit Amet August 16th, 2006 02:11 EST
Phasellus quis enim a mi adipiscing consequat. Sed eget lacus ut lectus dapibus lacinia. Integer pulvinar consequat lex. Nullam eleifend lorem ac enim. Sed at quam. Suspendisse lacinia erat at nisl. Nunc et est. Maecenas feugiat lectus in eros.

Nullam Ipsum Dolor Sit Amet August 16th, 2006 02:11 EST
Nullam et nisi eu metus dictum ullamcorper. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Nunc nisl lorem, aliquet at, volutpat vestibulum, sollicitudin non, ligula. Ut ligula quam, porttitor id, pretium quis, ultrices vel, dolor. Nulla cursus, erat a gravida viverra, odio libero condimentum nunc, et varius libero ipsum vel orci.

Lorem Ipsum Dolor Sit Amet August 16th, 2006 02:11 EST
Phasellus quis enim a mi adipiscing consequat. Sed eget lacus ut lectus dapibus lacinia. Integer pulvinar consequat lex. Nullam eleifend lorem ac enim. Sed at quam. Suspendisse lacinia erat at nisl. Nunc et est. Maecenas feugiat lectus in eros. Ut ligula quam, porttitor id, pretium quis, ultrices vel, dolor. Nulla cursus, erat a gravida viverra, odio libero condimentum nunc, et varius libero ipsum vel orci ...
Read More >>

Nullam Ipsum Dolor Sit Amet August 16th, 2006 02:11 EST
Nullam et nisi eu metus dictum ullamcorper. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Nunc nisl lorem, aliquet at, volutpat vestibulum, sollicitudin non, ligula. Ut ligula quam, porttitor id, pretium quis, ultrices vel, dolor. Nulla cursus, erat a gravida viverra, odio libero condimentum nunc, et varius libero ipsum vel orci.

Description

When a user comes here the see all current announcements.

View

Default sorting is by most recent. All buttons only appear for ERT.

Navigation

- **EDIT** goes to (c)
- **DELETE** goes to (d)
- **NEW ANNOUNCEMENT** goes to (b)

Client Side Validation

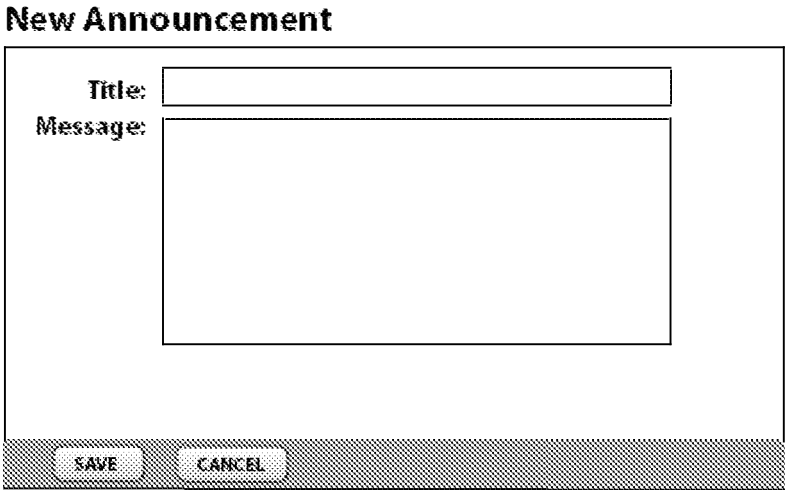
APIs

Object w/ all Current Emergency Announcements.
- method (get)

Server Side Validation

(b) New Announcement

#AN0040 New Announcement v 1.0 - August 14, 2006



Description

This is where an ERT comes to create a new announcement.

View

Navigation

- **SAVE** saves data, goes to (a)
- **CANCEL** goes to (a)

Client Side Validation

If either field is left blank, returns an error.

APIs

Object w/ Current Emergency Announcements.
- method (add)

Server Side Validation

(c) Edit Announcement

#AN0020 Edit Announcement v 1.0 - August 14, 2006

Edit Announcement

Title: Lorem Ipsum Dolor Sit Amet

Message: Phasellus quis enim a mi adipiscing consequat. Sed eget lacus ut lectus dapibus lacinia. Integer pulvinar consequat leo. Nullam eleifend lorem ac enim. Sed at quam. Suspendisse lacinia erat at nisl. Nunc et est. Maecenas feugiat lectus in eros.

SAVE CANCEL

Description

This is where an ERT comes to edit a current announcement.

View

Navigation

- **SAVE** saves data, goes to (a)
- **CANCEL** goes to (a)

Client Side Validation

If either field is left blank, returns an error.

APIs

Object w/ Current Emergency Announcement
- method (get)(update)

Server Side Validation

Update timestamp on back end

(d) Delete Announcement

#AN0030 Delete Announcement v 1.0 - August 14, 2006

Delete Announcement

DELETE ZONE

Are you sure you want to delete the Announcement below?

Title: Lorem Ipsum Dolor Sit Amet

Message: Phasellus quis enim a mi adipiscing consequat. Sed eget lacus ut lectus dapibus lacinia. Integer pulvinar consequat leo. Nullam eleifend lorem ac enim. Sed at quam. Suspendisse lacinia erat at nisl. Nunc et est. Maecenas feugiat lectus in eros.

YES DELETE NO CANCEL

Description

This is where an ERT comes to delete a current announcement.

View

Navigation

- **YES, DELETE** delete record, goes to (a)
- **NO, CANCEL** goes to (a)

Client Side Validation

APIs

Object w/ Current Emergency Announcement
- method (get)(remove)

Server Side Validation

22. Surveys

(a) Survey Home

Surveys (2 active, 3 closed)

Active Surveys: The following surveys are currently running.

CLOSE NEW SURVEY

Survey 1: Seeking Extra Laptops VIEW REPLIES

Does anyone have any extra laptops they could mail to team members who need one?

Survey 2: Seeking Extra Cell Phones VIEW REPLIES

Does anyone have an extra cell phone they could mail to team members who need one?

Closed Surveys: The following surveys are closed.

Survey 1: Family Medical Problems? VIEW REPLIES

Curabitur metus. Duis in diam eget turpis porttitor tincidunt?

Survey 2: Personal Medical Problems? VIEW REPLIES

Cras quis magna at risus pretium tincidunt. Nulla modestie mauris sed nibh?

Survey 3: Connectivity Problems? VIEW REPLIES

Morbi ut nisi quis metus semper gravida. Praesent rhoncus libero eu justo. Nullam lacus mi, dignissim ac, sagittis nec, venenatis semper, nunc. ?

Description

This is where an ERT comes to view current (open and closed) surveys and see their results.

View

Closed Surveys are sorted by closed timestamp. Active surveys sorted by deployed timestamp.

Navigation

- **CLOSE** saves data, goes to (e)
- **NEW SURVEY** goes to (c)
- **VIEW REPLIES** goes to (b)

Client Side Validation

APIs

Object w/ Open Surveys for Current Emergency
- method (get)
Object w/ Closed Surveys for Current Emergency
- method (get)

Server Side Validation

(b) Survey Results

Survey Results: Seeking Extra Laptops (2 questions)

Status: Open Results: 77% (348 of 546 employees) have responded PRINT EXPORT

Question 1: Does anyone have any extra laptops they could mail to team members who need one?
▷ DETAILS 92% (341 of 348) have responded "No"

Question 2: Does anyone have an Extra battery for a Dell C3452?
▽ DETAILS 99% (345 of 348) have responded "No"

FIRST NAME ▽	LAST NAME ▼	RESPONSE ▼	DATE & TIME RESPONDED ▽
Abigail	Kingston	Yes, but I am not sure if it works.	07/03/2006 14:23 EST
Adam	Grisely	Yes, I have two	07/02/2006 11:58 EST
Anna	Singe	Yes	07/01/2006 21:13 EST
Arthur	Chan	No	07/03/2006 14:23 EST
Beth	Chandler	No	07/02/2006 11:58 EST
Bob	Dalton	No	07/01/2006 21:13 EST
Cathy	Drew	No	07/03/2006 14:23 EST
Chris	Catherton	No	07/02/2006 11:58 EST
David	Hunter	No	07/01/2006 21:13 EST
Drew	Lee	No	07/03/2006 14:23 EST
Edgar	Overton	No	07/01/2006 21:13 EST
Francine	Smith	No	07/03/2006 14:23 EST
Frank	Bellevue	No	07/02/2006 11:58 EST
George	Hubert	No	07/01/2006 21:13 EST
Greg	Nurent	No	07/03/2006 14:23 EST
Harry	Douglas	No	07/02/2006 11:58 EST
Hugh	Stephenson	No	07/01/2006 21:13 EST
Jesse	Frank	No	

Description

This is a way to view users responses for the surveys. Clicking the arrows will expand or collapse the results.

View

Sort by First Name, Last Name, Response, Date/time responded. Default to Last Name.

Navigation

- **ARROWS** expand or contract results
- **PRINT** just data on screen. Brings up a print review page, with a print button that goes to a print dialog box and prints data on screen
- **EXPORT** save all data, brings up a save dialog box, exports the data on screen to an excel file

Client Side Validation

APIs

Object w/ Selected Survey for Current Emergency
- method (get)(get all questions)
Object w/ Question Object with all Responses
- method (get all responses)
Object w/ single Response
- method(get)

Server Side Validation

(c) Post New Survey

Post New Survey

The table below lists Surveys currently available. Click the View Details button to see all questions included in a survey. Click Post to open this survey to all employees on the Remote Workplace Portal.

VIEW DETAILS | POST

SURVEY NAME	DESCRIPTION	LAST MODIFIED	Usage
Simple Status	Simple status check, one question and open response field	07/01/2006	17
General Health	Simple health check, one question and open response field	07/01/2006	23
Family Status	Simple family health check, one question and open response field	07/01/2006	42
Internet Status	Simple connectivity check, one question and open response field	07/01/2006	58
Equipment Status	Equipment inventory, 10 open questions	07/01/2006	2
Commute Status	Commute status, 5 questions	07/01/2006	0
Phone Status	Simple phone check, one question	07/01/2006	3
NetMeeting Status	NetMeeting check, one question	07/01/2006	9
GoToMyPC Status	GoToMyPC check, one question	07/01/2006	5
Long: Work Status	Remote employee satisfaction questionnaire, 26 questions	09/11/2006	3
Evacuation Status	Evacuation status, 5 questions	08/05/2006	7
Damage Status	Damage inventory, 10 questions	08/05/2006	7
Remote Status	Remote relocation employees roll call, 10 questions	07/01/2006	1
Travel Status	Travel planning survey, 10 questions	07/01/2006	5
Long: Planning	Emergency deactivation planning, 20 questions	07/01/2006	5

Description

This is where an ERT deploys new surveys to users.

View

Sort by Survey Name.

Navigation

- **VIEW DETAILS** saves data, goes to (f)
- **POST** goes to (d)

Client Side Validation

APIs

Object w/ all Finished Surveys
- method (get)(clone)

Server Side Validation

(d) Post Survey Confirmation

#SY0070 Post Survey, Public or Private, Confirmation v 2.0 - August 18, 2006

Public/Private Options

Do you waot the results ot this survey to be public or private?

SURVEY NAME: Equipment Inventory

◉ **Public** (results viewable by all employees on the Remote Workplace Portal)

○ **Private** (results only viewable by ERT members)

POST

Post Survey Confimation

The following survey has been successfully posted.

SURVEY NAME: Equipment Inventory

Click on the main Survey tab to view replies or close this survey.

CLOSE

Description

Here the ERT decides whether the results are public or private and then gets a message indicating whether or not the survey was posted successfully.

View

Navigation

- **CLOSE** closes window
- **POST** goes to (d) (confirm)

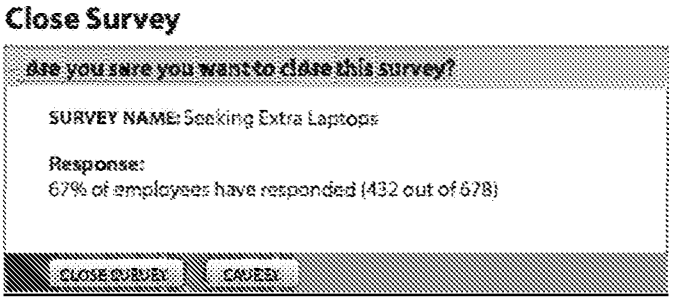
Client Side Validation

APIs

Object w/ Active Survey
- method (get)(update)

Server Side Validation

(e) Close Survey



Description

If you choose to close a survey. This window pops up giving you the results so far and asking if you are sure you would like to close it.

View

Navigation

- **CLOSE SURVEY** closes survey, goes to (a)
- **CANCEL** goes to (a)

Client Side Validation

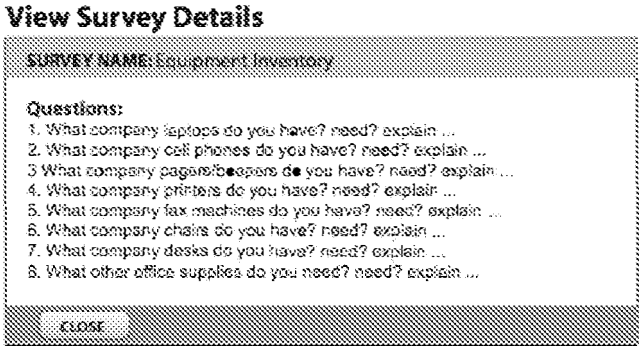
APIs

Object w/ Active Survey
- method (close survey)(get)

Server Side Validation

Set status to closed

(f) Survey Details



Description

Here you can see all of the details of a survey before choosing to post it.

View

Sort by question.

Navigation

- **CLOSE** closes popup

Client Side Validation

APIs

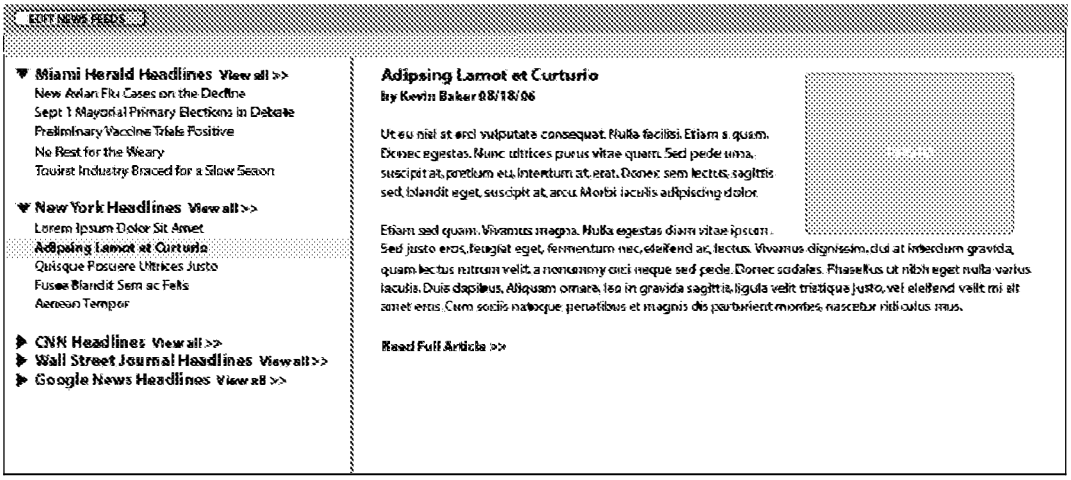
Object w/ Survey
- method (get)

Server Side Validation

23. News

(a) News Home

News



Description

This page is where user goes to see news feeds. The left side contains each feed title and all their articles. On the right is the headline and description of a selected article. Clicking Read Full Article will popup a new window with the article.

View

Navigation

- **EDIT NEWS FEEDS** goes to (b)
- **Read Full Article** opens a new window

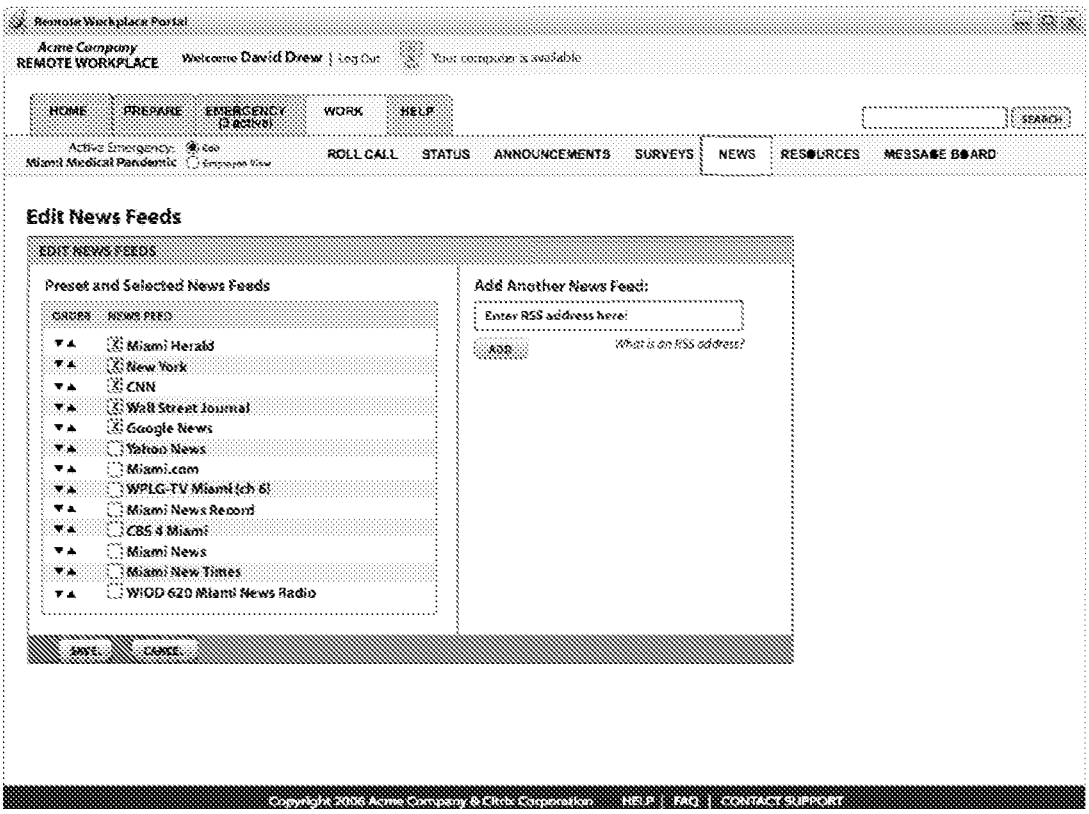
Client Side Validation

APIs

Object w/ all selected News Feeds
- method (get)

Server Side Validation

(b) Edit News Feeds



Description

This page allows a user to add news feeds and select the ones that are available in the current emergency.

View

Navigation

- **ADD** saves then goes to (b)

Client Side Validation

If user clicks add and there is nothing entered it errors

APIs

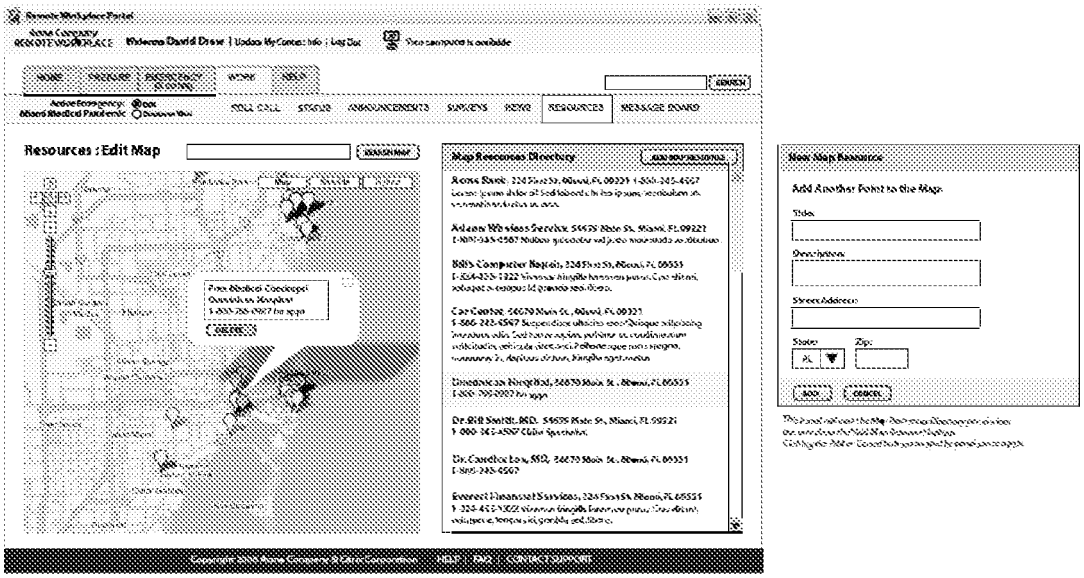
Object w/ all News Feeds (with selected flag)
- method (get)(add)(update)(move)

Server Side Validation

Validate that news feed works.

24. Resources

(a) Resources Home



Description

This page gives a view of all Articles and Documents in the Resources area of the emergency, and the map with resources put in by users. Map works like google maps.

View

Navigation

- **EDIT ARTICLES** goes to (b)
- **EDIT MAP** goes to (c)

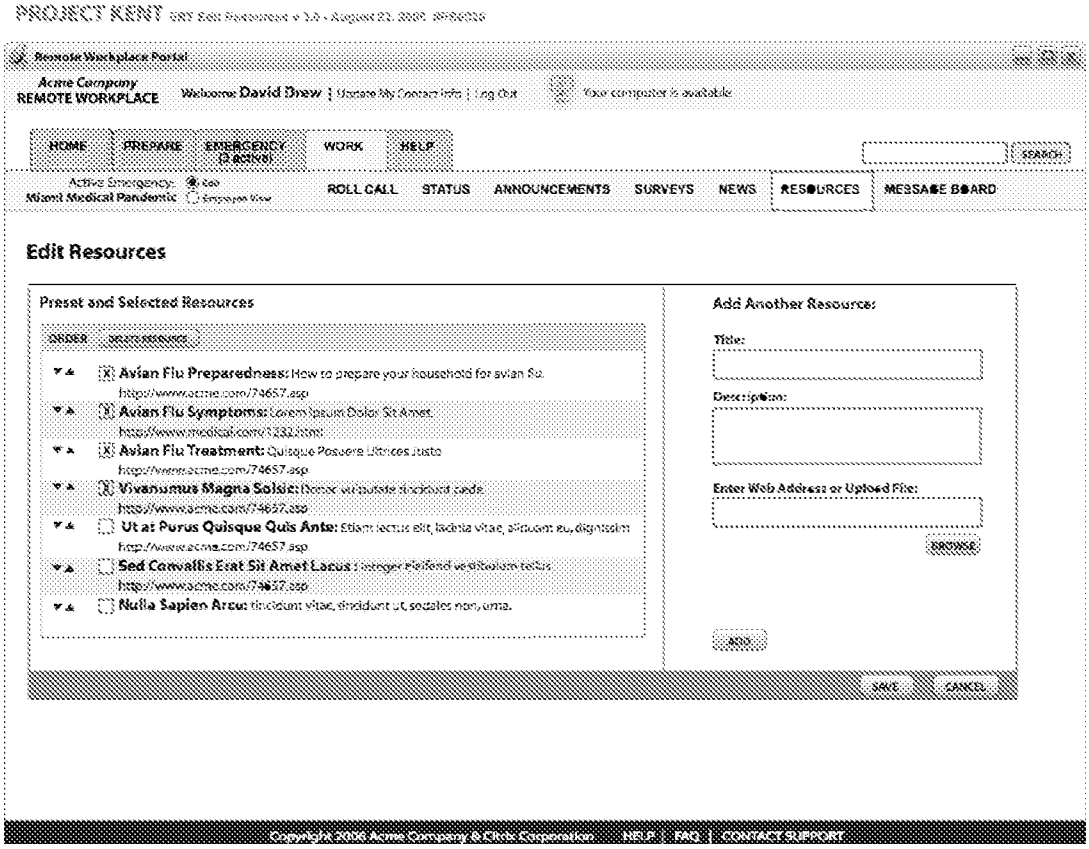
Client Side Validation

APIs

Object w/ Emergency Resources
- method (get)(get all)
Object w/ Map Points
- method (get)(get all)

Server Side Validation

(b) Edit Resources



Description

Here is where an ERT members add resources for users.

View

Navigation

- **DELETE RESOURCE** goes to (b)
- **ADD** goes to (b)
- **SAVE** saves changes, goes to (a)
- **CANCEL** goes to (a)

Client Side Validation

Error if add is clicked and data is missing.

APIs

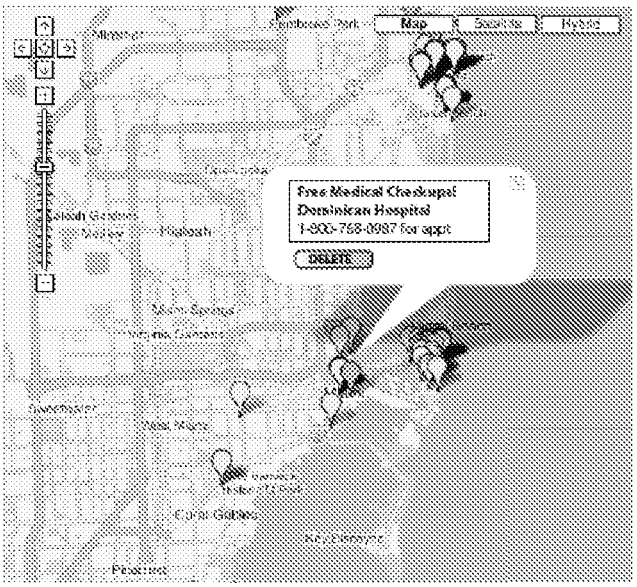
Object w/ Emergency Resources
- method (get)(add)(update)

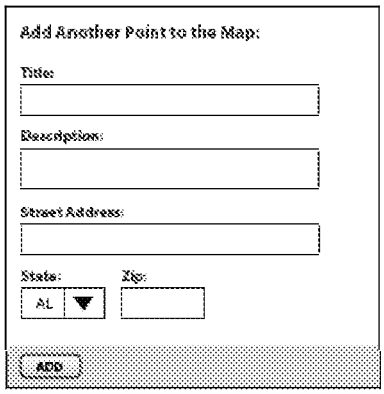
Server Side Validation

Check that file uploaded properly, and that web address is valid

(c) Edit Map

Resources : Edit Map





Description

Here is where any user can add or remove a resource to the map.

View

Navigation

- **ADD** goes to (b)
- **DELETE** saves changes, goes to (b)

Client Side Validation

Error if add is clicked and data is missing.

APIs

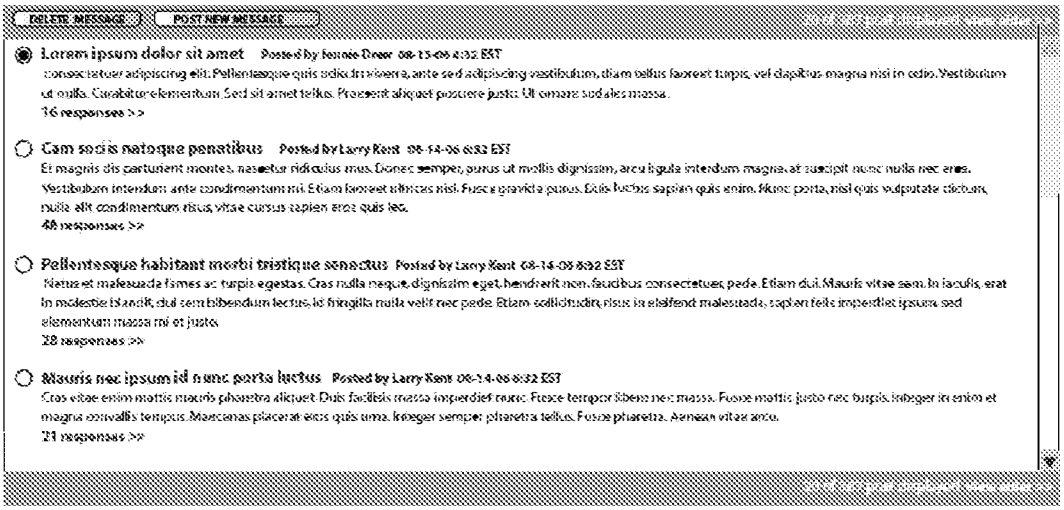
Object w/ Emergency Map Resources
- method (get)(add)(update)(delete)
Object w/ all types
- method (get)

Server Side Validation

25. Message Board

(a) Message Board Home

Message Board



Description

This screen shows all of the top level messages in the message board. An ERT sees the option to Delete Messages.

View

Navigation

- **DELETE MESSAGE** goes to 0
- **POST NEW MESSAGE** goes to (d)
- **MESSAGE HEADLINE IS A LINK** goes to (b)

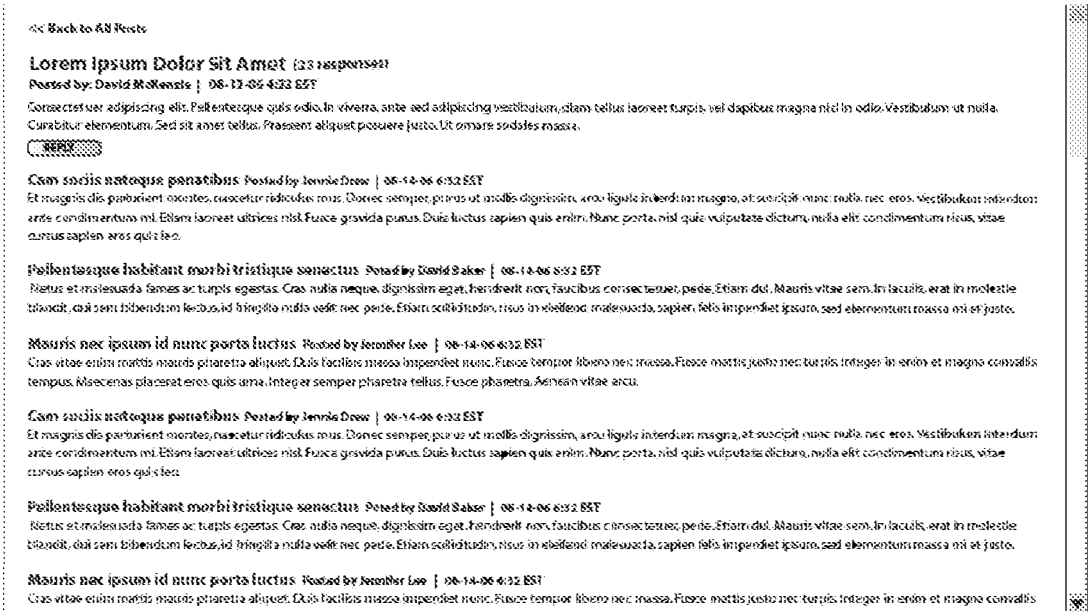
Client Side Validation

APIs

Object w/ all Message Board Messages
- method (get)(get all)

Server Side Validation

(b) View Post Details



Description

This screen shows the Message data, and then all of the replies for this message. At this point you can use reply to add a reply.

View

Navigation

- **REPLY** goes to (c)
- **BACK TO ALL POSTS** goes to (a)

Client Side Validation

APIs

Object w/ Message Board Messages with all replies
- method (get)

Server Side Validation

(c) Reply to Post

Reply to Post: Lorem ipsum dolor sit amet Posted by Larry Kent 08-13-06 4:33 EST
consectetuer adipiscing elit. Pellentesque quis odio. In viverra, ante sed adipiscing vestibulum, diam tellus laoreet turpis, vel dapibus magna nisi in odio. Vestibulum ut nulla. Curabitur elementum. Sed sit amet tellus. Praesent aliquet posuere justo. Ut ornare sodales massa.

Subject:

Message:

POST CANCEL

Description

This form is used to create a reply for a message.

View

Navigation

- **POST** goes to (b)
- **CANCEL** goes to (b)

Client Side Validation

Error if user click Post without filling out both fields.

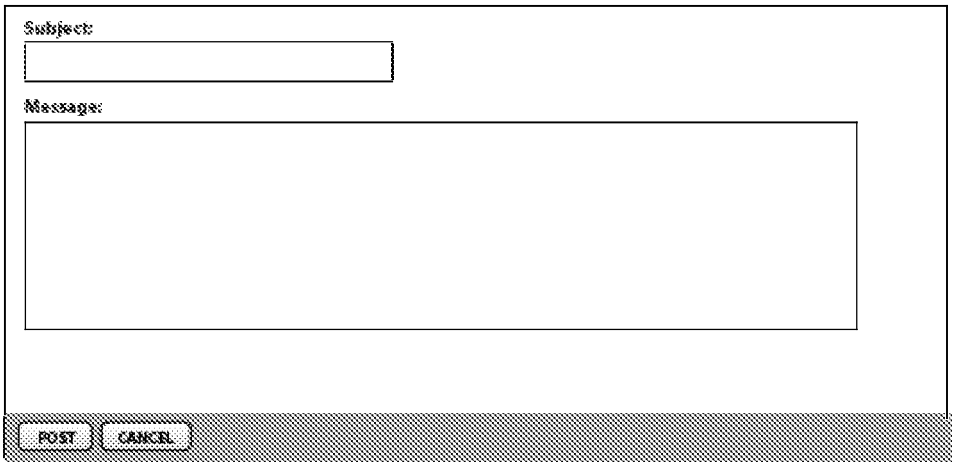
APIs

Object w/ Message Board Message
- method (add reply)

Server Side Validation

(d) Post New Message

Post New Message



Description

This form is used to create a post a new message.

View

Navigation

- **POST** goes to (a)
- **CANCEL** goes to (a)

Client Side Validation

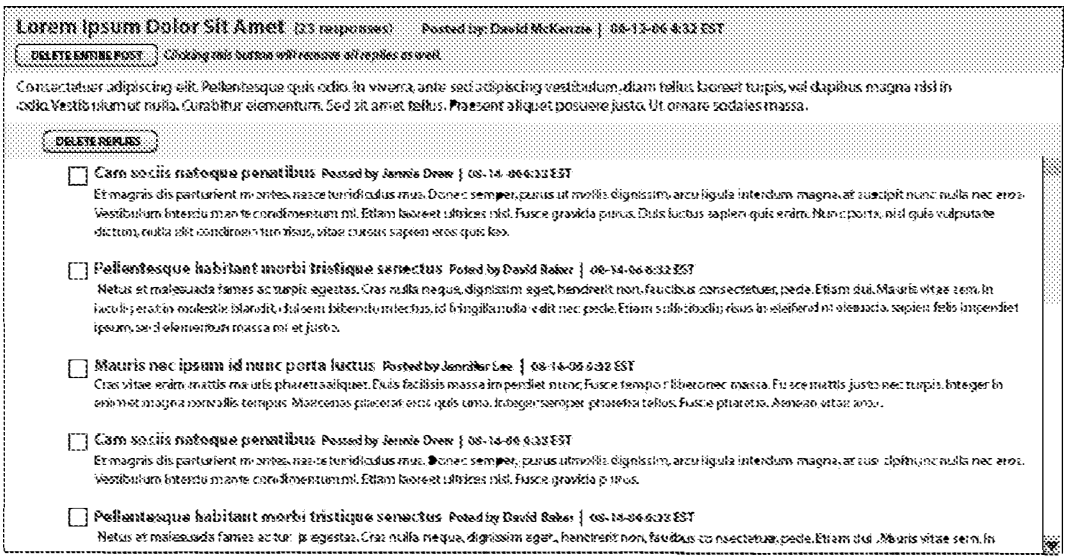
Error if user click Post without filling out both fields.

APIs

Object w/ Message Board Message
- method (add)

Server Side Validation

(e) Edit(delete) Posts



Description

This form is used to delete either full messages, or replies. User selects which replies to delete and presses DELETE REPLIES to delete them or presses DELET ENTIRE POST to delete the message and all replies.

View

Navigation

- **DELETE ENTIRE POST** deletes post and all its replies, then goes to (a)
- **DELETE REPLIES** deletes selected replies, then goes to (a)

Client Side Validation

Error if user click DELETE REPLIES without selecting any replies.

APIs

Object w/ Message and its Replies
- method (delete reply)(delete)

Server Side Validation

APPENDIX D

DESIGN SPECIFICATION:

WEB SERVICE FOR STICK CLIENT

26. Introduction

This document describes the web service that will provide information to the software components residing on the USB stick device. The APIs are styled as C prototypes, but this is just for convenience to show the general type information expected of an API. The actual wrapper API might be deferent. The foundation of the web service will be a SOAP based component. Error handling has not been defined yet.

27. Security

Security provided by VPN access?

28. Definitions

Bootstrap loader	This is the initial application that will run on the stick. It will have the ability to "boot strap" the stick from just itself to a stick with an installed Sidebar application using the web service to download the required components. Once the stick is up to date it will pass execution to the Sidebar loader.
Sidebar loader	This executable sets options and configuration files for the Sidebar application and starts the Sidebar (this may be combined into the Sidebar application itself -- TBD)
Sidebar	The application that runs from the stick and is visible on the left or right hand side of the users Windows desktop. This is the application that provides alert status information, links to the portal and GotoMyPC, and other pre-defined components such an instant messenger application and a softphone.

29. APIs

(a) GetVersion

(i) Prototype

int GetVersion(int* major, int* minor);

(ii) Arguments

Name	***Description***
major	Returns major version.
minor	Returns minor version

(iii) Returns

0 if no error

(iv) Notes

(b) Logon

(i) Prototype

int Logon(const char* username, char*buf, size_t len);

(ii) Arguments

Name	Description
username	Logon username.
buf	Buffer to store returned session ID
len	Length of buffer

(iii) Returns

SessionID or empty string on error

(iv) Notes

This creates a session. User has been authenticated using the VPN link to establish a connection to the domain. TODO: enhance the security here. The problem is that a user can impersonate another user once they have logged on legitimately using their own account.

(c) Logoff

(i) Prototype

int Logoff(const char* sessionId);

(ii) Arguments

Name	Description
sessionId	Session Id..

(iii) Returns

(iv) Notes

Ends a session.

(d) QueryUpdate

(i) Prototype

Int QueryUpdate(const char* sessionId, const char* itemId, , const char* lastUpdateCookie, char*buf, size_t len);

(ii) Arguments

Name	Description
sessionId	Session Id.
itemId	"wfcBoot.exe" "net6vpn.exe" "app.cab"
lastUpdateCookie	Cookie from last successful update. Can be null to force an

	update.
buf	Buffer to store returned cookie
Len	Allocated length of buffer

(iii) Returns

1 if update is required
buf will contain new cookie
0 if update is not required

(iv) Notes

The cookie value is determined by the service and is not evaluated in any way by the client. . The stick client will update its cookie value for this item only after it has successfully downloaded and installed the updated item.
If an update is required the stick client will download the item with the same itemId value using the GetBinaryItem API.

(e) IsComputerHostNameOkForRemoteAccess

(i) Prototype

int IsComputerHostNameOkForRemoteAccess (const char* computerName);

(ii) Arguments

Name	Description
sessionId	Session Id.
computerName	This is the computer's host name.

(iii) Returns

1 if the computer name/host name is in a domain acceptable for remote access (GotoMyPC hosting).

(iv) Notes

This API is used determine if the computer is a suitable candidate for GotoMyPC host software installation. The Kent administrator will specify what domains are acceptable. So, for instance, if the Kent administrator has specified that the domain "citrate.net" is an acceptable domain for Kent GotoMyPC host installation then the call IsComputerHostNameOkForRemoteAccess("brenton-xp.citrate.net") would return 1.

(f) GetBinaryItemSize

(i) Prototype

int GetBinaryItemSize(const char* sessionId, const char* itemId);

(ii) Arguments

Name	Description
sessionId	Session Id.
itemID	The item ID is returned from another API. Typically it will be a path and file name and we may want to explicitly define it as such.

(iii) Returns

Size of item in bytes. -1 if item does not exist.

(iv) Notes

The ItemID for a binary item can and will be used in the client as a path and file name. The ItemIDs from the web service should use appropriate names for binary objects. An example might be an ItemID of "RollcallPanel.dll" for a Sidebar DLL. The client will write this to <filesystem-root>.

(g) GetBinaryItemChunk

Prototype

size_t GetBinaryItemChunk(const char* sessionId, const char* itemId, int dataOffset, char* buf, int len);

(i) Arguments

Name	Description
sessionId	Session Id.
itemID	See *GetBinaryItemSize* above.
dataOffset	The offset in bytes from the beginning of the file to start returning data.
buf	Buffer for returned data
len	Length of above buffer in bytes

(ii) Returns

Size of returned data returned in provided buffer.
-1 on error

(h) GetXmlItem

(i) Prototype

size_t GetXmlItemChunk(const char* sessionId, const char* itemId, char* buf, int len);

(ii) Arguments

Name	Description
sessionId	Session Id.
itemID	A string that identifies the tag name of the XML fragment requested. These are defined so far as: "RollCallSummary" "AlertStatus" "Tools"
buf	Buffer for returned data
len	Length of above buffer in characters

(iii) Returns

Size of returned string data (in characters) including the terminating zero. If the provided buffer is too small this value will exceed the value of len and no data will be copied to the provided buffer.
-1 on error

(i) GetExpressDirectory

(i) Prototype

int GetExpressDirectory(const char* sessionId, const char* lastUpdateCookie. char* itemId, size_t lenItemId);

(ii) Arguments

Name	Description
sessionId	Session Id.
lastUpdateCookie	Cookie from last successful GetExpressDirectory call. Can be null to request the entire directory
itemId	Buffer to store returned item ID
lenItemId	Length of itemId buffer

(iii) Returns

1 if no error

(iv) Notes

The returned ItemID can be used in GetBinaryItemChunk to retrieve the data. The UpdateCookie is used similarly to the UpdateCookie field in GetUpdateManifest.

30. Express Directory

The Express Directory in the Sidebar will be downloaded asynchronously to the usage of the Sidebar. Initially the Sidebar will download the entire directory and save the data on the stick. On subsequent Sidebar startups, the panel will request updates to the directory using the cookie provided to it from the server on the last directory retrieval. The client uses the GetExpressDirectory and GetBinaryItem APIs (described above) to do this. In order to save network time the data should be compressed by the server and decompressed by the client. The panel will always integrate the existing directory with the update and save the updated directory on the stick.

Since clients might be requesting directory updates frequently it might tax the system if each request caused a specific database query. One strategy to ease this load would be to 1) limit the parameters of a query and 2) cache the results on the server. The two elements go hand-in-hand, as it would not be practical to cache the results of the queries if the parameters were not limited. A limited number of queries means there will be a limited number of results to cache.

(a) Limiting the parameters of a query

Normally, to get all the records that were changed in a dataset since the last update one would request all records that were changed after the time of the last update. To limit the number of queries we can lengthen the granularity of the time period. For instance, if we use a one hour interval then the maximum number of queries every hour will be the number of hours the alert has been active. The actual number of queries will be much smaller than this theoretical maximum.

To increase the time period to one hour, the server should return a cookie with the time the request was made. When using that cookie, however, the server should modify the time to the

previous whole hour and use that time to make the database query (after first checking to see if there is an already cached dataset of this query on disk).

(b) Caching the results on the server

After making a query the server should 1) compress the results using a data compression algorithm such pkzip, and 2) Save the results to the disk using a file name that combines the last update time (from the requester's cookie) and the current date (rounded down to the previous whole hour).

It is this file name that the server returns to the caller in the itemId field in the GetExpressDirectory API. The caller will fetch the data using the normal API to retrieve binary data (i.e., GetBinaryItemChunk).

(c) Returning cached results

As mentioned above, the server will first check the file system for a cached result of the query before making a new database query. The cached files will be named to identify the query used to create there contents. If a file exists with a name <cookie data time rounded down>-<current time rounded down> then the server will simply return that name in response to a GetExpressDirectory call from the client. There are other ways to do the same think. For instance, all current query results could be kept in specific folder. The names of the file in the folder would contain the update query time only (the current time is assumed). When the hour changes the server would delete all files in this folder. A further and perhaps significant optimization would be to not delete the contents of this folder if no changes have been made to the express directory within the last hour.

31. XML Schemas

(a) Version

Example XML:

```
<Version major="1" minor="0">1.0</Version>
```

(b) RollCallSummary

Example XML:

```
<RollCallSummary total="1000">
  <TimeStamp><Date>2006-10-22</Date><Time>22:00:02Z</Time></TimeStamp>
  <CheckedIn total="100" requestingAssistance="50" />
<Link href="/rollcall" />
</ RollCallSummary>
```

(c) AlertStatus

Example XML:

```
<AlertStatus responded="true" level="1">
  <Activated><Date>2006-10-22</Date><Time>22:00:02Z</ Activated >
  <LastUpdate><Date>2006-10-22</Date><Time>22:00:02Z</Time></LastUpdate>
  <Zones><Zone>Miami</Zone></Zones>
  <Title>MIAMI OFFICE CLOSED</Title>
```

```
  <Description>Due to an Avian Flu warning from the Center of Disease Control, the Miami
  office will be closed</ Description>
<Link href="/" />
</AlertStatus>
```

(d) Tools

This example uses a made-up protocol of "cmd" to in the href tag to execute the internal command that will start GotoMyPC for this user. This is TBD. Alternatively, something like href="file://start_g2.exe -u "phil.smith@acme.com" -pw "39950390" -nn "OfficePC" -ac "12345"" could be used to start an executable on the stick with the GotoMyPC arguments needed to start a G2 session on a specific host computer.

```
<Tools>
<Tool href=cmd://start-g2>
  <Image src="/images/gotomypc.png" />
 <Title>Your office computer is available!</Title>
  <Button style="">Launch GotoMyPC</Button>
</Tool>
</Tools>
```

(e) Configuration

Example XML:

```
<Config>
<Application>
        <Panel>Status</Panel>
        <Panel>Rollcall</Panel>
        <Panel>Tools</Panel>
        <Panel>Communicator</Panel>
</Application>
<GoToMyPC>
        <UserId>Charley.Smith@acme.com</UserId>
        <Password>B990B00B-D0FF-40d0-8D60-80D023DD3706</Password>
        <Host>
                <Name>charley</Name>
                <AccessCode>C011A69D-7922-4ca9-856E-22CFB9236B0F</AccessCode>
        </Host>
</ GoToMyPC>
</Config>
```

APPENDIX E

DESIGN SPECIFICATION:

STICK SOFTWARE

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32. Introduction

The Sidebar is tightly integrated with the USB Storage device (the stick) that is provided to each employee as part of the WFC employee package. In this document we will discuss the user interface and user process elements on the stick that relate to GotoMyPC installation and usage, the Sidebar and to the entire user client experience. The creation and management of the stick is discussed in another document.

33. Stick provisioning

(a) Stick minimum requirements

(i) Stick hardware/firmware requirements

A stick must support the plug and play ability (U3 related?) that reports *two* volumes to the operating system upon insertion. This is necessary to cause our executable located on the stick to automatically run when the user inserts the stick. The first volume is the bulk of the device's storage and is called the data partition. The second volume is a small section of the USB device's storage that emulates a CD ROM device and is reported to the operating system as a CD ROM device. The CD ROM emulated section contains an autorun.inf file that the operating system will automatically search for and execute. This will cause a small executable, also residing on the CD ROM section, to run. This small executable will detect the disk identifier of the stick's data partition and will start an executable located on that volume.

The U3 platform is an open-standard developed by SanDisk and M-systems.

For further explanation here is a summary of this functionality from the everythingusb.com web site:

A small, 4MB read-only system partition of the U3 drive pretends to be a CD-ROM drive, while the data partition shows up as a regular flash drive. Because Windows is led to believe that the system partition is a CD, U3 takes advantage of the AutoPlay feature in windows to automatically run the U3 LaunchPad and unlock the data partition of the drive. It should be noted that U3 will run on any Windows 2000/XP system, regardless if the user has administrative rights or not.

(ii) Minimum files on the stick's CD-ROM volume

Autorun.inf	A text file that causes Windows to run AutoLauncher.exe.
AutoLauncher.exe	Small executable that determines the drive letter of the stick's data partition and starts the executable *wfcBoot.exe* located on that volume.
u3dapi10.dll	A helper component that AutoLauncher.exe uses to determine the drive letter of the stick's data partition. This is a DLL provided in the U3 SDK.

(iii) Minimum files on the stick's data partition

wfcBoot.exe	The Kent bootstrap executable. This program can communicate with a WFC service and download all other program files necessary for a fully functioning Kent enabled stick.
net6vpn.exe	VPN client software

With the exception of u3dapi.dll all the files listed above must be created and prepared by the Kent development team.

(b) Other stick considerations

Along with the minimum wfsBoot.exe file on the data partition, it may be beneficial to also include other files needed for a functioning Kent enabled stick (i.e., the Sidebar components and G2 installers). The bootstrap loader is able to detect an out-of-date Kent installation and will download and install newer components from the WFC service. If, however, the installation is not out-of-date, then downloading time is saved and the user can start using the Sidebar without delay.

34. Stick software major components

In this section we list and discuss every significant process, utility or application that resides on the stick.

(a) Auto Launcher (AutoLauncher.exe)

This component is described in the *Stick provisioning* section above. It resides on the CD-ROM portion of the stick and is responsible for launching the wfcBoot.exe application on the stick's data partition.

(b) WFC bootstrap (wfcBoot.exe)

The application performs the actions listed below.

1. Detects or obtains Internet connectivity.
   [Screen shot: error and remedy if unsuccessful]
2. Discovers VPN service URL. A service located on a Citrix owned server may be used to obtain the Access Gateway URL. The user may be prompted for a company ID if the stick has never been used before and has not been pre-seeded with a company ID or company Access Gateway URL). This discovery process is documented in TODO:xxxx.
   [Screen shot: Prompt for a company ID]
   [Screen shot: error message and remedy if unsuccessful. The error conditions are 1) Unable to find company ID or 2) an unexpected error. The error message and the remedy should be something along the lines of "Please contact support for a instructions" There isn't a lot that the user can do if this fails.]
3. Starts the VPN client and Logon
   [Screen shot: logon screen]
   [Screen shot: unable to logon using name and password error]
4. Open the WFC service.
   [Screen shot: progress meter showing current activity]

5. Processes program update information from server (this is documented in TODO:xxxx). Note that in the event that the VPN client or the bootstrap program itself has been updated then the bootstrap program will restart. The existing logon state can possibly be preserved by caching the current session ID. If not, a screen explaining the re-start will be displayed to the user.
   [Screen shot: progress meter showing current activity]
   [Screen shot: explaining that an update has occurred that may require you to re-enter username and password]
6. [Screen shot: progress meter showing current activity]
7. Starts Sidebar loader.

(c) Sidebar loader (loader.exe)

The Sidebar loader performs the following functions:

1. Sets up all Sidebar configuration files. This step is to insure that the Sidebar is always correctly configured.
2. Starts the Sidebar

Notes

- It's the intention that the functionality of the loader will be put into the Sidebar itself. When and if that occurs this component will be eliminated.
- Another option would be to put this functionality into the bootstrap application, also eliminating this component.
- The loader will be provided with the current session ID using a command line argument.

(d) The Sidebar (dsidebar.exe)

The Sidebar is the main application and function of the stick and is described in a separate section below. In a yet to be determined method the Sidebar will be provided with the current session ID from the bootstrap application or the loader.

35. Sidebar

The main functions of the Sidebar are to provide alert status information to the user, allow the user to respond to the alert with status information, provide a link to instant GotoMyPC functionality, provide links to more complete information and functionality on the WFC portal web site, and to provide a customized IM and Softphone component preloaded with the user's managers and peers.

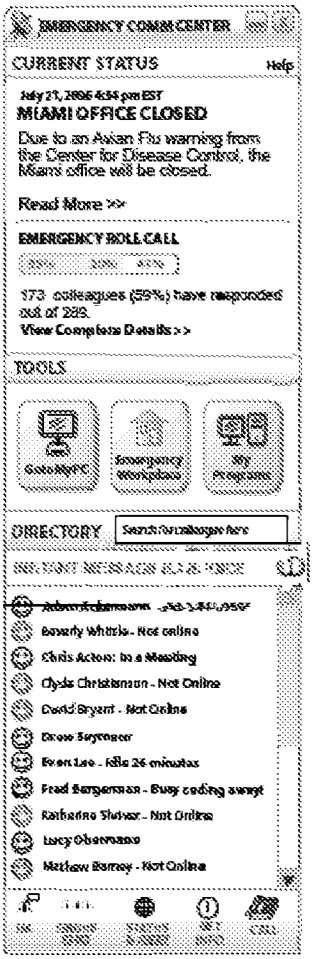
One underlying programming strategy of the Sidebar is to let the WFC drive the component as much as possible. That is, the Sidebar is, as much as possible, a "dumb" client. This is analogous to a web page, where it is the server that determines the content and functionality of the page and not the web page itself.

(a) Launch

If the stick has been initialized the Sidebar is automatically launched by the loader application as described in the *Stick software major components* section above.

By the time the Sidebar is launched it is fully configured and displayable. Each panel, however, may need to download specific data from the WFC service. These downloads will be asynchronous with the display and usability of the Sidebar. The strategy is to download the minimum amount of data necessary prior to the launching of the Sidebar in order to keep the UI as responsive as possible.

(b) Overall



An example screen shot of the Sidebar.

A mini-application in the Sidebar is called a panel. In the screen shot shown above there are four panels: Status, Roll Call, Tools, and Directory/IM. The specific panels loaded into the Sidebar is an IT configurable option and can be based on the ERT and Manager status of the user. At a minimum the Status panel will be loaded. Normally the Status, Tools, and Directory panels will be loaded for all users, and the Roll Call panel will be loaded for ERT personnel and Managers. Optionally the Roll Call panel can be loaded for all employees. Each of these panels will be described below.

Note: Unless otherwise stated all links open up a web page on the WFC server using the computer's default browser. A session ID provided by the WFC service will be encoded in the URLs to identify the requester to the portal.

(c) Sidebar Panels

(i) Status

The status panel displays the current status of the alert as supplied by the WFC service. The panel will poll the WFC service once a minute for changes and will update the display as changes occur.

The background of the message will be color coded depending on the status (color coding values TBD).

A color-coded line at the bottom of the panel will display the user's response status to this emergency. This will be a clickable link to a page where the user can enter or modify a response.

The *Read More* link will open the home page on the portal for this emergency.

(ii) Roll call

The Roll call panel displays statistics and a bar graph showing the number of employees who have responded to the alert.

A *View Details* link will open the Roll Call page on the portal.

(iii) Tools

The Tools panel contains URL links to selected applications. The main purpose of this panel is to make the GotoMyPC URL link clearly visible and available to the user. The details on how the GotoMyPC link works in described in the section TODO:xxxx in this document.

The other standard link will be a URL to the home page of the portal for the current emergency.

Optionally, links to other tools can be made available here. Additional tool entries will be under the control of the WFC service. Each optional tool entry will specify an icon image, a button name, a short description, and a URL. The URL can be coded to point to an application residing on the stick.

(iv) Communicator

This panel offers two separate but related features.

(1) Express Directory

The directory contains the names and abbreviated contact information of everyone in the organization. (TBD will this contain only those participating in the current alert or will it contain everyone in the organization -- similar to the corporate Outlook contacts directory). On start-up the panel will look to see if a local copy of the directory is on the stick. If the directory is not on the stick the panel will download the entire directory from the WFC service. If the directory is on the stick the panel will check the WFC service for time-stamped updates and start a download of updated and new entries if necessary. (TBD: the protocol for

determining what needs to be updated). In both cases the download will be asynchronous to the usage of panel. There will be a UI indication that an update is in progress, however.
[Screen shot: panel with directory interaction]

Configurable # of letters for match
How do you get match from server?

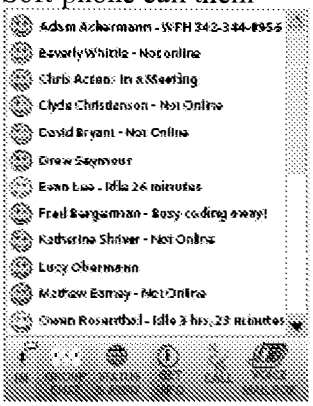
(2) Instant Messaging and Softphone

The IM component connects to a Kent configured LCS server via a VPN connection to a Gateway server. The logon credentials will be provided by the WFC service. The pre-configured buddy names and groups for this user will be obtained from the WFC service and temporarily combined with the user's buddies already on the LCS server.

Users can exchange text messages and start voice conversations with single or groups of buddies in their list. Users can also dial-out to any phone number to create PC to phone voice conversations. The Softphone functionality is a feature of the LCS server. The Communicator panel initiates a voice phone call by communicating with the LCS server. The LCS server dials out (figuratively speaking) to the other party to complete the connection. Audio is transmitted from the user's PC to the LCS server, and from the LCS server to the party at the other end (and vice versa).
[Screen shot: IM text conversation window]
[Screen shot: Softphone dialing out]
[Screen shot: Softphone voice conversation in progress]

Ability to add

Initiate IM
Change status
Create groups
Soft-phone call them



36. GotoMyPC host installation alternatives

The initialization of a stick can be run on the employee's computer at work, but this is not required. The advantages to initializing on the user's office computer are:

1. Can setup GotoMyPC host on the user's office computer using the stick.
2. Potentially faster access to the company's WFC service.

The disadvantages or impediments to initializing the stick on the office PC are:

1. Attempting to install GotoMyPC from the stick may fail if the user does not have administration privileges.
2. The office computer's USB port may be locked down making initializing from the office computer impossible.

While it is possible to initialize a stick on a non-office computer, the company IT department will have to provision GotoMyPC host software independently.

At this time is has been decided that GoToMyPC host installation will not be something offered on the stick. Installation of GoToMyPC will be an IT task.

37. GotoMyPC client viewer

A GoToMyPC short-cut will be provided from the WFC service to the Sidebar. A "short-cut" is a URL pointing to the gotomypc.com website and includes an encoded string that tells the website 1) the user requesting the connection, and 2) the host computer the user wishes to connect to. A cookie is provided with the request to authenticate the user.
The process goes something like this:

1. GoToMyPC.com gets request with short-cut and cookie. The information is verified and if acceptable a Java applet is downloaded to browser.

   Note that the user may have to grant permissions for the Java applet to run and may have to grant other permissions for other actions in this process.

2. The applet downloads a viewer (a regularWin32 executable) into the computer's temp directory.

3. The applet starts the viewer. At this point the viewer is handed an already established connection with the host or is given the URL to the target host (it's either one or the other; I just don't know the details). In either case, the viewer has or will establish a connection with the host computer (the user's office computer).
4. The viewer will prompt the user for an Access Code. Using the Secure Remote Passwords (SRP) protocol the Access Code is verified and GoToMyPC session will begin.

The WFC service will provide the Sidebar with the short-cut, the cookie, and the Access Code. What the Sidebar process will be:

1. Start a global hook
2. … more to come … …

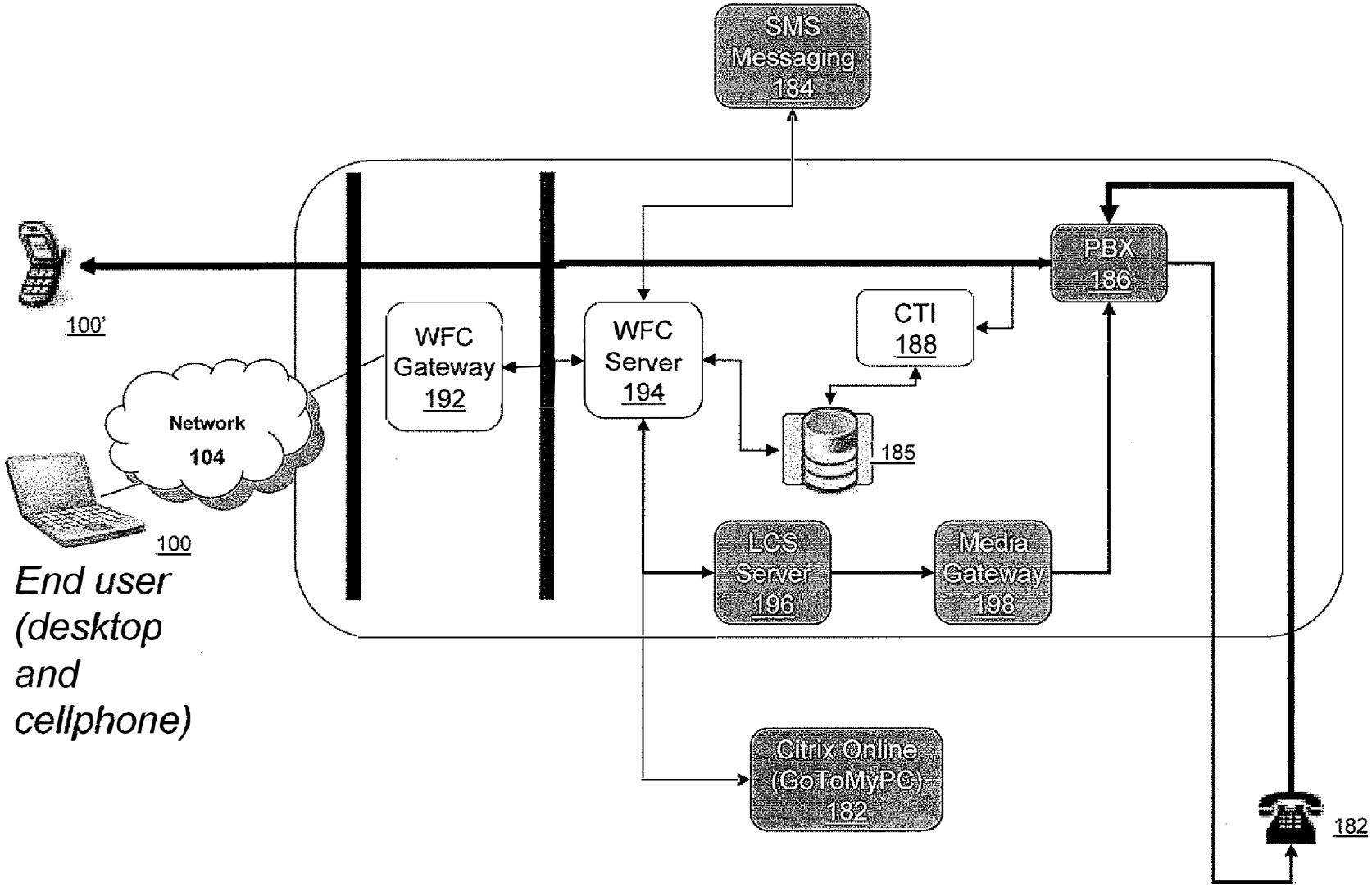

SMS Messaging 184
PBX 186
100'
WFC Gateway 192
WFC Server 194
CTI 188
Network 104
185
100
LCS Server 196
Media Gateway 198
End user (desktop and cellphone)
Citrix Online (GoToMyPC) 182
182

FIG. 1A

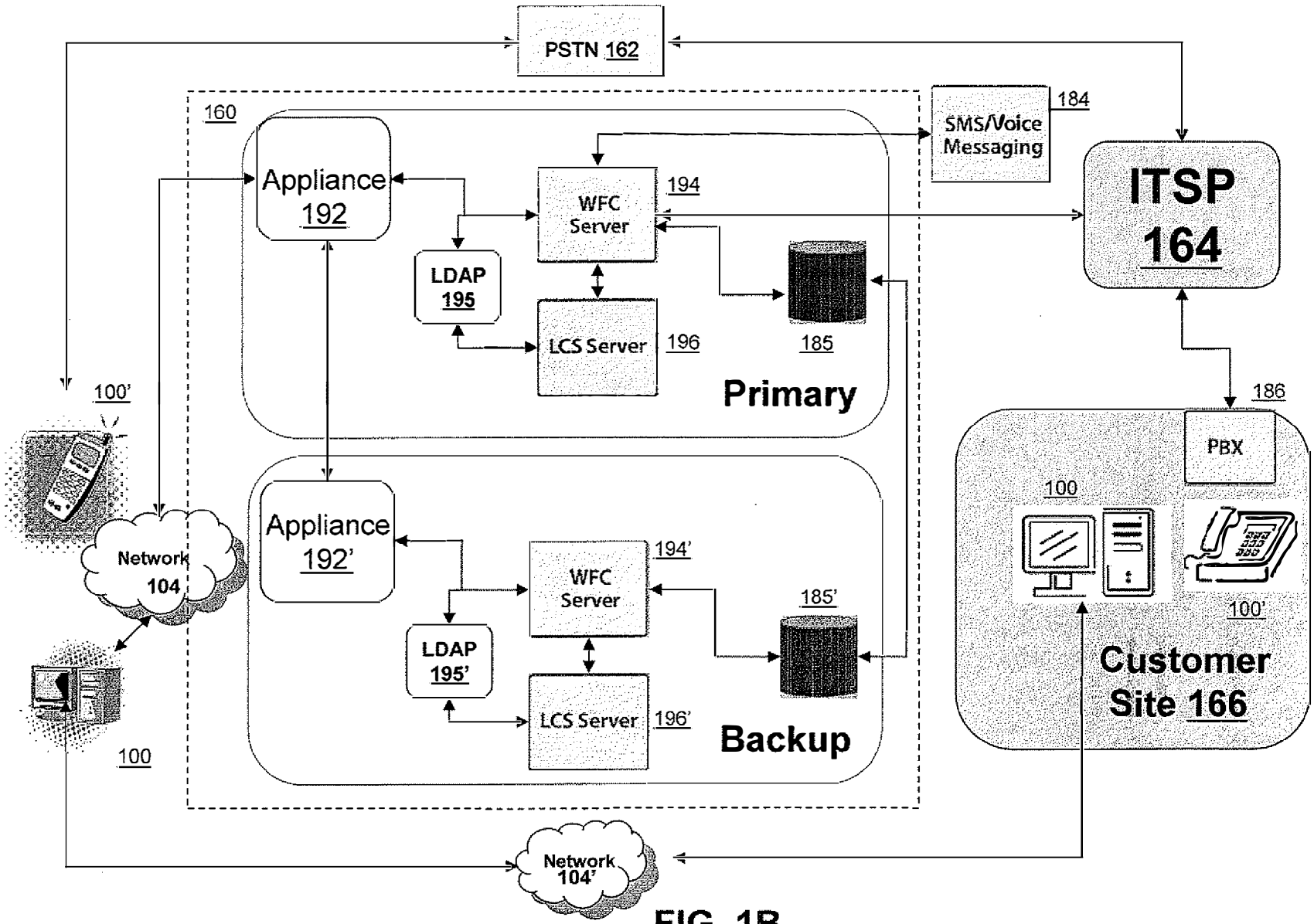

PSTN 162
160
Appliance 192
WFC Server
194
LDAP 195
LCS Server
196
185
Primary
SMS/Voice Messaging
184
ITSP 164
186
PBX
100
100'
Customer Site 166
100'
Network 104
Appliance 192'
WFC Server
194'
185'
LDAP 195'
LCS Server
196'
Backup
100
Network 104'

FIG. 1B

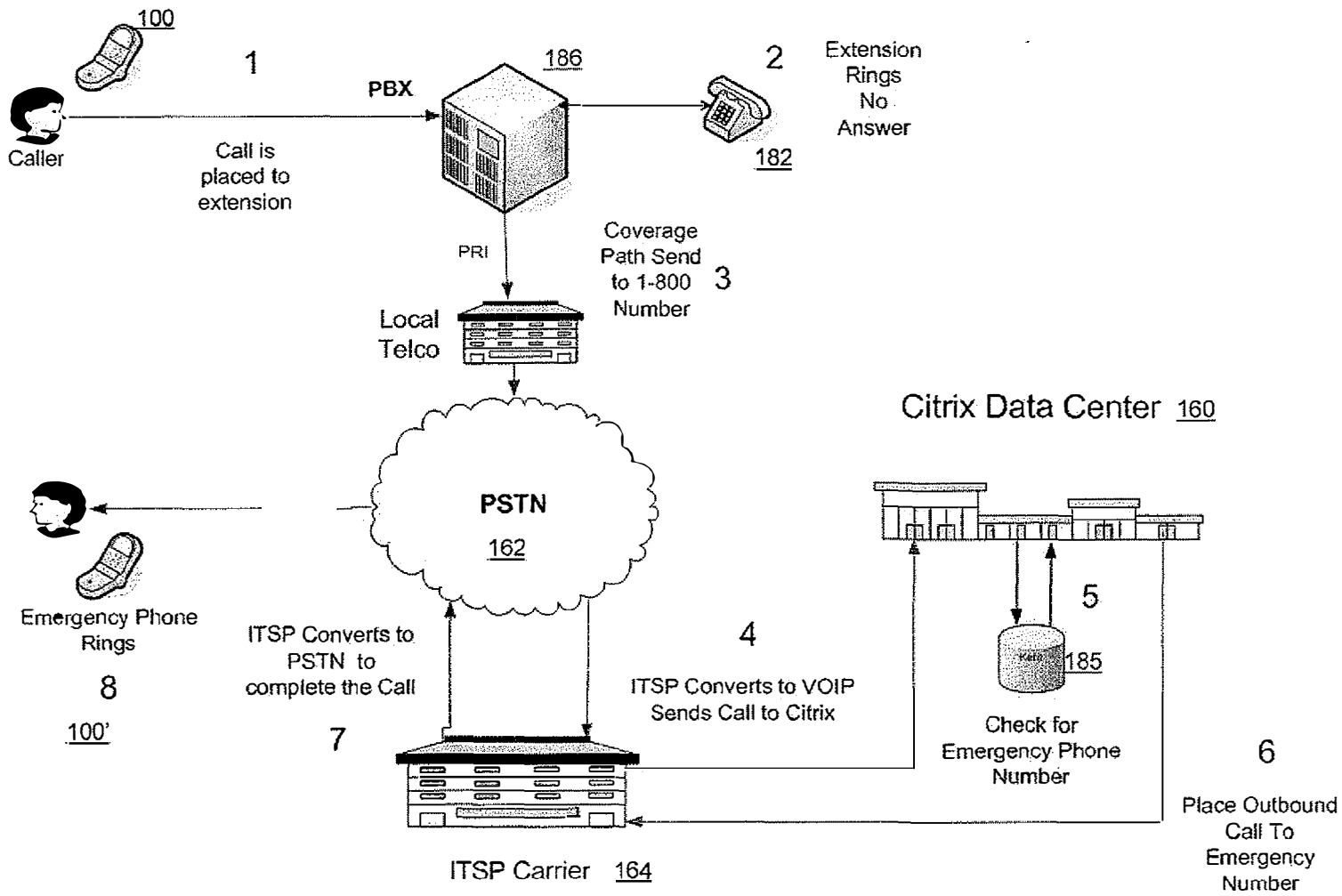

100
1
PBX
186
2
Extension Rings No Answer
182
Caller
Call is placed to extension
PRI
Coverage Path Send to 1-800 Number
3
Local Telco
Citrix Data Center 160
PSTN
162
Emergency Phone Rings
8
100'
ITSP Converts to PSTN to complete the Call
7
4
ITSP Converts to VOIP Sends Call to Citrix
5
185
Check for Emergency Phone Number
6
Place Outbound Call To Emergency Number
ITSP Carrier 164

FIG. 1C

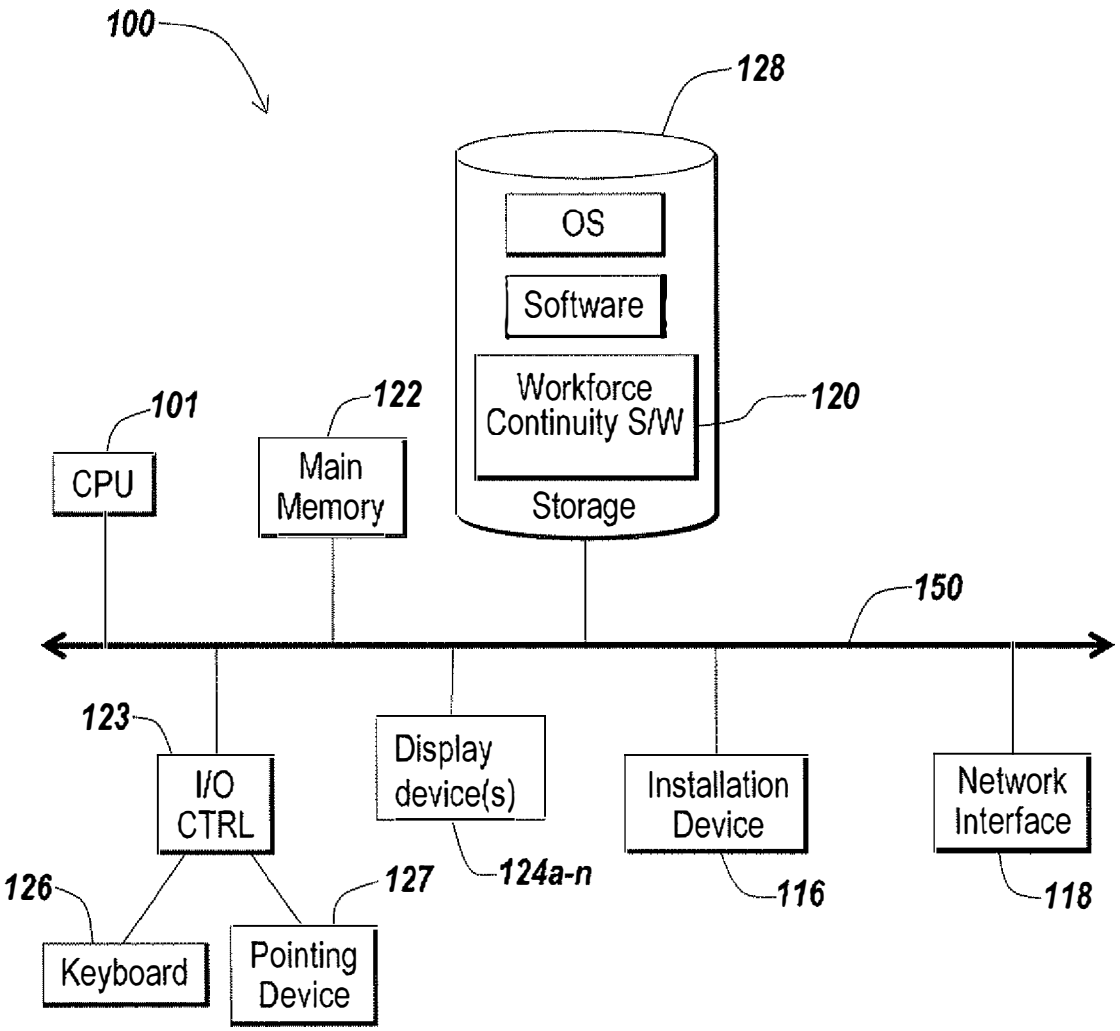

100
128
OS
Software
Workforce Continuity S/W
120
Storage
101
CPU
122
Main Memory
150
123
I/O CTRL
Display device(s)
124a-n
Installation Device
116
Network Interface
118
126
Keyboard
127
Pointing Device

Fig. 1D

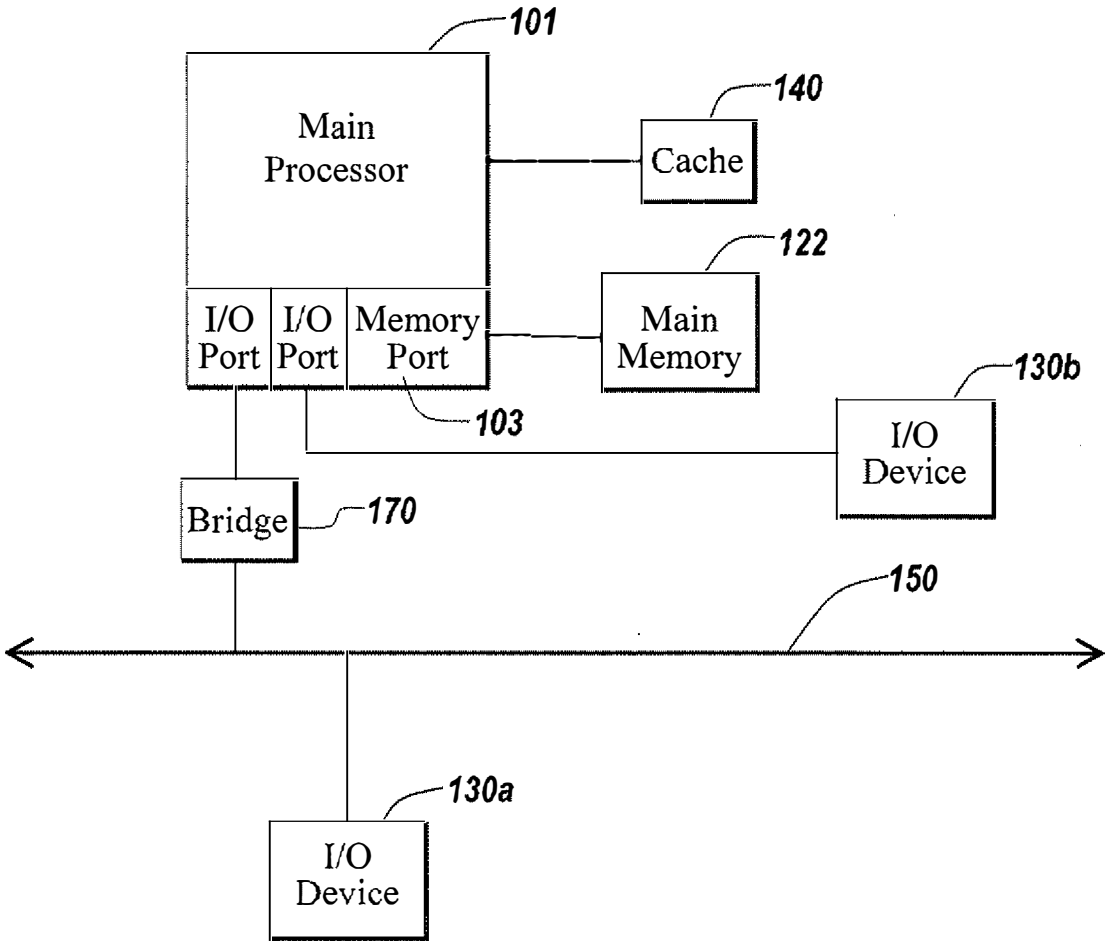

101
Main
Processor
140
Cache
122
Main
Memory
I/O
Port
I/O
Port
Memory
Port
103
130b
I/O
Device
Bridge
170
150
130a
I/O
Device

Fig. 1E

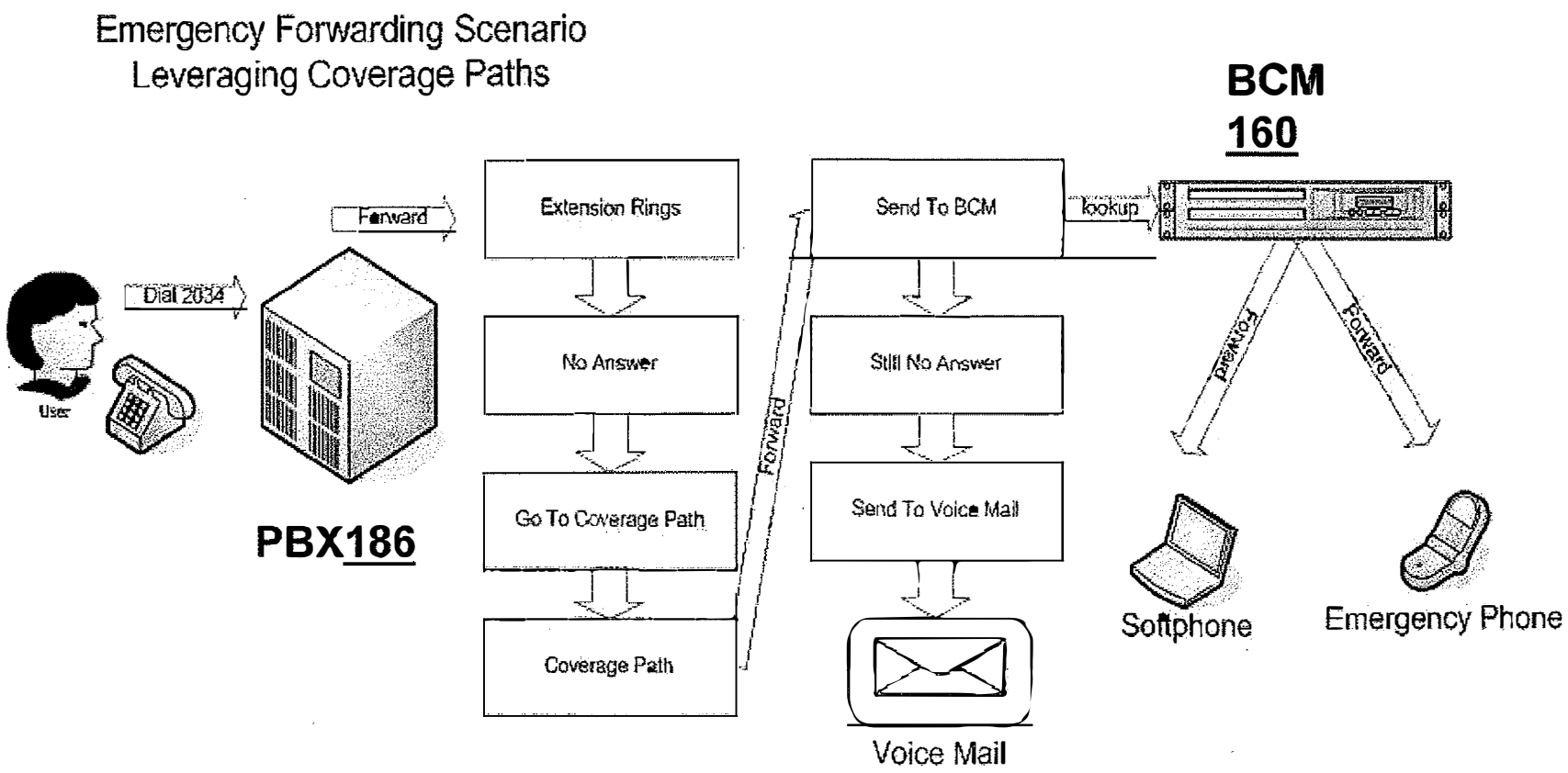

Emergency Forwarding Scenario
Leveraging Coverage Paths
BCM
160
Forward
Extension Rings
Send To BCM
lookup
Dial 2034
No Answer
Still No Answer
Forward
Forward
Forward
User
Go To Coverage Path
Send To Voice Mail
PBX186
Softphone
Emergency Phone
Coverage Path
Voice Mail

FIG. 2A

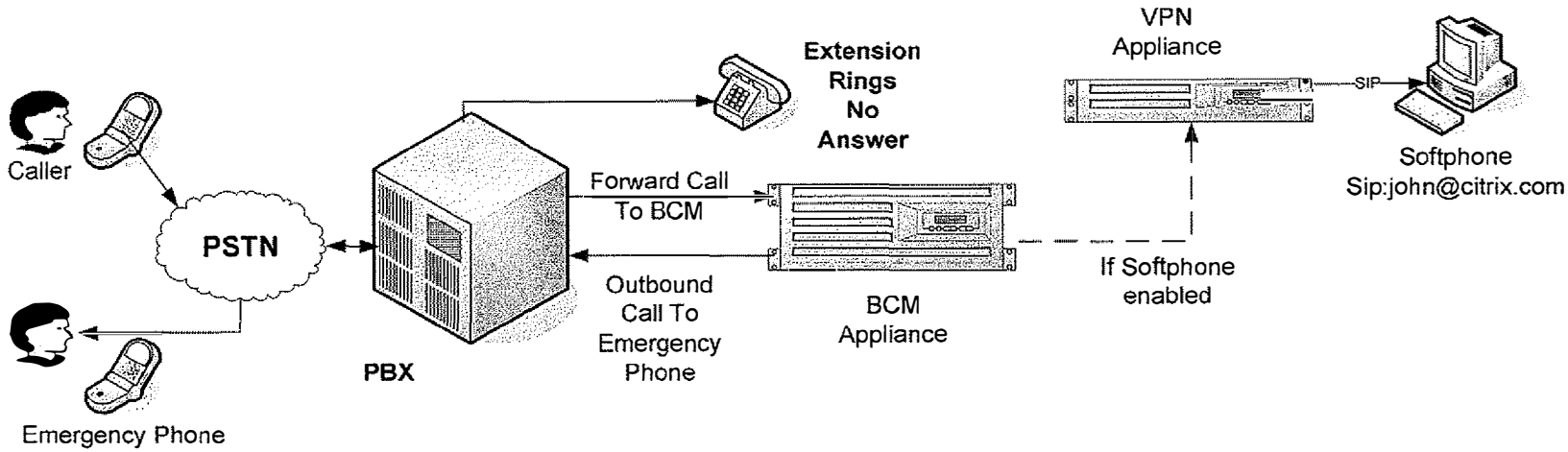

Caller
PSTN
Emergency Phone
PBX
Extension
Rings
No
Answer
Forward Call
To BCM
Outbound
Call To
Emergency
Phone
BCM
Appliance
VPN
Appliance
SIP
Softphone
Sip:john@citrix.com
If Softphone
enabled

FIG. 2B

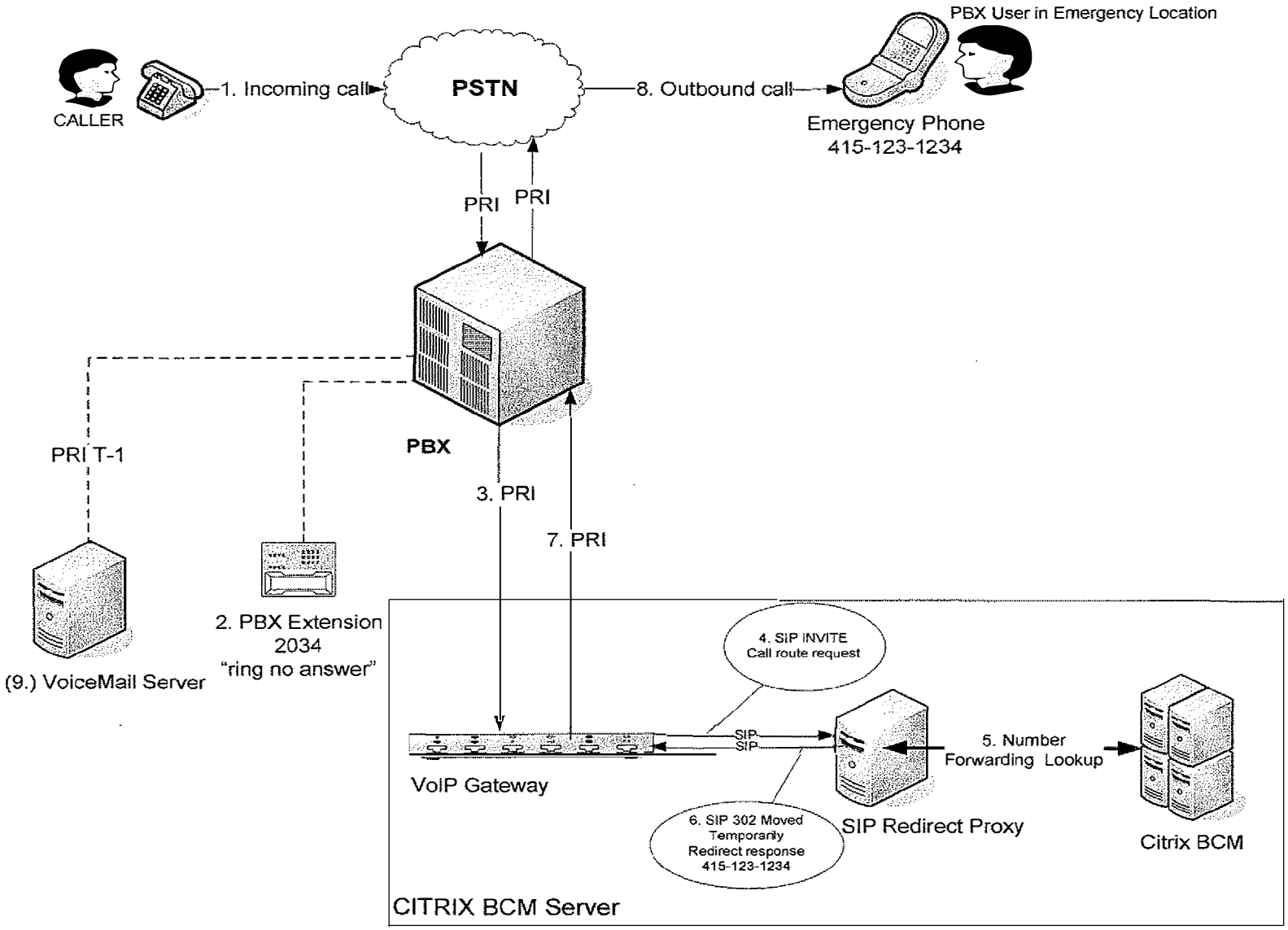

PBX User in Emergency Location
CALLER
1. Incoming call
PSTN
8. Outbound call
Emergency Phone
415-123-1234
PRI
PRI
PBX
PRI T-1
3. PRI
7. PRI
2. PBX Extension
2034
"ring no answer"
(9.) VoiceMail Server
4. SIP INVITE
Call route request
SIP
SIP
VoIP Gateway
5. Number
Forwarding Lookup
SIP Redirect Proxy
Citrix BCM
6. SIP 302 Moved
Temporarily
Redirect response
415-123-1234
CITRIX BCM Server

FIG. 2C

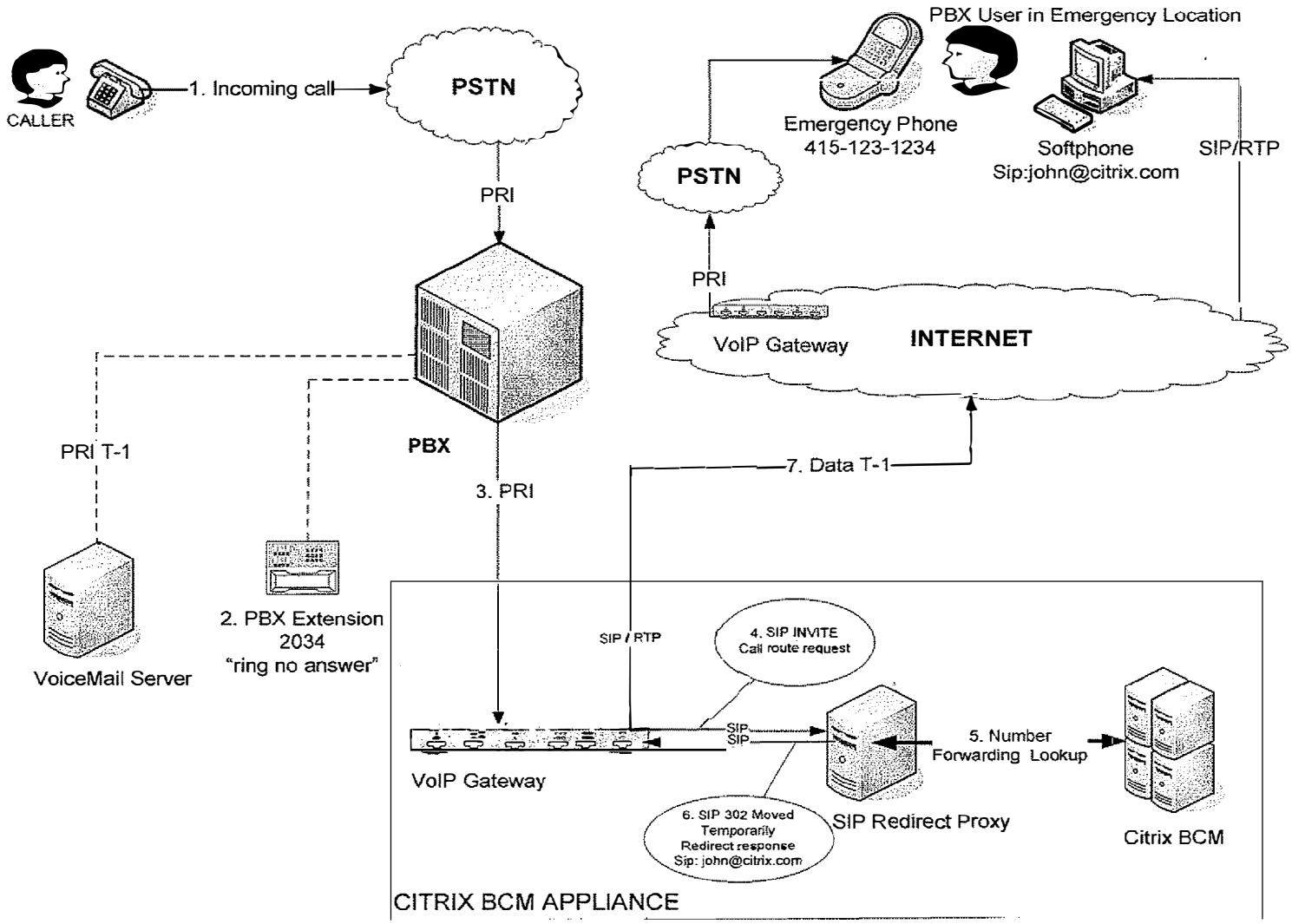

CALLER
1. Incoming call
PSTN
PRI
PBX
PRI T-1
VoiceMail Server
2. PBX Extension
2034
"ring no answer"
3. PRI
PBX User in Emergency Location
Emergency Phone
415-123-1234
Softphone
Sip:john@citrix.com
SIP/RTP
PSTN
PRI
VoIP Gateway
INTERNET
7. Data T-1
SIP / RTP
4. SIP INVITE
Call route request
SIP
SIP
VoIP Gateway
5. Number
Forwarding Lookup
SIP Redirect Proxy
Citrix BCM
6. SIP 302 Moved
Temporarily
Redirect response
Sip: john@citrix.com
CITRIX BCM APPLIANCE

FIG. 2D

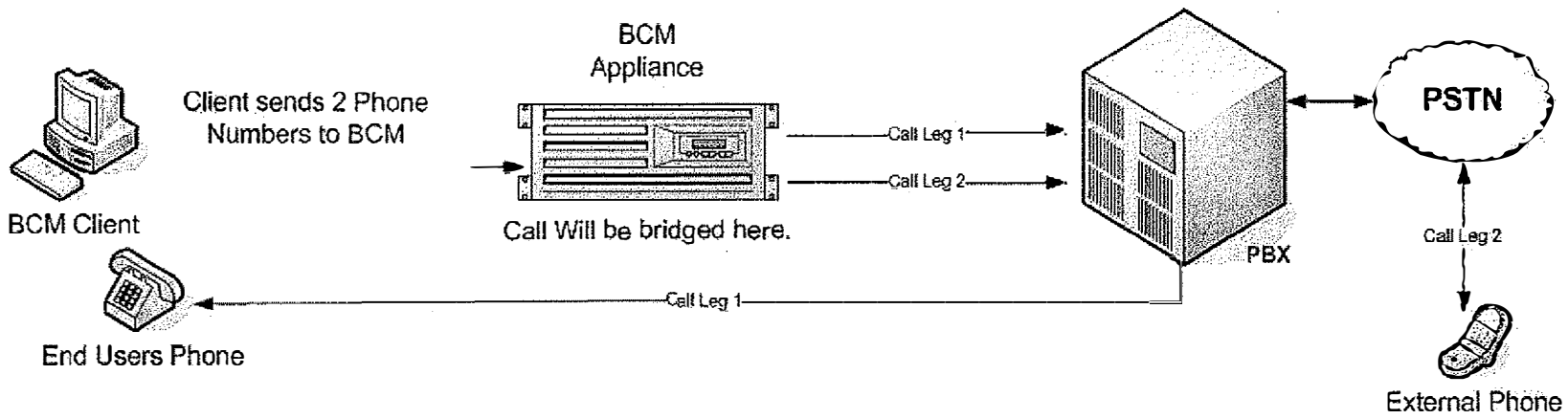

BCM
Appliance
Client sends 2 Phone
Numbers to BCM
Call Leg 1
Call Leg 2
PSTN
BCM Client
Call Will be bridged here.
PBX
Call Leg 2
Call Leg 1
End Users Phone
External Phone

FIG. 2E

Outbound calling

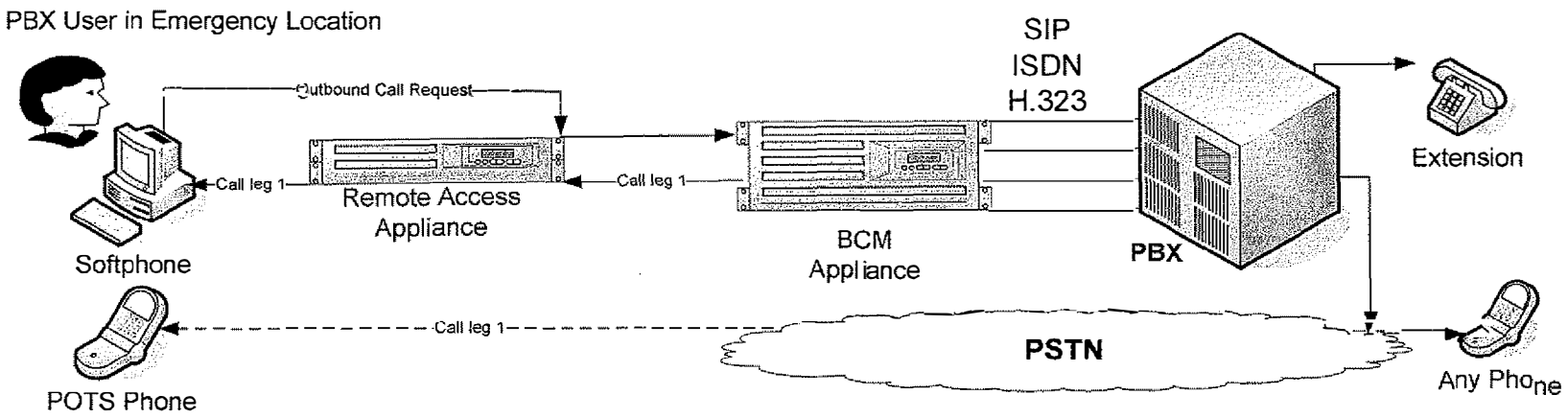
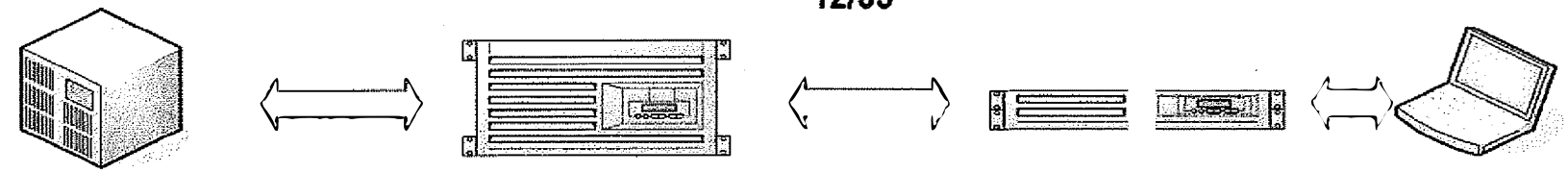


FIG. 2F



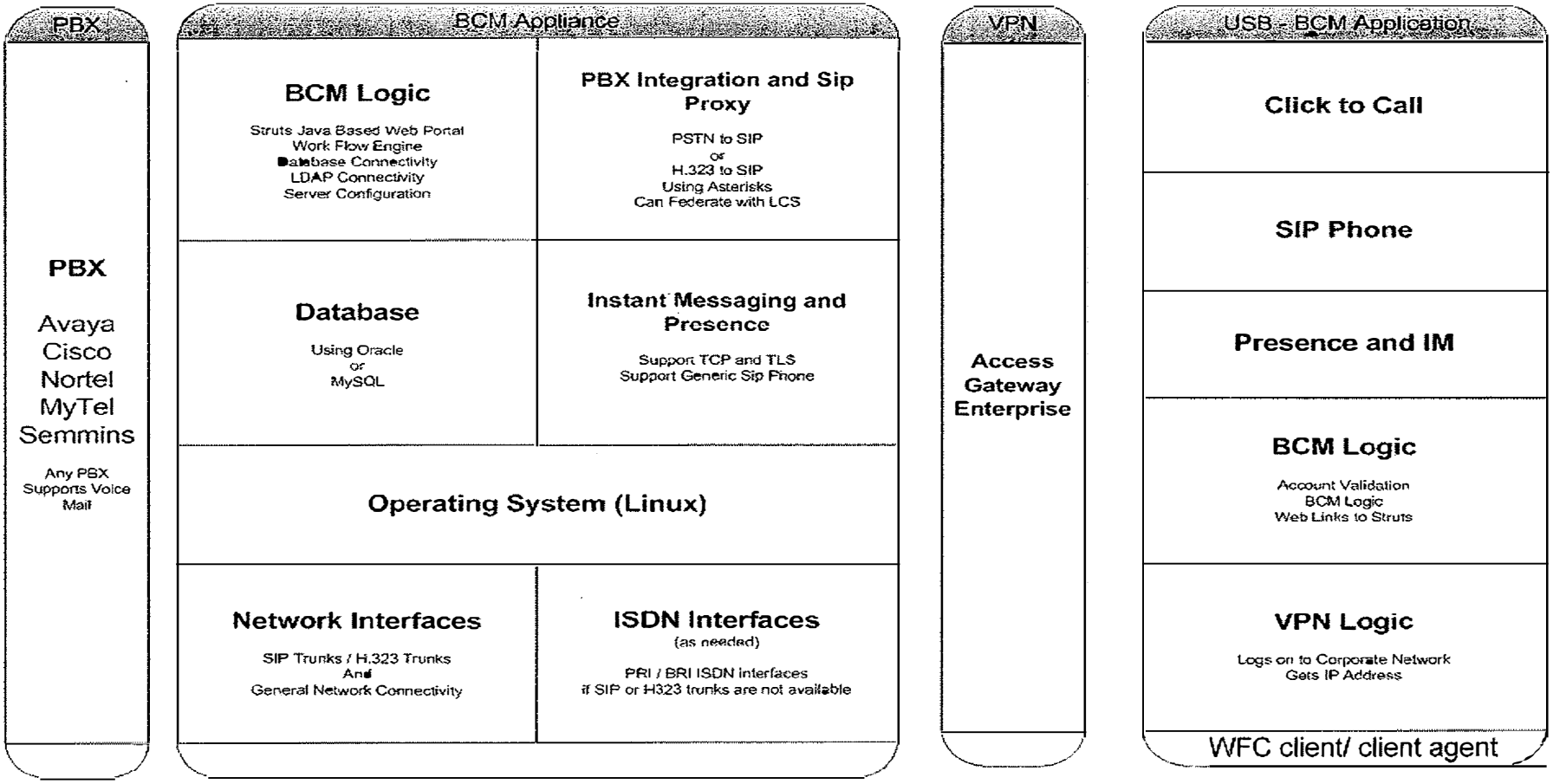

PBX
PBX
Avaya
Cisco
Nortel
MyTel
Semmins
Any PBX
Supports Voice
Mail
BCM Appliance
BCM Logic
Struts Java Based Web Portal
Work Flow Engine
Database Connectivity
LDAP Connectivity
Server Configuration
PBX Integration and Sip Proxy
PSTN to SIP
or
H.323 to SIP
Using Asterisks
Can Federate with LCS
Database
Using Oracle
or
MySQL
Instant Messaging and Presence
Support TCP and TLS
Support Generic Sip Phone
Operating System (Linux)
Network Interfaces
SIP Trunks / H.323 Trunks
And
General Network Connectivity
ISDN Interfaces
(as needed)
PRI / BRI ISDN interfaces
if SIP or H323 trunks are not available
VPN
Access
Gateway
Enterprise
USB - BCM Application
Click to Call
SIP Phone
Presence and IM
BCM Logic
Account Validation
BCM Logic
Web Links to Struts
VPN Logic
Logs on to Corporate Network
Gets IP Address
WFC client/ client agent

FIG. 3

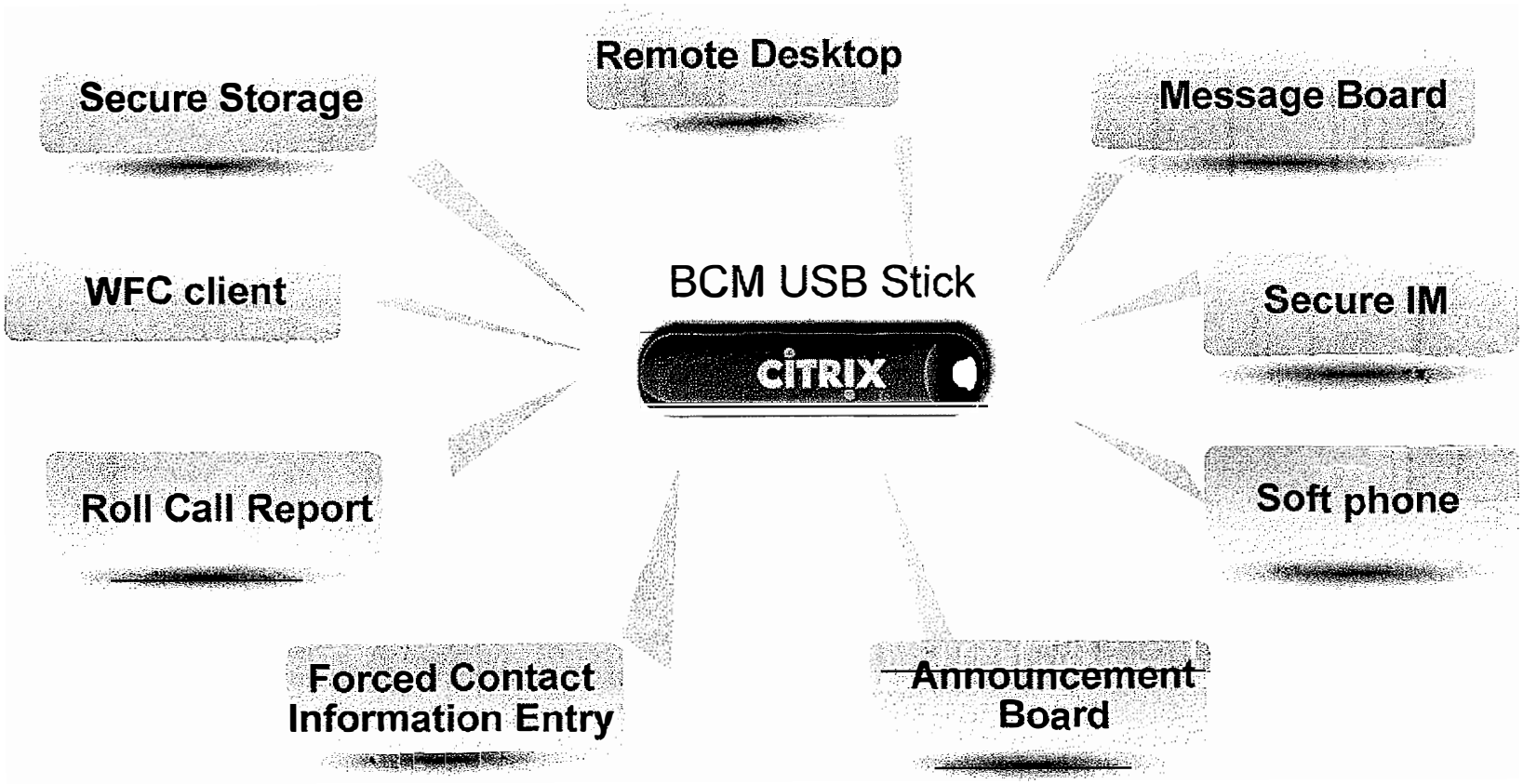

Remote Desktop
Secure Storage
Message Board
WFC client
BCM USB Stick
CITRIX
Secure IM
Roll Call Report
Soft phone
Forced Contact Information Entry
Announcement Board

FIG. 4A

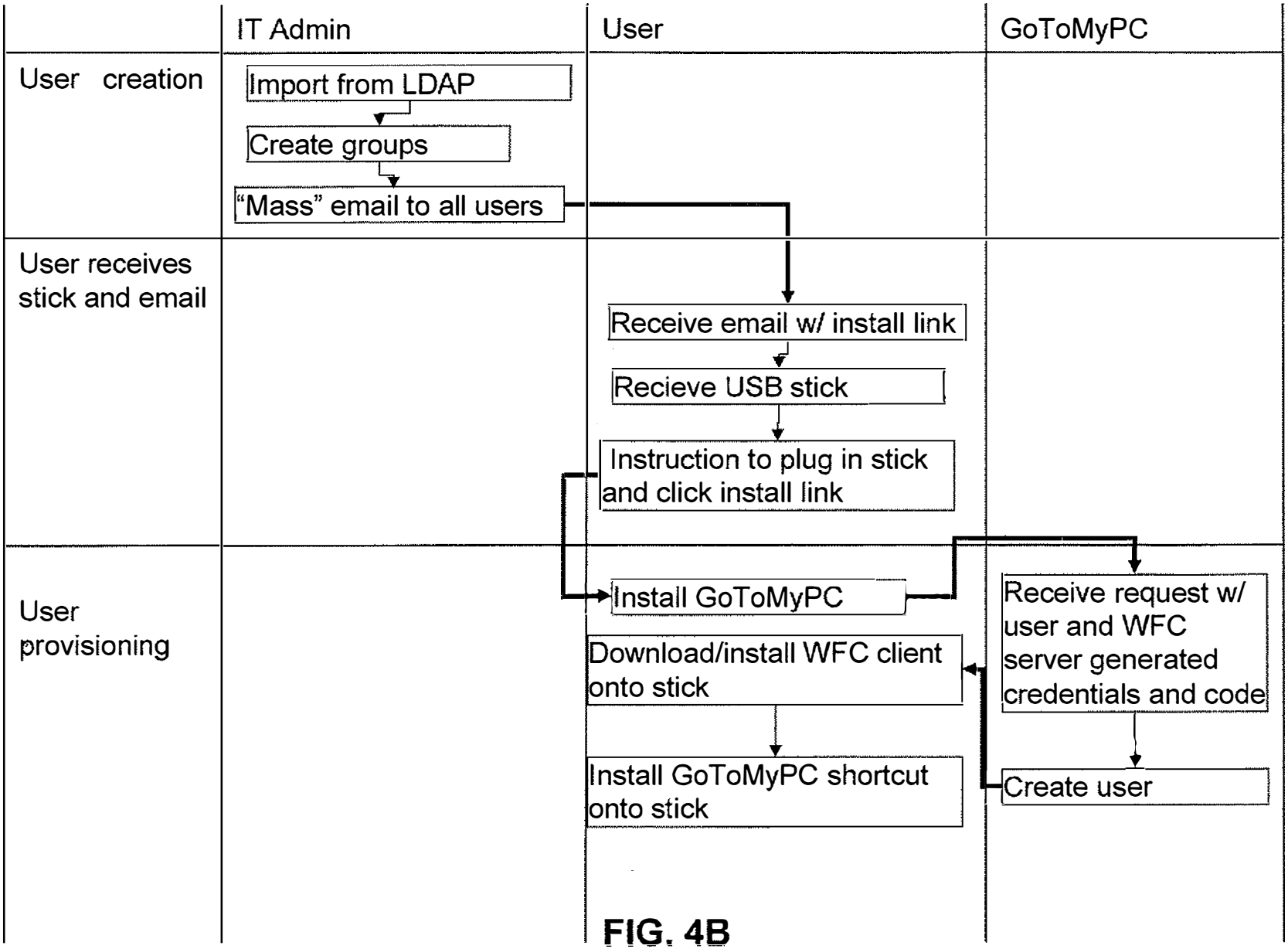

IT Admin
User
GoToMyPC
User creation
Import from LDAP
Create groups
"Mass" email to all users
User receives stick and email
Receive email w/ install link
Recieve USB stick
Instruction to plug in stick and click install link
User provisioning
Install GoToMyPC
Download/install WFC client onto stick
Install GoToMyPC shortcut onto stick
Receive request w/ user and WFC server generated credentials and code
Create user

FIG. 4B

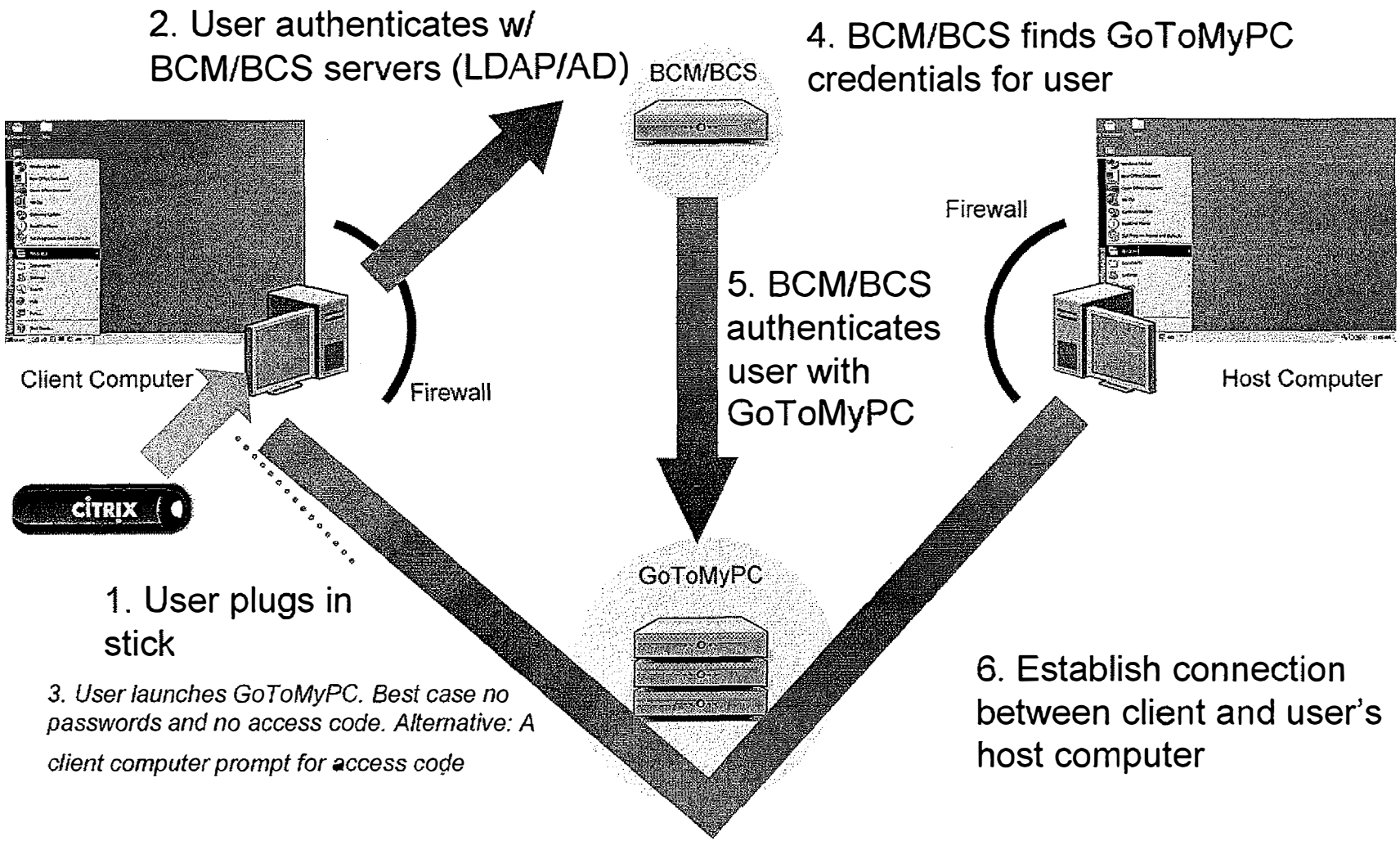
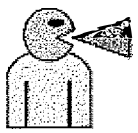

2. User authenticates w/
BCM/BCS servers (LDAP/AD)
BCM/BCS
4. BCM/BCS finds GoToMyPC
credentials for user
Firewall
5. BCM/BCS
authenticates
user with
GoToMyPC
Client Computer
Firewall
Host Computer
CITRIX
GoToMyPC
1. User plugs in
stick
3. User launches GoToMyPC. Best case no
passwords and no access code. Alternative: A
client computer prompt for access code
6. Establish connection
between client and user's
host computer

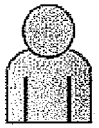
FIG. 4C

Personas



Emergency Response Team (ERT):

Prepare and configure scenarios, groups, zones. Activate Emergency Situations, send Notifications. Manage Roll Call and Emergency Workplace.



Employees:

Receive and respond to Alert Notifications. Use Sidebar and Emergency Workplace to work during Emergency Situation.

Managers:

Use the product to access Emergency situation History & Reports

FIG. 5A

User flow architecture

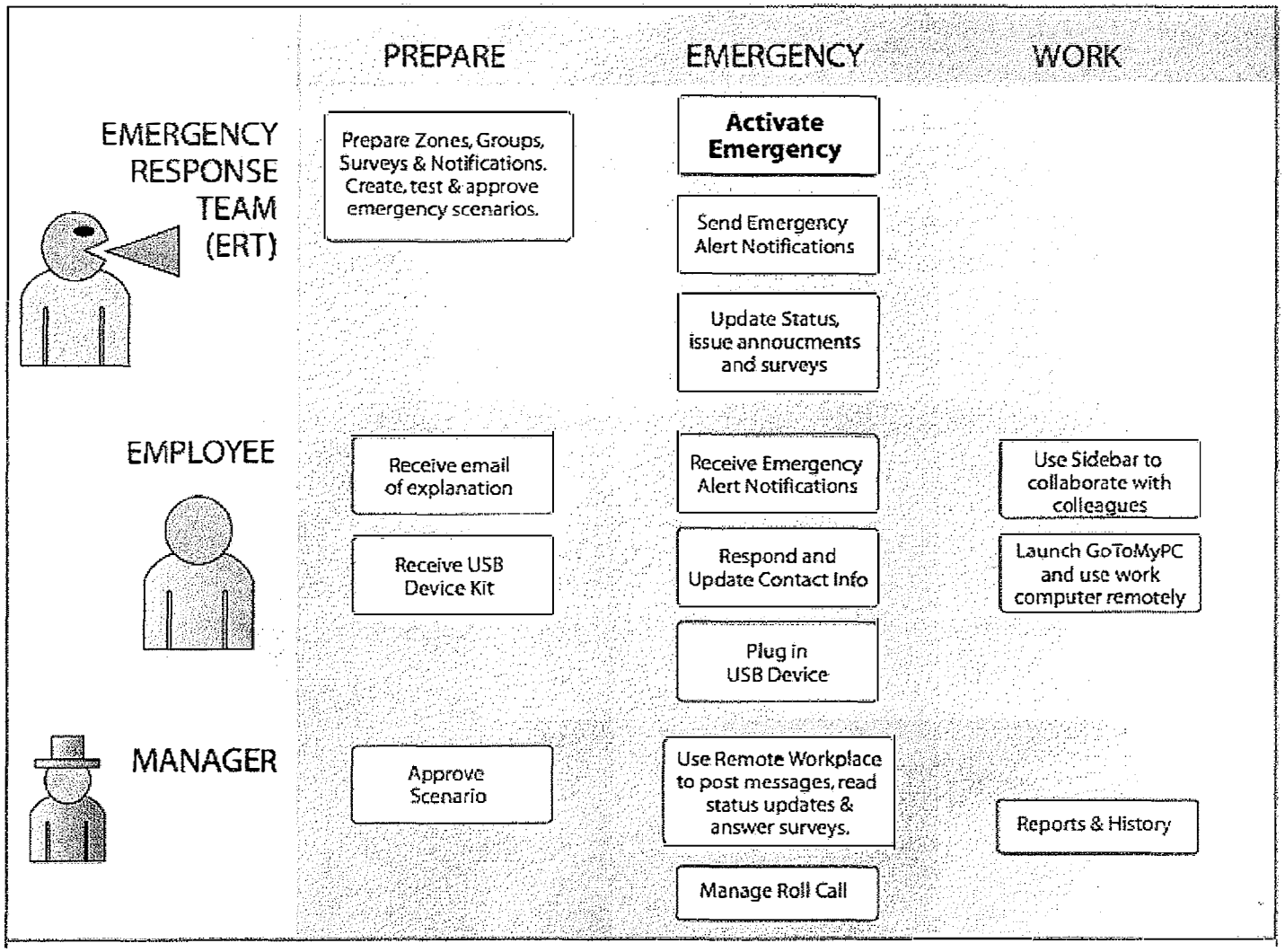
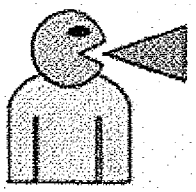


FIG. 5B

ERT creates emergency scenarios



ERT Creates
- -Groups
- -Zones
- -Surveys
- -Notifications
- -Scenarios

New Group
Follow the four simple steps below to create a new Group.

NEW GROUP - STEP 1

1 Name Group
2 Privileges
3 Members
4 Review & Save

Group Name:
Atlanta ERT Members

Group Type (these settings control what privileges are available for this group):
- ☐ Administrators
- ☒ ERT Members
- ☐ Managers
- ☐ Employees

EDIT SCENARIO WIZARD - STEP 1

1 Name & Description
2 Alert Notification
3 Status
4 Zones
5 Surveys
6 News & Resources
7 Review
Approval

Scenario Name:
Atlanta Hurricane

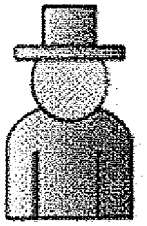
Scenario Description:
Hurricane maps, resources and news feeds included for a major hurricane warning or disaster in the Atlanta South region.

BACK NEXT

SAVE CANCEL

FIG. 5C

Managers approve scenarios



Manager approves a scenario
- Minimum number of signatures required

NEW SCENARIO WIZARD: STEP 2

1. Start and Choose Scenario Source
2. Name & Description
3. Zones
4. Alerts
5. Status
6. Surveys
7. News & Resources

Scenarios must be approved by at least one other ERT Member to be deployed.
Select one or two ERT members below to receive a Scenario Approval Request via email.

EMERGENCY RESPONSE TEAM
- [x] Adam Kingsley
- [ ] Bob Woo
- [ ] Chris Singha
- [x] Debbie Smith
- [ ] Earl Erlington
- [ ] Francine Black
- [ ] Heather Bishop

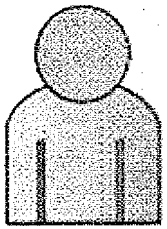
CANCEL

You have been asked to approve the new Emergency Scenario shown below.
Please review the Scenario details below. When you are finished, click the Approve or Deny button.
If you deny this Scenario, please include comments explaining why.

Scenario Name: Atlanta Hurricane Southern Offices Closure
Scenario Description: A hurricane warning for the southern coast of Georgia requires closure of the offices
Workflow: Urgent, every four hours until responses received.
SMS Message: A hurricane has forced office closure. Respond and activate USB device.
Email Message: A hurricane warning has forced office closure for your area. If you have not
Phone Message: A hurricane has forced office closure. Respond and activate USB device.
Voice Mail Message: <date stamp> A hurricane warning has forced office closure for <selected zones>.
Web Status Message: <date stamp> A hurricane warning has forced office closure for <selected zones>. Dial 1-800-667-5500 to reply.
Selected Zones: Atlanta South
Selected Survey: Family Health
News: Atlanta Times, Atlanta Special Edition, New York Times
Resources: Atlanta Employee Status Map, Hurricane Maps

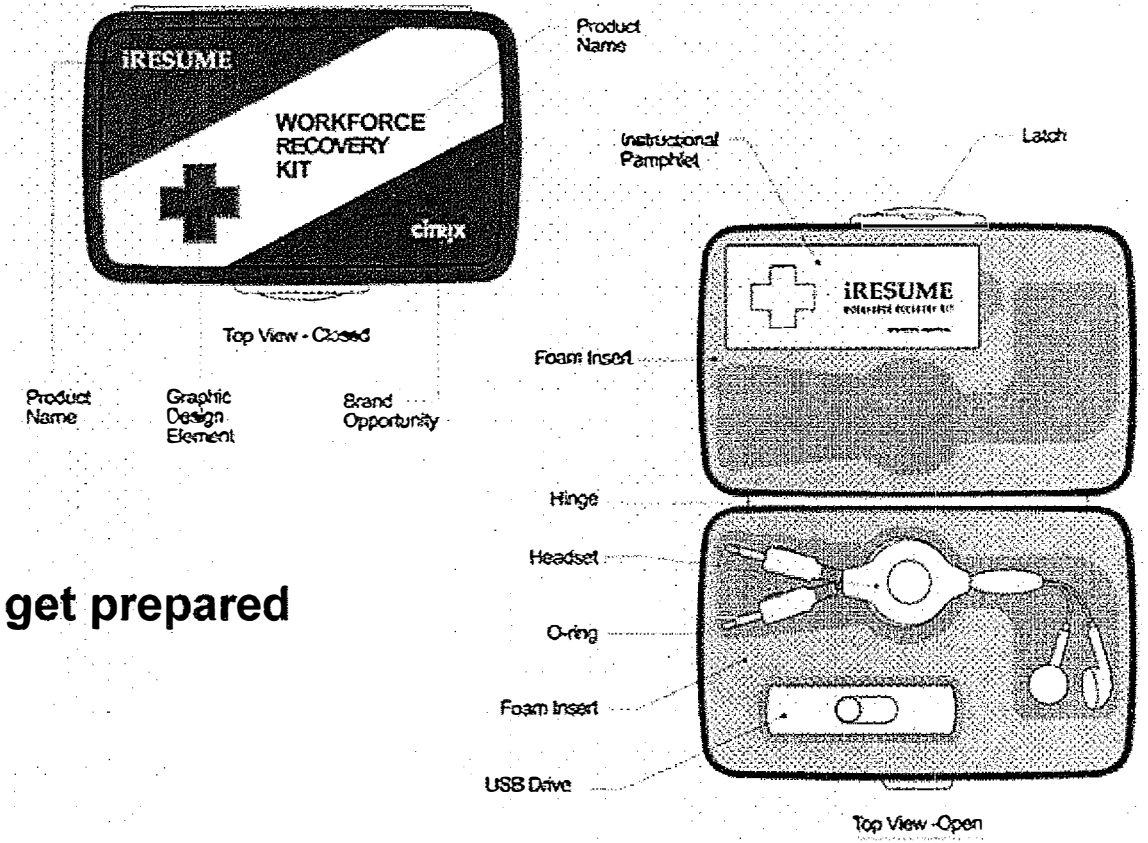
APPROVE | DENY | *Include the reason for denying this Scenario here ...*

FIG. 5D



Employee Preparation
-Email notification about stick
-Store in a safe place

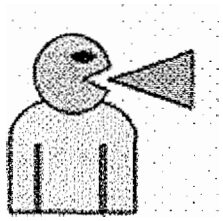
Option 2 - Hard Case



Employees get prepared

FIG. 5E

ERTs test scenario



Emergency Test:
- Like the real thing except for a smaller group
- ERT selects a scenario
- ERT activates test scenario
- Select test recipients

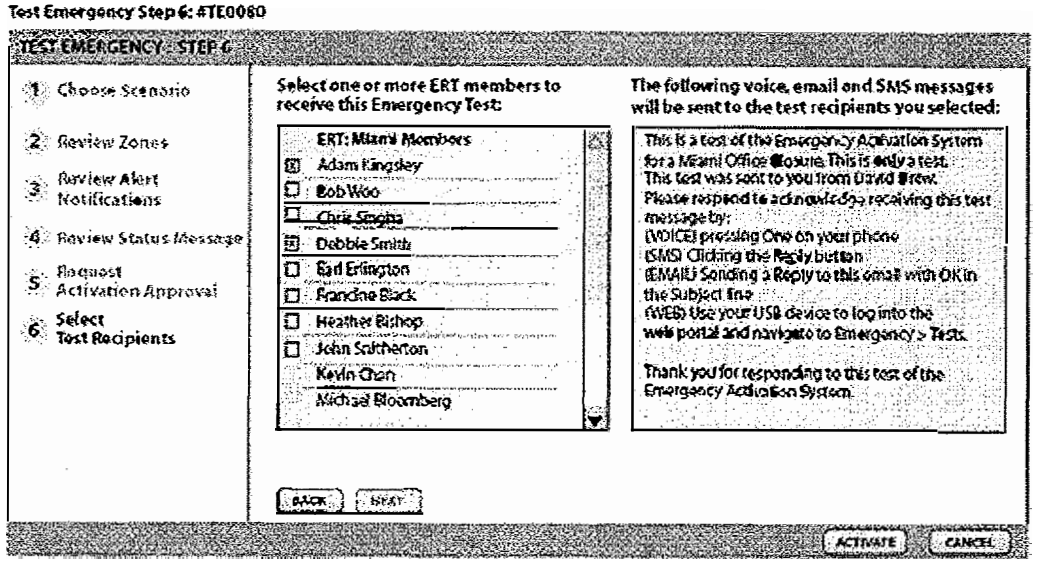
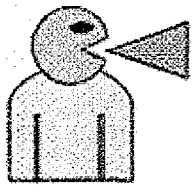


FIG. 5F

Activate emergency



Emergency Activation / Notification:

- ERT selects a scenario
- ERT activates emergency scenario
- Approval Requests are issued (optional)
- USB Devices, Sidebar and Web Workplace activated

Emergency Approvals

Approve or Deny Emergency Activation

ACTIVATE EMERGENCY : STEP 1

1 Choose Scenario

Choose an Emergency Scenario from the list below, then click the Next button.

2 Review Zones

3 Review Alert Notifications

4 Review Status Message

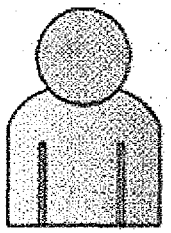
5 Request Activation Approval

Scenarios

Atlanta Earthquake	Earthquake resources and news feeds included.
Atlanta Flood	Flood and water damage resources and news feeds included.
Atlanta Hurricane	Hurricane maps, resources and news feeds included.
Atlanta Traffic Emergency	Traffic maps, resources and news feeds included.
Medical Pandemic	Medical resources and news feeds included.
Generic Weather	Weather forecasts, maps resources and news feeds included.
Generic Office Closure	Generic resources and news feeds included.
Miami Office Closure	Miami office closed for construction; 1-2 week closure.
Miami Hurricane	Miami office closed due to hurricane warning.
Miami Traffic Closure	Miami office closed due to traffic.

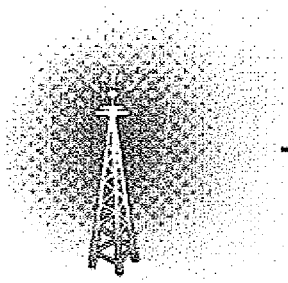
FIG. 5G

Employee notification

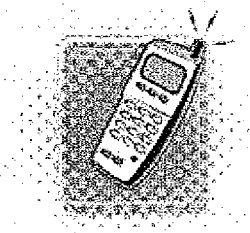


Employee Emergency Notification

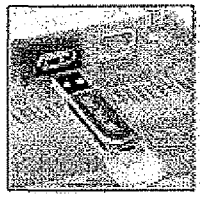
- Alert Activated
- SMS & Voice Messages Sent
- Employees receive messages;reply and update contact information
- Plugin USB Device (if available)



Emergency Activated/ Notifications Sent



Employees Receive Voice & SMS Notifications



Employees Plug in USB Device

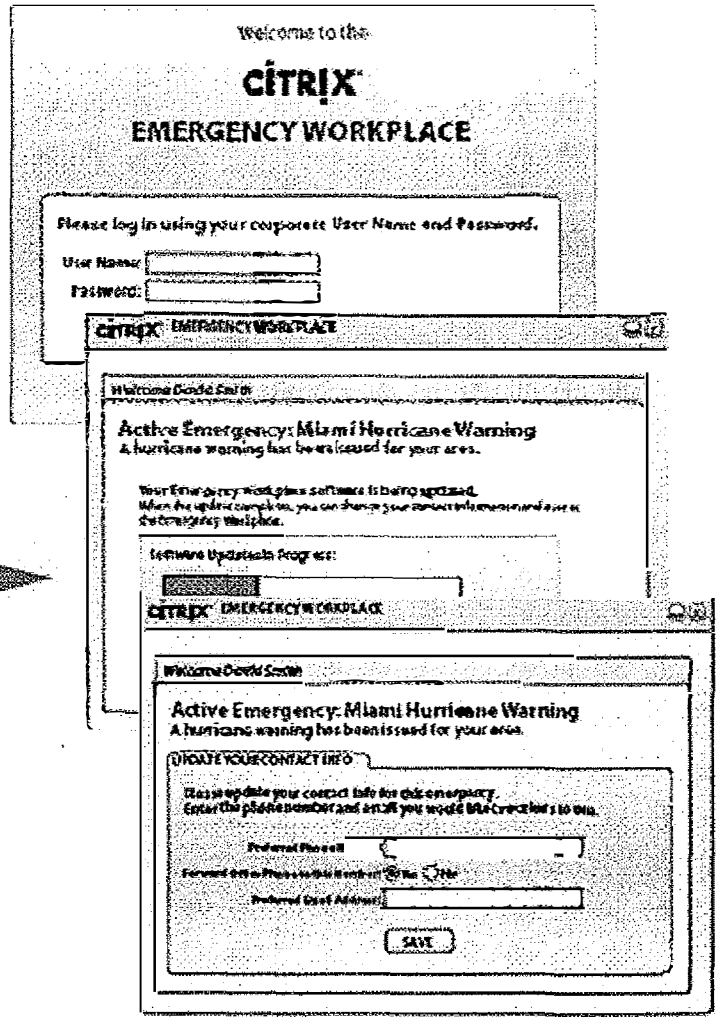
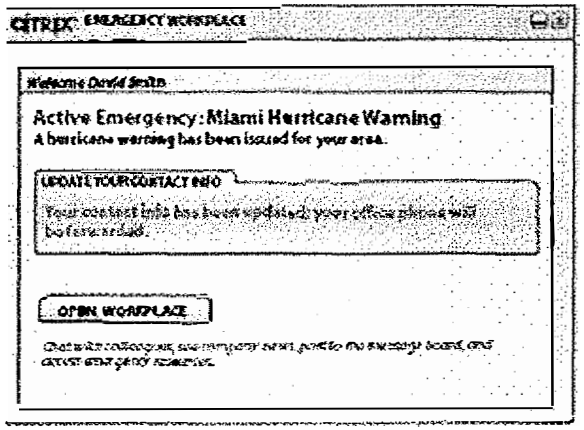


FIG. 5H

Sidebar

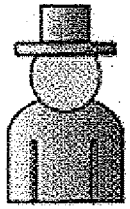
-Easily accessible
-Displays status, roll call, IM, and directory
-Links to CPS, PC, and workplace



Employee communications center

FIG. 5I

Manager's roll call



Manager's Roll Call
- Get latest roll call and escalate or communicate

HOME | PREPARE | EMERGENCY (3 active) | WORK | HELP | SEARCH

Active Emergency: Miami Medical Pandemic (Edit / Employee View)

ROLL CALL | STATUS | ANNOUNCEMENTS | SURVEYS | NEWS | RESOURCES | MESSAGEBOARD

Roll Call Overview 39% 20% 41%
173 colleagues (59%) have responded out of 289 alerted.
126 (39%) have responded and are OK | 47 (20%) have not yet responded | 127 (41%) have responded but are not OK | 1 (.5%) inactive

Roll Call Details (289 employees) Click an Employee name to edit details — PRINT EXPORT

SEND SMS MESSAGE | ADD USER TO ROLL CALL | SEARCH

FIRST NAME	LAST NAME	STATUS	DEPARTMENT	CONTACT	DATE & TIME RESPONDED
Abigail	Kingston		Finance		07/03/2006 14:23 EST
Adam	Grisley		HR		07/02/2006 11:58 EST
Anna			IT		07/01/2006 21:13 EST
Arthur			IT		07/03/2006 14:23 EST
Beth			Product		07/02/2006 11:58 EST
Bob			Operations		07/01/2006 21:13 EST
Cathy			Support		07/03/2006 14:23 EST
Chris	Catherton		Finance		07/02/2006 11:58 EST
David	Hunter		Legal		07/01/2006 21:13 EST
	Lee		Accounting		07/03/2006 14:23 EST
	Overton		Accounting		07/02/2006 11:59 EST
	Smith		HR		07/01/2006 21:13 EST
	Bellevue		Executive Staff		07/03/2006 14:23 EST
	Hubert		Facilities		07/02/2006 11:58 EST
	Huiens		HR		07/01/2006 21:13 EST
	Douglas		Support		07/03/2006 14:23 EST
	Stephenson		IT		07/02/2006 11:58 EST
	Frank		Finance		07/01/2006 21:13 EST

Adam Grisley
654 First Avenue
Miami, FL 94064
Cell: 734-432-2343
Home: 435-432-1345
Email: agrisley@acme.com

ADD FILTERS
Status:
Department:
- Accounting
- Executive Staff
- Facilities
- Finance
- HR
- IT
- Legal
- Operations
- Product

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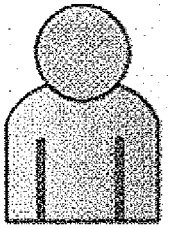
Edit User Details
EMPLOYEE NAME: Abigail Kingston — TITLE: Accounting Manager

STATUS
- Responded and OK
- Not Responded
- Responded but not OK
- Responded but not OK

PHONE NUMBER: 503-453-4565

SAVE | CANCEL

FIG. 5J



Employee Emergency Workplace Usage

- Get latest status
- Read Announcements
- Participate in message boards

Users use emergency workplace

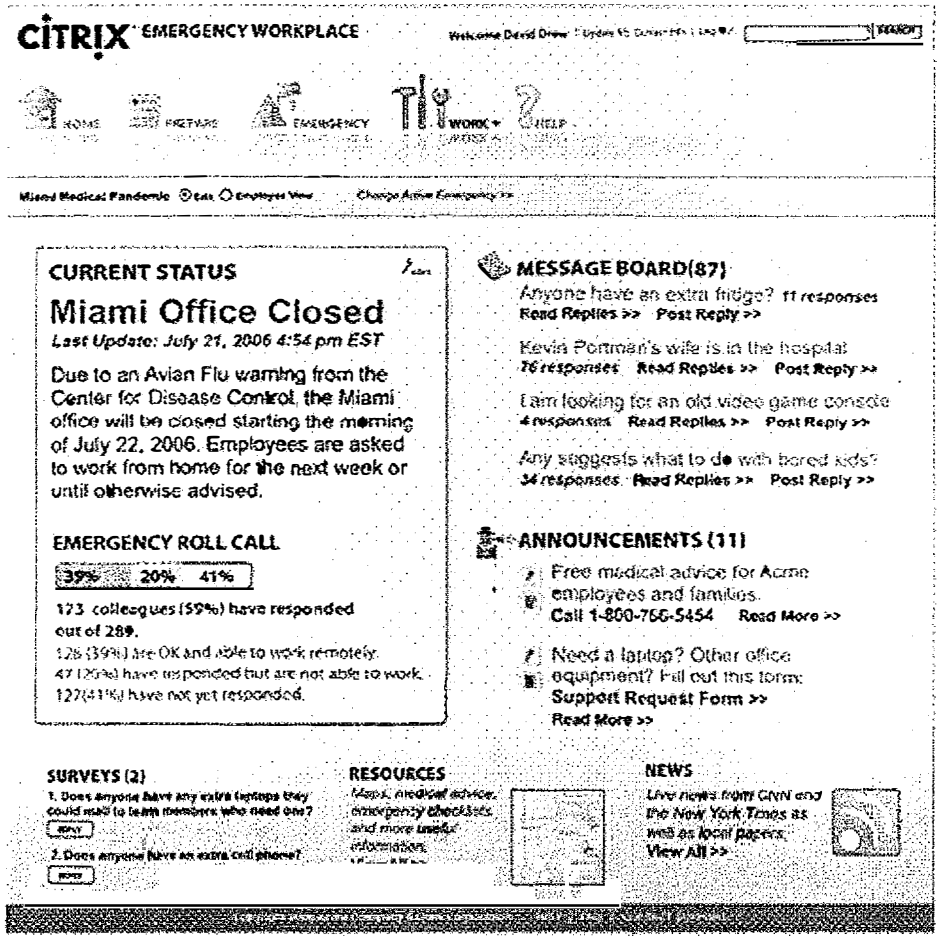
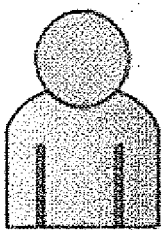


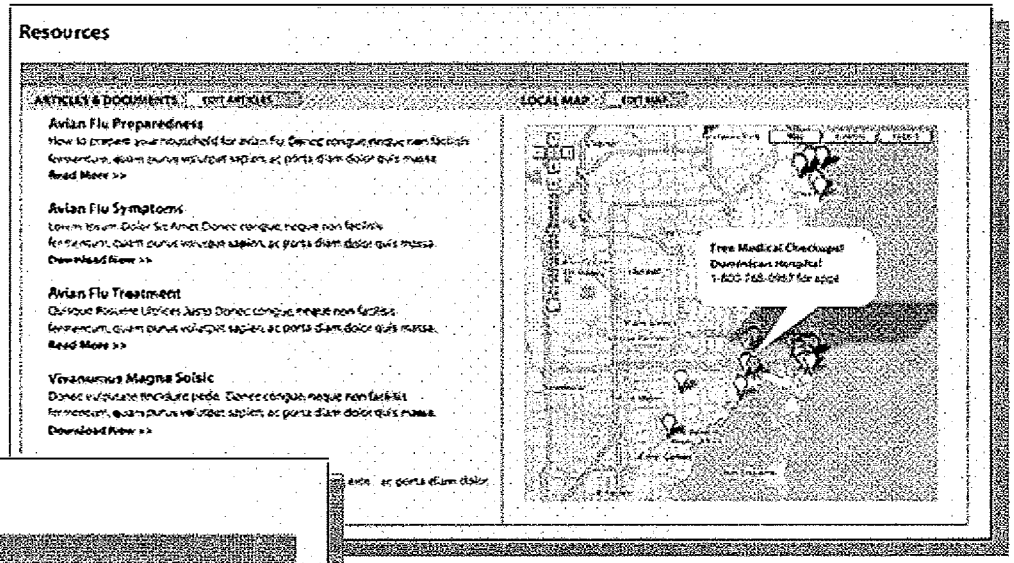
FIG. 5K

Users collaborate for resources



Employee Emergency Workplace Usage

-Answer Surveys
-Post and Reply to Message Board
-Access Resources & News



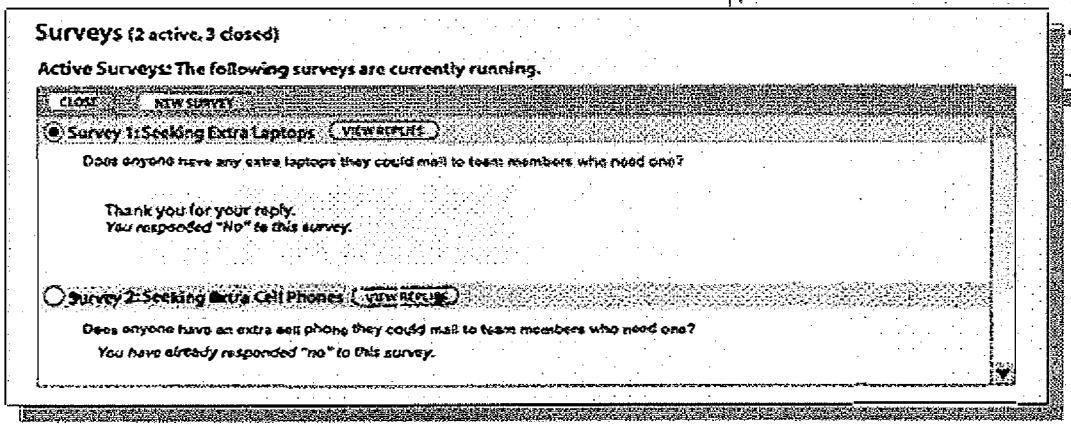
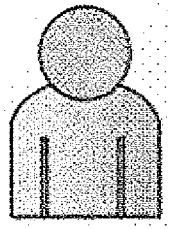


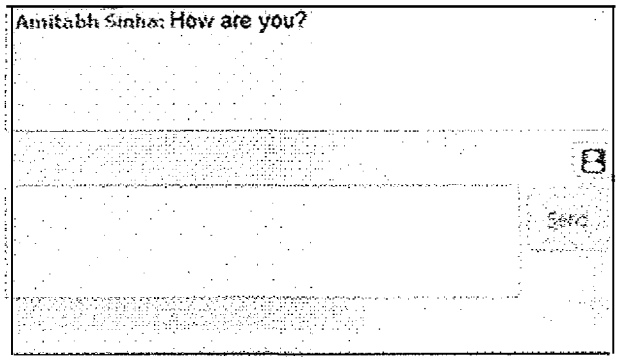
FIG. 5L

Users communicate with peers

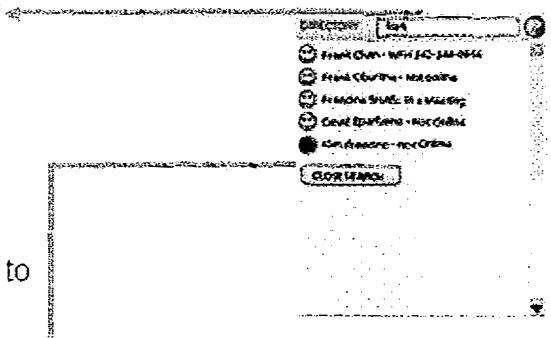


Communications

- Search corporate directory
- Inbound phone calls are re-directed from office to new number
- Place outbound calls
- Chat



Click to chat



Click to call user

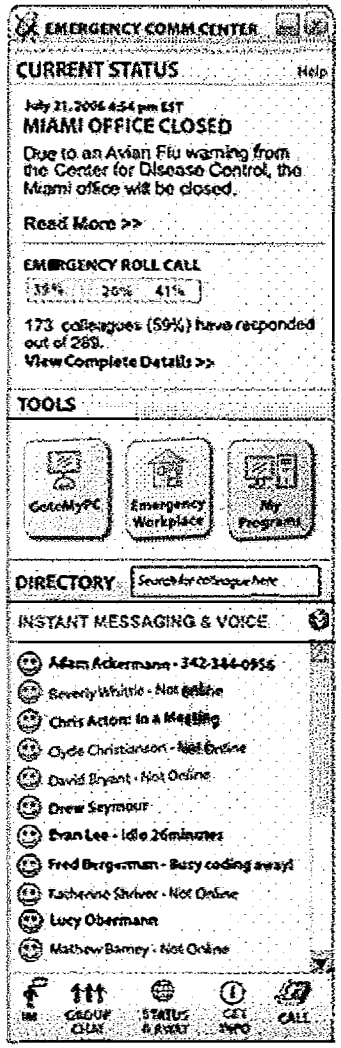
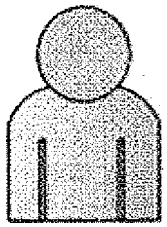


FIG. 5M



CPS Applications

Get back to work!

Access office PC

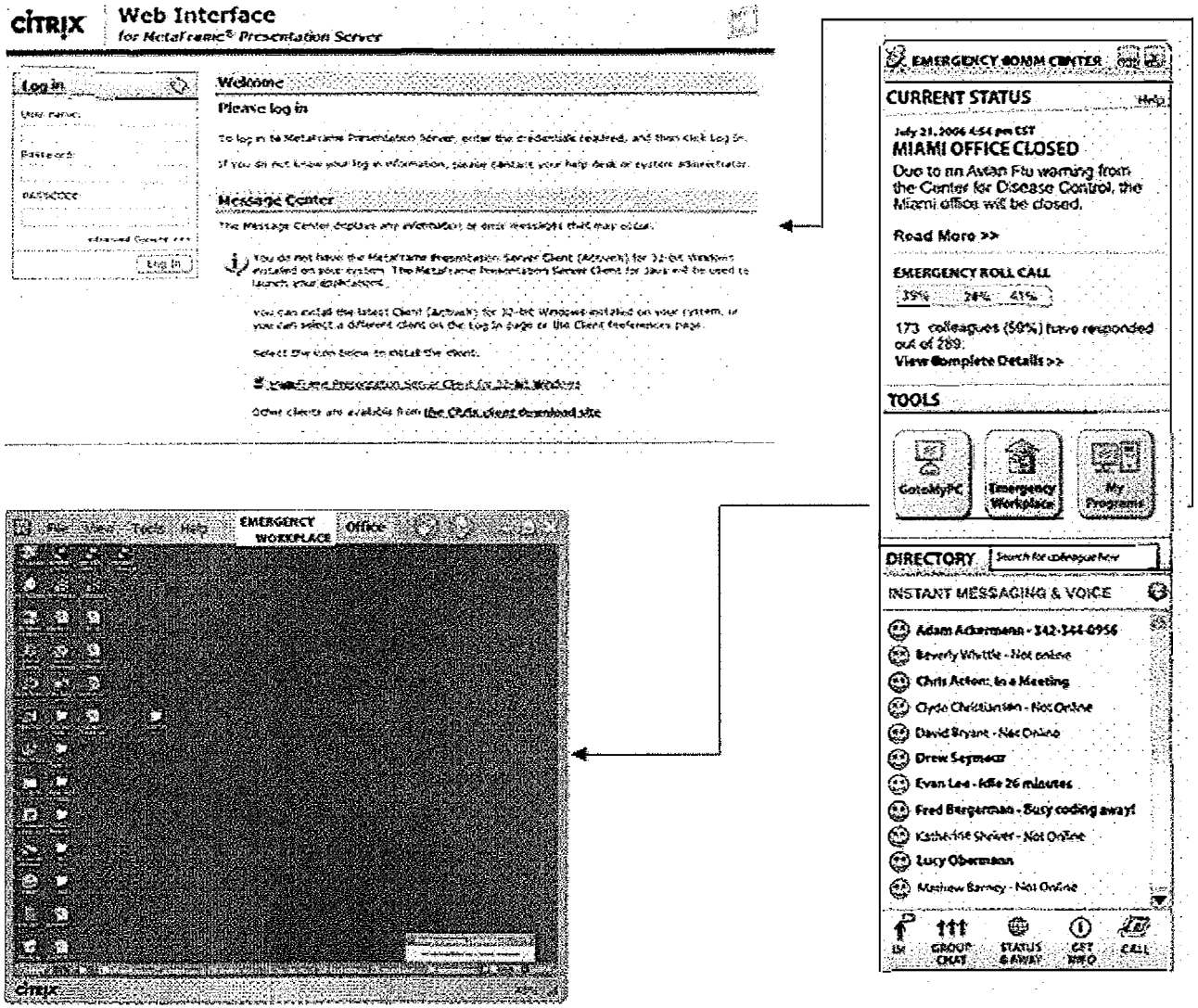


FIG. 5N

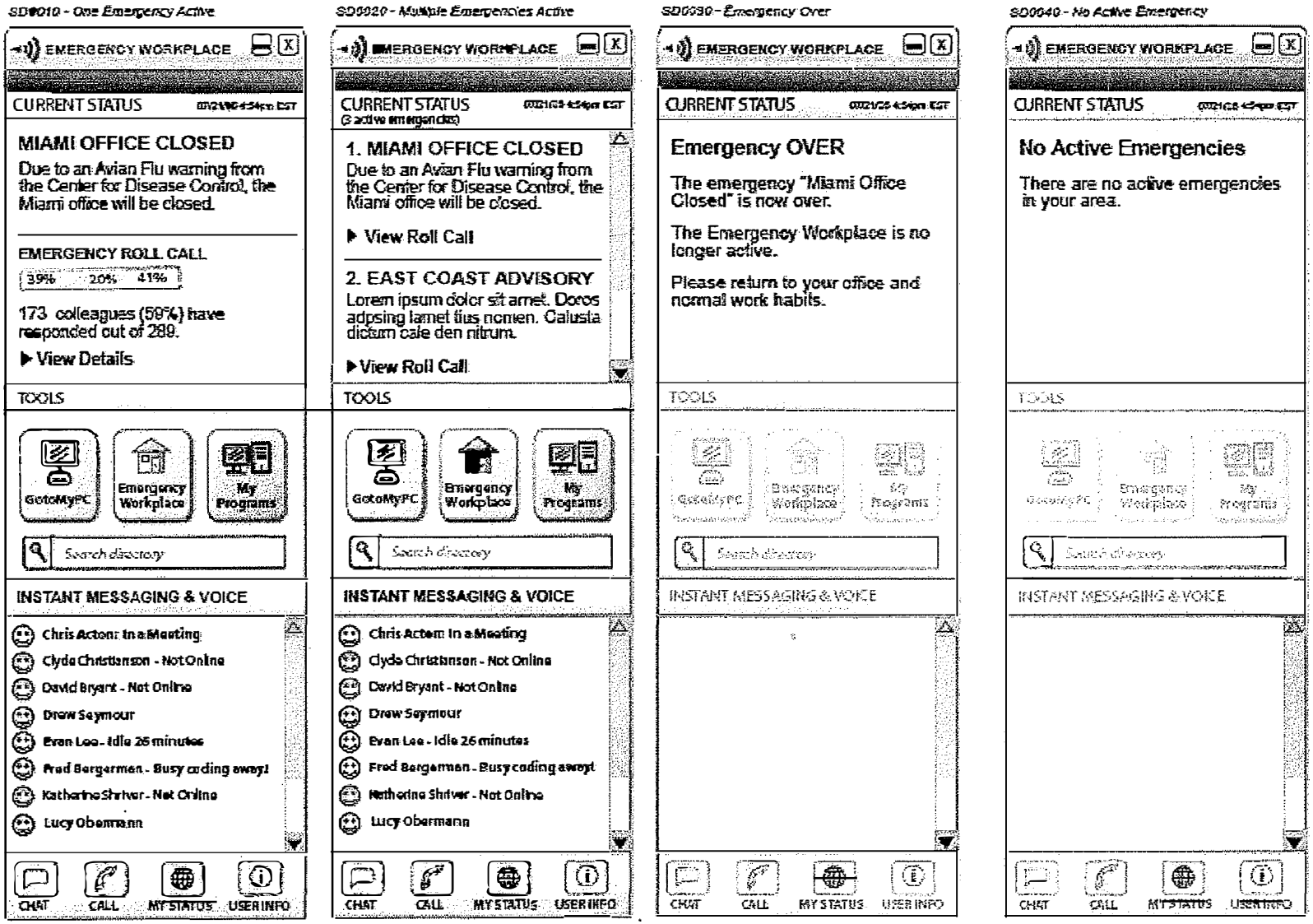

SD0010 - One Emergency Active
EMERGENCY WORKPLACE
CURRENT STATUS
MIAMI OFFICE CLOSED
Due to an Avian Flu warning from the Center for Disease Control, the Miami office will be closed.
EMERGENCY ROLL CALL
39% 20% 41%
173 colleagues (59%) have responded out of 289.
View Details
TOOLS
GotoMyPC
Emergency Workplace
My Programs
Search directory
INSTANT MESSAGING & VOICE
Chris Acton: In a Meeting
Clyde Christianson - Not Online
David Bryant - Not Online
Drew Seymour
Evan Lee - Idle 26 minutes
Fred Bergerman - Busy coding away!
Katherine Shriver - Not Online
Lucy Obermann
CHAT
CALL
MY STATUS
USER INFO
SD0020 - Multiple Emergencies Active
EMERGENCY WORKPLACE
CURRENT STATUS
1. MIAMI OFFICE CLOSED
Due to an Avian Flu warning from the Center for Disease Control, the Miami office will be closed.
View Roll Call
2. EAST COAST ADVISORY
Lorem ipsum dolor sit amet. Dolos adpsing lamet tius nomen. Calusta dictum cale den nitrum.
View Roll Call
TOOLS
GotoMyPC
Emergency Workplace
My Programs
Search directory
INSTANT MESSAGING & VOICE
Chris Acton: In a Meeting
Clyde Christianson - Not Online
David Bryant - Not Online
Drew Seymour
Evan Lee - Idle 26 minutes
Fred Bergerman - Busy coding away!
Katherine Shriver - Not Online
Lucy Obermann
CHAT
CALL
MY STATUS
USER INFO
SD0030 - Emergency Over
EMERGENCY WORKPLACE
CURRENT STATUS
Emergency OVER
The emergency "Miami Office Closed" is now over.
The Emergency Workplace is no longer active.
Please return to your office and normal work habits.
TOOLS
INSTANT MESSAGING & VOICE
CHAT
CALL
MY STATUS
USER INFO
SD0040 - No Active Emergency
EMERGENCY WORKPLACE
CURRENT STATUS
No Active Emergencies
There are no active emergencies in your area.
TOOLS
INSTANT MESSAGING & VOICE
CHAT
CALL
MY STATUS
USER INFO

FIG. 6A

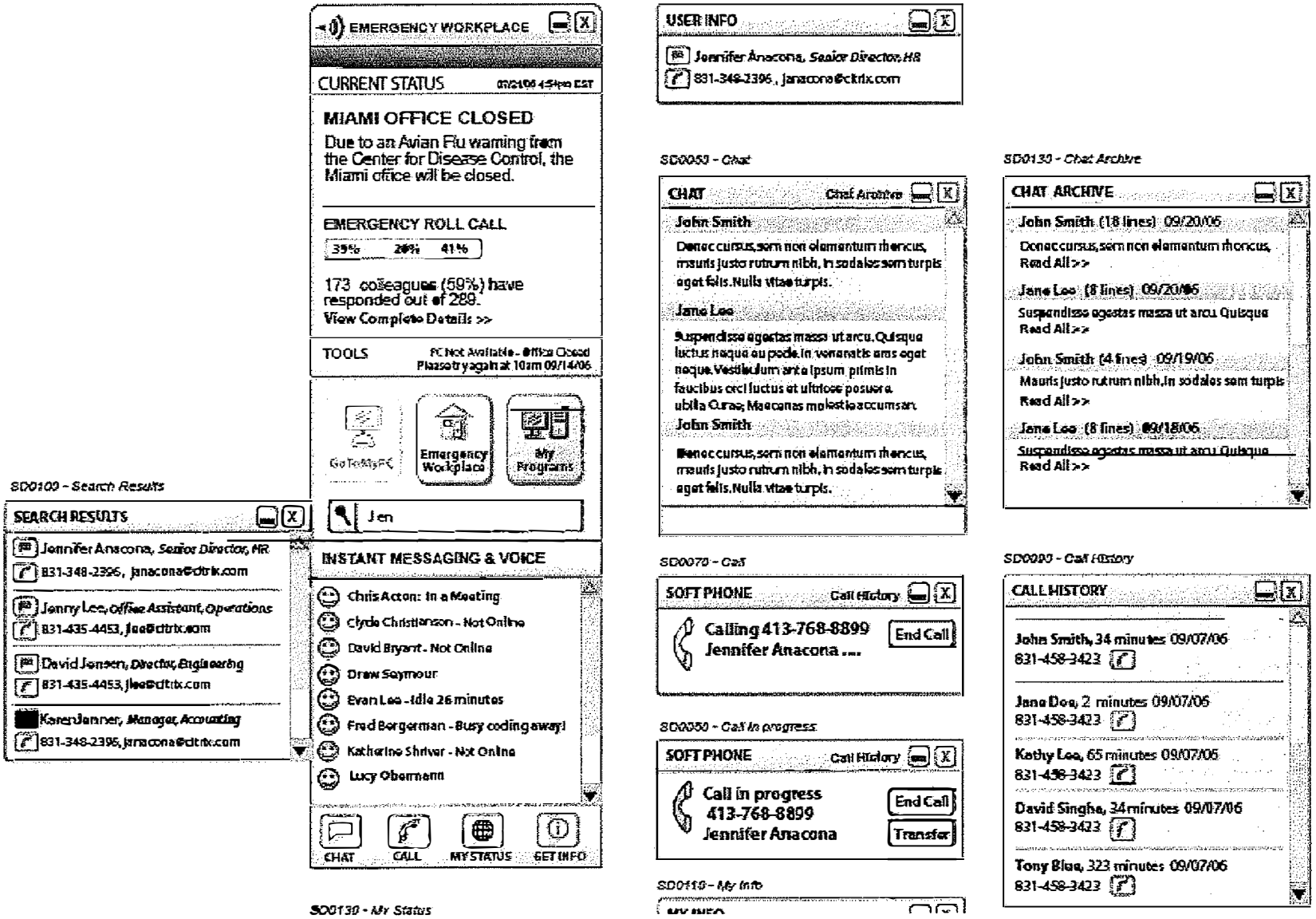

EMERGENCY WORKPLACE
CURRENT STATUS
MIAMI OFFICE CLOSED
Due to an Avian Flu warning from the Center for Disease Control, the Miami office will be closed.
EMERGENCY ROLL CALL
39% 20% 41%
173 colleagues (59%) have responded out of 289.
View Complete Details >>
TOOLS
PC Not Available - Office Closed
Please try again at 10am 09/14/06
Go To My PC
Emergency Workplace
My Programs
Jen
INSTANT MESSAGING & VOICE
Chris Acton: In a Meeting
Clyde Christianson - Not Online
David Bryant - Not Online
Drew Seymour
Evan Lee - Idle 26 minutes
Fred Bergerman - Busy coding away!
Katherine Shriver - Not Online
Lucy Obermann
CHAT
CALL
MY STATUS
GET INFO
SD0130 - My Status
SD0100 - Search Results
SEARCH RESULTS
Jennifer Anacona, Senior Director, HR
831-348-2396, janacona@citrix.com
Jenny Lee, Office Assistant, Operations
831-435-4453, jlee@citrix.com
David Jensen, Director, Engineering
831-435-4453, jlee@citrix.com
Karen Janner, Manager, Accounting
831-348-2396, janacona@citrix.com
USER INFO
Jennifer Anacona, Senior Director, HR
831-348-2396, janacona@citrix.com
SD0050 - Chat
CHAT
Chat Archive
John Smith
Donec cursus, sem non elementum rhoncus, mauris justo rutrum nibh, in sodales sem turpis eget felis. Nulla vitae turpis.
Jane Lee
Suspendisse egestas massa ut arcu. Quisque luctus neque eu pede. In venenatis arcu eget neque. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere ubilia Curae; Maecenas molestie accumsan.
John Smith
Donec cursus, sem non elementum rhoncus, mauris justo rutrum nibh, in sodales sem turpis eget felis. Nulla vitae turpis.
SD0130 - Chat Archive
CHAT ARCHIVE
John Smith (18 lines) 09/20/06
Donec cursus, sem non elementum rhoncus,
Read All >>
Jane Lee (8 lines) 09/20/06
Suspendisse egestas massa ut arcu. Quisque
Read All >>
John Smith (4 lines) 09/19/06
Mauris justo rutrum nibh, in sodales sem turpis
Read All >>
Jane Lee (8 lines) 09/18/06
Suspendisse egestas massa ut arcu. Quisque
Read All >>
SD0070 - Call
SOFT PHONE
Call History
Calling 413-768-8899
Jennifer Anacona ....
End Call
SD0090 - Call History
CALL HISTORY
John Smith, 34 minutes 09/07/06
831-458-3423
Jane Doe, 2 minutes 09/07/06
831-458-3423
Kathy Lee, 65 minutes 09/07/06
831-458-3423
David Singha, 34 minutes 09/07/06
831-458-3423
Tony Blue, 323 minutes 09/07/06
831-458-3423
SD0050 - Call in progress
SOFT PHONE
Call History
Call in progress
413-768-8899
Jennifer Anacona
End Call
Transfer
SD0110 - My Info

FIG. 6B

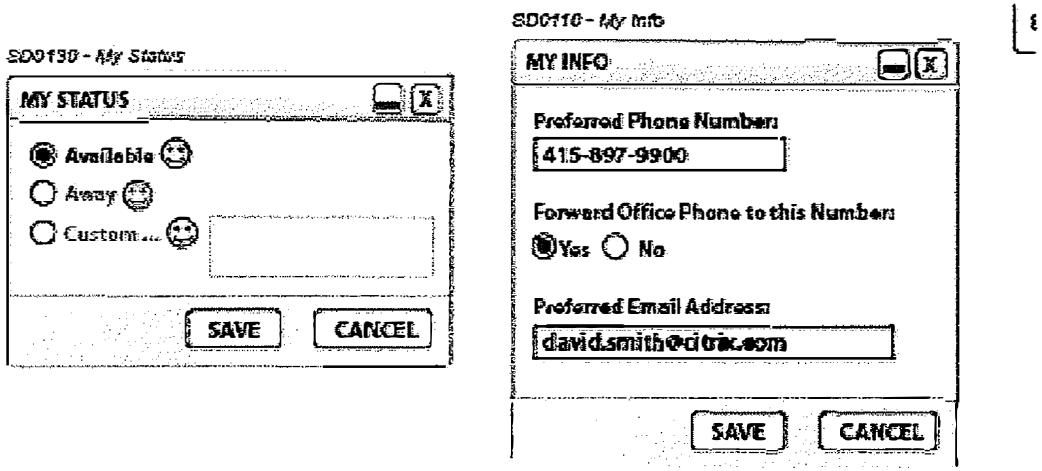

SD0130 - My Status
MY STATUS
Available
Away
Custom...
SAVE
CANCEL
SD0110 - My Info
MY INFO
Preferred Phone Number:
415-897-9900
Forward Office Phone to this Number:
Yes
No
Preferred Email Address:
david.smith@citrix.com
SAVE
CANCEL

FIG. 6C

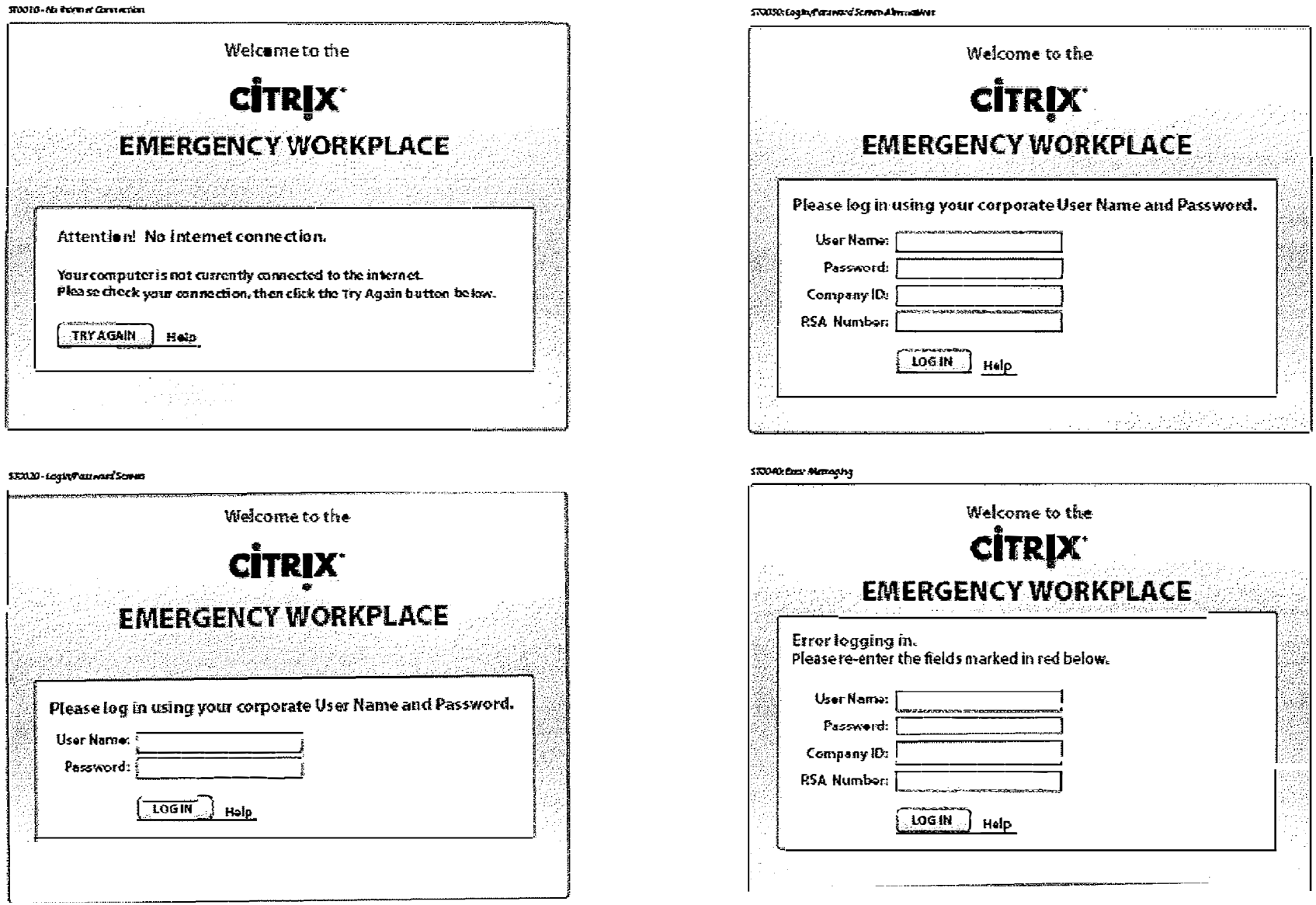

Welcome to the
CITRIX
EMERGENCY WORKPLACE
Attention! No Internet connection.
Your computer is not currently connected to the internet.
Please check your connection, then click the Try Again button below.
TRY AGAIN
Help
Welcome to the
CITRIX
EMERGENCY WORKPLACE
Please log in using your corporate User Name and Password.
User Name:
Password:
Company ID:
RSA Number:
LOG IN
Help
Welcome to the
CITRIX
EMERGENCY WORKPLACE
Please log in using your corporate User Name and Password.
User Name:
Password:
LOG IN
Help
Welcome to the
CITRIX
EMERGENCY WORKPLACE
Error logging in.
Please re-enter the fields marked in red below.
User Name:
Password:
Company ID:
RSA Number:
LOG IN
Help

FIG. 7A

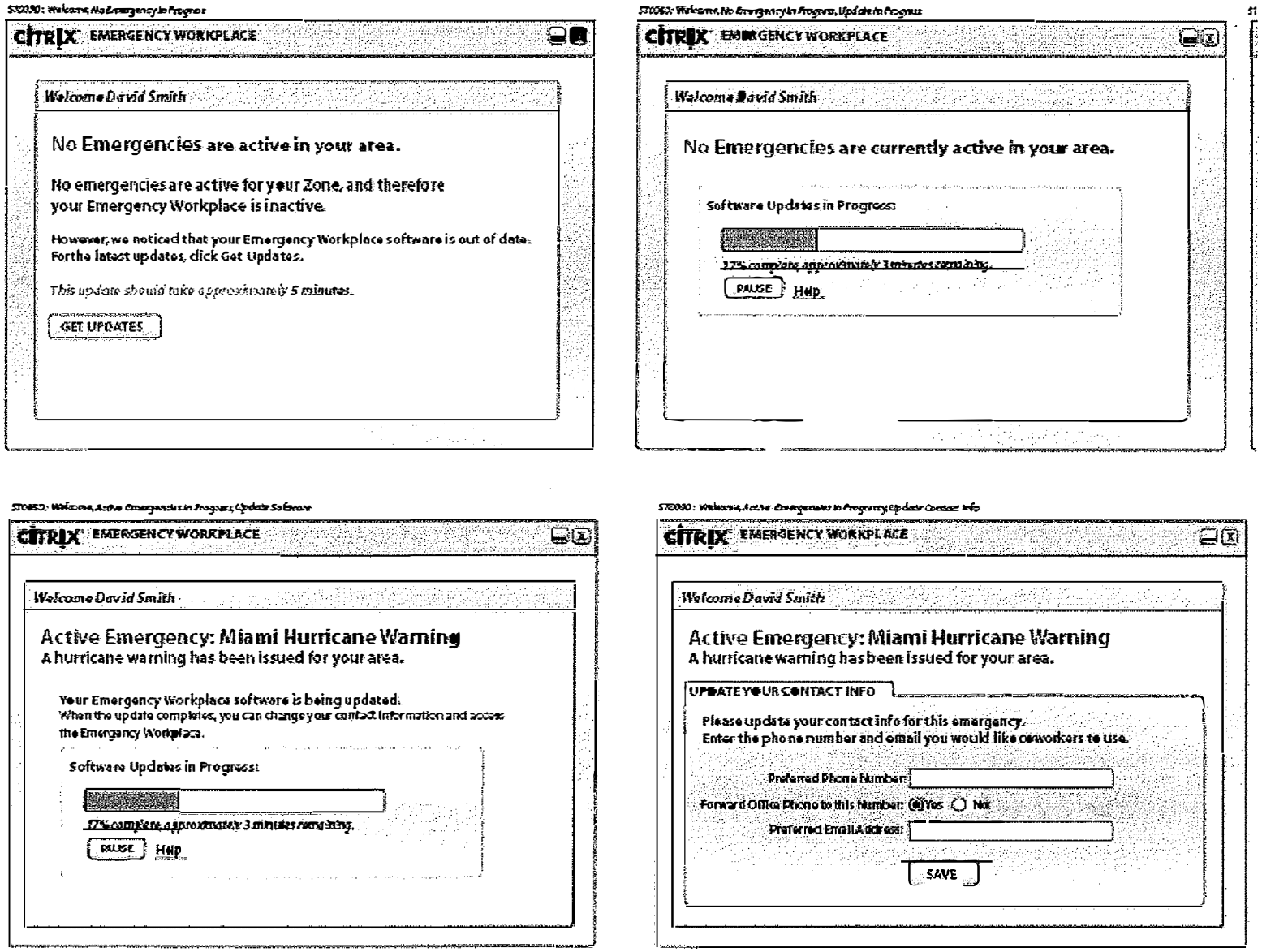
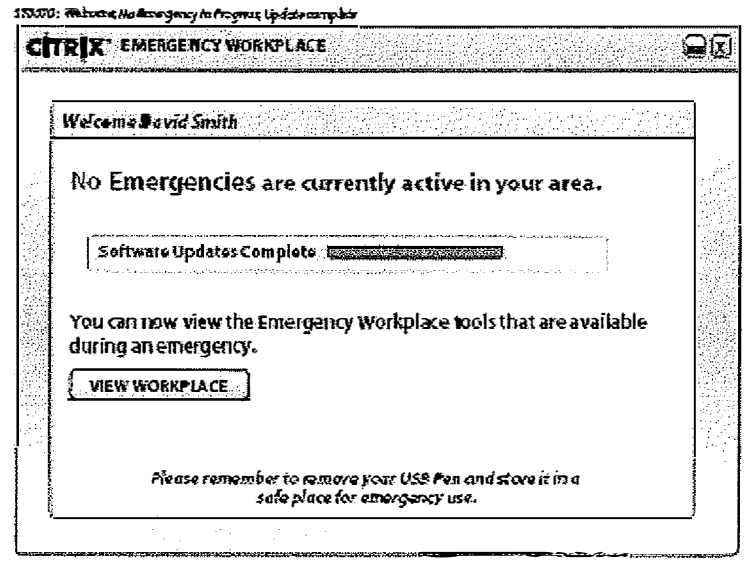
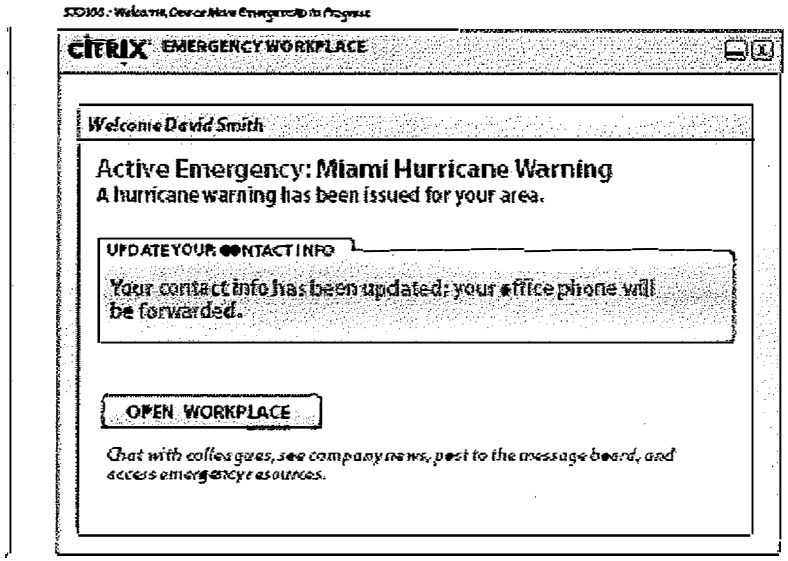

EMERGENCY WORKPLACE
Welcome David Smith
No Emergencies are active in your area.
No emergencies are active for your Zone, and therefore your Emergency Workplace is inactive.
However, we noticed that your Emergency Workplace software is out of date. For the latest updates, click Get Updates.
This update should take approximately 5 minutes.
GET UPDATES
EMERGENCY WORKPLACE
Welcome David Smith
No Emergencies are currently active in your area.
Software Updates in Progress:
PAUSE
Help
EMERGENCY WORKPLACE
Welcome David Smith
Active Emergency: Miami Hurricane Warning
A hurricane warning has been issued for your area.
Your Emergency Workplace software is being updated.
When the update completes, you can change your contact information and access the Emergency Workplace.
Software Updates in Progress:
PAUSE
Help
EMERGENCY WORKPLACE
Welcome David Smith
Active Emergency: Miami Hurricane Warning
A hurricane warning has been issued for your area.
UPDATE YOUR CONTACT INFO
Please update your contact info for this emergency.
Enter the phone number and email you would like coworkers to use.
Preferred Phone Number:
Forward Office Phone to this Number: Yes No
Preferred Email Address:
SAVE

FIG. 7B


CITRIX EMERGENCY WORKPLACE
Welcome David Smith
No Emergencies are currently active in your area.
Software Updates Complete
You can now view the Emergency Workplace tools that are available during an emergency.
VIEW WORKPLACE
Please remember to remove your USB Pen and store it in a safe place for emergency use.


CITRIX EMERGENCY WORKPLACE
Welcome David Smith
Active Emergency: Miami Hurricane Warning
A hurricane warning has been issued for your area.
UPDATE YOUR CONTACT INFO
Your contact info has been updated: your office phone will be forwarded.
OPEN WORKPLACE
Chat with colleagues, see company news, post to the message board, and access emergency resources.

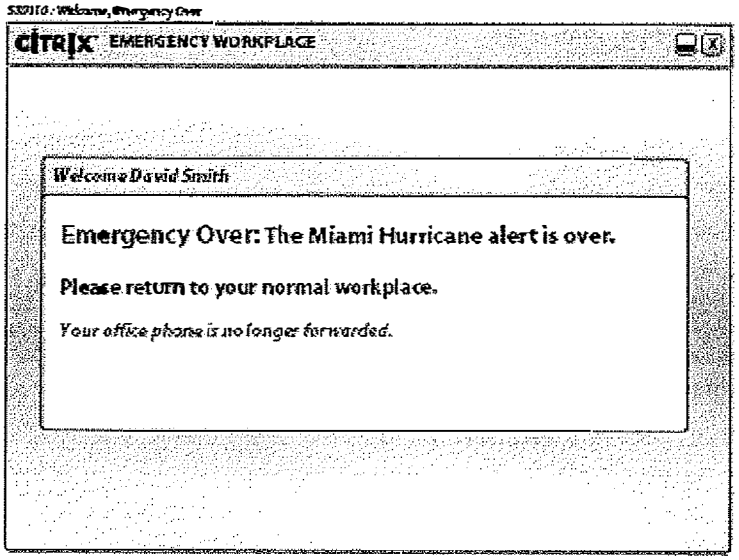

CITRIX EMERGENCY WORKPLACE
Welcome David Smith
Emergency Over: The Miami Hurricane alert is over.
Please return to your normal workplace.
Your office phone is no longer forwarded.

FIG. 7C

PTO/SB/14 (08-05)
Approved for use through 07/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	2006579-0739 CTX-293
	Application Number	
Title of Invention	Systems and Methods for Providing a Business Continuity Service	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1 Remove

Applicant Authority ◉ Inventor ◯ Legal Representative under 35 U.S.C. 117 ◯ Party of Interest under 35 U.S.C. 118

Prefix	Given Name	Middle Name	Family Name	Suffix
	Goutham		Rao	

Residence Information (Select One) ◉ US Residency ◯ Non US Residency ◯ Active US Military Service

City	San Jose	State/Province	CA	Country of Residence i	

Citizenship under 37 CFR 1.41(b) i US

Mailing Address of Applicant:

Address 1	c/o Citrix Systems, Inc.
Address 2	2740 Zanker Road

City	San Jose	State/Province	CA
Postal Code	95134	Country i	

Applicant 2 Remove

Applicant Authority ◉ Inventor ◯ Legal Representative under 35 U.S.C. 117 ◯ Party of Interest under 35 U.S.C. 118

Prefix	Given Name	Middle Name	Family Name	Suffix
	Amitabh		Sinha	

Residence Information (Select One) ◉ US Residency ◯ Non US Residency ◯ Active US Military Service

City	San Jose	State/Province	CA	Country of Residence i	

Citizenship under 37 CFR 1.41(b) i US

Mailing Address of Applicant:

Address 1	c/o Citrix Systems, Inc.
Address 2	2740 Zanker Road

City	San Jose	State/Province	CA
Postal Code	95134	Country i	

Applicant 3 Remove

Applicant Authority ◉ Inventor ◯ Legal Representative under 35 U.S.C. 117 ◯ Party of Interest under 35 U.S.C. 118

Prefix	Given Name	Middle Name	Family Name	Suffix
	Eric		Brueggemann	

Residence Information (Select One) ◉ US Residency ◯ Non US Residency ◯ Active US Military Service

City	San Jose	State/Province	CA	Country of Residence i	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	2006579-0739 CTX-293
	Application Number	
Title of Invention	Systems and Methods for Providing a Business Continuity Service	

Citizenship under 37 CFR 1.41(b) i	US		
Mailing Address of Applicant:			
Address 1	c/o Citrix Systems, Inc.		
Address 2	2740 Zanker Road		
City	San Jose	**State/Province**	CA
Postal Code	95134	**Country**i	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button.			Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	24280		
Email Address		Add Email	Remove Email

Application Information:

Title of the Invention	Systems and Methods for Providing a Business Continuity Service		
Attorney Docket Number	2006579-0739 CTX-293	**Small Entity Status Claimed**	☐
Application Type	Provisional		
Subject Matter	Utility		
Suggested Class (if any)		**Sub Class (if any)**	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	35	**Suggested Figure for Publication (if any)**	

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not been and will not be the subject of an application filed in another country, or under a multilateral agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	◯ US Patent Practitioner	◯ US Representative (37 CFR 11.9)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	2006579-0739 CTX-293
	Application Number	
Title of Invention	Systems and Methods for Providing a Business Continuity Service	

Customer Number	24280

Domestic Priority Information:

This section allows for the applicant to claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c). Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)

Additional Domestic Priority Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

Remove

Application Number	Country i	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			○ Yes ◉ No

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1 Remove

If the Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information:

Address 1	Citrix Systems, Inc.		
Address 2	2740 Zanker Road		
City	San Jose	**State/Province**	CA
Country i		Postal Code	95134
Phone Number		Fax Number	
Email Address			

Additional Assignee Data may be generated within this form by selecting the **Add** button. Add

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	2006579-0739 CTX-293
	Application Number	
Title of Invention	Systems and Methods for Providing a Business Continuity Service	

Signature	/CJMcKenna/			Date (YYYY-MM-DD)	2006-10-20
First Name	Christopher J.	Last Name	McKenna	Registration Number	53302

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

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1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	Systems and Methods for Providing a Business
First Named Inventor/Applicant Name:	Goutham Rao
Filer:	Christopher J. McKenna
Attorney Docket Number:	2006579-0738 CTX-293PR

Filed as Large Entity

Provisional Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Provisional application filing	1005	1	200	200
Pages:				
Prov. Appl Size fee per 50 sheets >100	1085	1	250	250
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**450**

Electronic Acknowledgement Receipt

EFS ID:	1265725
Application Number:	60862365
International Application Number:	
Confirmation Number:	1571
Title of Invention:	Systems and Methods for Providing a Business
First Named Inventor/Applicant Name:	Goutham Rao
Customer Number:	24280
Filer:	Christopher J. McKenna
Filer Authorized By:	
Attorney Docket Number:	2006579-0738 CTX-293PR
Receipt Date:	20-OCT-2006
Filing Date:	
Time Stamp:	17:35:52
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	$450
RAM confirmation Number	465
Deposit Account	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)

1	Specification	CTX-293Application.pdf	3079166	no	142
Warnings:					
Information:					
2	Drawings	CTX-293Figures.pdf	4282600	no	35
Warnings:					
Information:					
3	Application Data Sheet	CTX_293_ADS.pdf	8687012	no	5
Warnings:					
Information:					
4	Fee Worksheet (PTO-875)	fee-info.pdf	8270	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	16057048		

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.