CONTEX Summit® Product Specifications

Revised: July 2012
Document Number: 05-3614-0003-5

Communications Systems Division
Confidential and Proprietary

Questions about this document or the products it describes should be directed to:

Compunetix, Inc.
Communications Systems Division
Documentation and Training Department
2420 Mosside Boulevard
Monroeville, PA 15146

Table of Contents

Section 1
Introduction to the CONTEX Summit® System

Section 2
Supported Conference Types and Features

Section 3
Available System Interfaces and Features

Section 4
Optional System Enhancements

Section 5
Technical Specifications

SECTION 1

An Introduction to the CONTEX Summit® System

- System Components
  - Summit MCU
  - Maintenance Client (MC)
  - Windows Operator Client (WOC)
  - Summit Billing Download Utility
  - Summit Logging Utility (IP Logger)
  - SNMP Trap
- Supported Client Connections
- Optional Enhancements
  - Redundancy Packages
  - Enhanced Audio Options
  - Recording and Playback Options
  - Multiple Summit Options
  - Reservations/Passcode Management Options
  - Multi Tenancy Options
  - Data/Web Conferencing Options
  - Reporting Options
  - Interface Options
  - JITC Government Options
- System Architecture

What is the CONTEX Summit® System?

CONTEX® is the award-winning line of media processors from Compunetix designed for service bureaus, small-to-large corporate applications, and mission-critical situations that require high-quality and cost-effective audio conferencing. With VoIP and PSTN systems ranging from 192 (T1)/ or 240 (E1/VoIP) to 9600+ ports, CONTEX provides full-digital audio conferencing with advanced conferencing features, easy-to-use clients and Web-based interfaces, powerful APIs, and sophisticated control options.

All CONTEX systems are dedicated conferencing platforms developed with more than 40 years of communications experience. The software-based conferencing functions and controls offer excellent investment protection because they are easy to upgrade, customizable, and state-of-the-art.

Compunetix has always offered superior solutions to customers. We anticipate the changes in technology and the industry when developing new platforms and products to better prepare our partners for the future. The CONTEX Summit system is no exception to this approach, with its excellent design and rich feature set. The CONTEX Summit media processor empowers the next generation of scalable collaboration networks. Its power summation engine provides a high-quality, multipoint audio foundation for innovative new solutions for team communication and group cooperation. Manufactured to meet the critical demands of the telco, military, and aerospace communication requirements, the CONTEX Summit features sophisticated options for Unified Communications, web-based consumer services, high definition wideband audio, VoIP/SIP trunking, secure/unsecure communications, and standards-setting system APIs for external application creation. Its modular architecture dovetails with NGN (Next Generation Network) designs like IMS for easy implementation and integration. Most importantly, the Summit's unmatched reliability and expandability deliver providers investment security, fast ROI, and low total cost of ownership.

The CONTEX family's highly reliable and scalable conferencing systems allow for unmatched attended, unattended, and on-demand conferencing features within a single platform. This optimized platform provides superior audio and powerful operational controls, and the revolutionized design provides the ability to scale to 9600 ports in a single system.

In a whole new class, the CONTEX Summit combines the quality and reliability of traditional conference hardware and the scalability and flexibility of a media server, bridging the transition from circuit-switched to packet-based telecom networks. The Summit is an innovative and optimized conferencing platform that provides high-quality and reliable conferencing in demanding environments. The system implements the latest conferencing technology in the industry and surpasses every other platform.

System Components

Figure 1-1 CONTEX Summit - One Shelf (up to 1920 ports)

The basic configuration of the CONTEX Summit system includes a conferencing MCU, one or more Maintenance Client(s) (MC), one or more Windows Operator Clients (WOCs), an IP Logger, SNMP traps, and a Billing Download Utility.

CONTEX MCU

The CONTEX MCU contains between one and three shelves of circuit blades installed in a standard 19-inch system rack. The chassis also contains redundant power supplies and cooling fans. The four blades in the CONTEX Summit are built using the latest microprocessors and Digital Signal Processors available. Each system blade is described on the next page.

- **Control Processor I/O (CPIO)**
  The CPIO is the main system control and directs the functions of the entire system and provides the interface between the CONTEX Summit and the external clients.

- **Voice Summation (VS)**
  The VS contains specialized hardware that gathers and streams the audio for each conference (up to 2,000 ports). More precisely, the VS sums the audio from the Line Interface (LIF) lines and Audio Enunciator (AE) blade into each actual conference audio and eventually returns the audio to the LIF and/or AE.

- **Octal Line Interface (LIF)**
  The LIFs interface to a fast Ethernet network for VoIP and to the ISDN/PSTN networks for traditional switched telephony network access. They also contain a high-density array of Digital Signal Processors (DSPs) that process the voice before and after conferencing.

- **Audio Enunciator (AE)**
  The AE stores and plays back audio voice prompts (system messages) and conferences on internal memory and hard drives.

Maintenance Client (MC)

The Maintenance Client (MC) runs on Windows 2003 server, Windows 2008 Server (both 32 and 64 bit), XP, Vista, or Windows 7 (both 32 and 64 bit) and is the interface through which system administrators and maintenance personnel perform system monitoring, configuration, diagnostics, and other maintenance functions. The MC's primary functions include: configuring ports and system options, active port troubleshooting, controlling gain status, viewing system messages and alarms, editing system configurations, performing diagnostic tests, and managing blades. Though the Maintenance Client is directly linked to the Summit system, it can be run remotely without interfering with the Summit system's operation. Read more about the MC on 34.

Summit Windows Operator Client (WOC)

The Summit Windows Operator Client (WOC) runs on Windows 2000/2003 Server, Windows 2008 Server (both 32 and 64 bit), XP, Vista, or Windows 7 (both 32 and 64 bit) and provides a simple and efficient operator interface for controlling system functions and accessing the powerful conferencing features. WOC stations can be connected to the system through interfaces to the site's LAN/WAN using TCP/IP. All WOC computers and associated phones are typically provided by the customer. Read more about the WOC on 36.

Summit Billing Download Utility

The Summit Billing Download Utility provides an interface for downloading the Conference Detail Records (CDRs) from the media processor and generating the different billing reports available with the CONTEX Summit system. The Summit Billing Download Utility runs on Windows 2003 Server, 2008 Server, or XP.

Summit Logging Utility

The Summit Logging Utility continuously captures data and creates log files used to assist with troubleshooting. The IP Logger runs on Windows 2000/2003/2008 Server, XP, Vista, or Windows 7 (both 32 and 64 bit).

SNMP Traps

The CONTEX Summit supports a CONTEX Summit SNMP Agent. This agent runs on the CPIO blade and reads the IP address of the trap receiver on the Summit startup from a file located on the disk. The CONTEX Summit SNMP Agent's managed objects are defined using the Management Information Base (MIB) model. Any trap receiver or SNMP Management tool will need to be informed of the CONTEX Summit MIB.

Supported Client Connections

The CONTEX Summit supports a number of client TCP/IP connections with external interfaces, including:

- **CSAPI/BCMAPI on TCP/IP port 5002**
  Used for WOC and MC connections.

- **RTBI - primary on TCP/IP port 7030 (configurable)**
  Used for a primary passcode server to validate external passcodes, pass reservations, or obtain billing events.

- **RTBI-secondary on port 7040 (configurable)**
  Used for a secondary passcode server to validate external passcodes, pass reservations, or obtain billing events.

- **Logger Service on ports 4001, 21(FTP), 22 (SSH) or 23(Telnet) (configurable)**
  Used for the IP Logger connection.

- **Billing Controller on port 7199 (configurable)**
  Used for the Summit Billing Downloader.

- **SNMP Service on port 161**
  Used for SNMP.

Periodically, Compunetix certifies the number of TCP/IP client connections supported by the system. This number is based on specified network configuration. For information on the number of client connections supported in your system, please contact Compunetix support at *support@compunetix.com.*

Optional Enhancements

The basic CONTEX Summit system can be enhanced with several optional features and/or applications that provide a more enriched conferencing experience.

Redundancy Packages

Redundant Controller (CPIO) Blades

The CONTEX Summit is available with an optional redundant controller. All control decisions are made by the primary CPIO. There is a hot standby CPIO, which stays synchronized to the primary CPIO. In the event of a hardware failure of the primary CPIO, the secondary CPIO takes over.

Redundant Voice Summation (VS) Blades

The CONTEX Summit is available with optional redundant Voice Summation (VS) blades. In this configuration, Conference Mirroring™ is enabled and every conference is actually built twice (once on each VS blade). If a VS blade should fail, the system will detect it and can switch to the backup blade without affecting system operations.

Redundant Audio Enunciator (AE) Blades

The CONTEX Summit is available with optional redundant Audio Enunciator (AE) blades. With this configuration, all enunciator ports are available in a pooled configuration. Should an AE blade fail, the system will use only the good blade without affecting system operations. The redundant AE may also be configured so that all conference recordings are done twice on two separate hard drives.

CONTEX® Common SIP Signaling Module (CSSM)

In the standard CONTEX Summit system, each VoIP blade is assigned a unique IP address. Rather than requiring calls to be distributed across these individual blades, the CONTEX CSS provides a common SIP signaling interface for all of the VoIP spans in the system. All incoming calls are directed through the CSS, and then distributed throughout the CONTEX Summit system.

In addition to providing a single IP address to be used by customers for all SIP signaling, the CONTEX CSS incorporates numerous features to ensure your resources are employed efficiently. By employing CONTEX CSS, the redundancy capabilities of the Summit can be enhanced. In response to a failure, the system can be configured to either transfer SIP connections to a dedicated redundant VoIP blade or (if redundant resources are not available) to distribute them to the free ports throughout the system. Both scenarios effectively provide VoIP blade redundancy, helping to ensure service is not disrupted.

The CONTEX CSS utilizes redundant fast Ethernet connections to provide high speed connectivity with fail over protection. CONTEX CSS further enhances the robust capabilities of the CONTEX Summit by amplifying the reliability (fault tolerance), providing SIP Signaling redundancy and supporting media redundancy.

Enhanced Audio Options

High Definition (HD) Audio (VoIP only)

Experience the evolution of collaboration with the unparalleled quality of high fidelity voice on the CONTEX Summit. HD quality audio can be incorporated throughout the conferencing experience. From participant voices and audio prompts to conference recording and playback, every sound is crisper and clearer with high fidelity audio. HD codecs (G.722, AMR-WB (G.722.2) and L16-16 kHz) are with the VoIP interfaces, allowing high fidelity audio to be maintained throughout the system (7 kHz compared to 3.3 kHz for standard definition calls). HD is ideal for multi-lingual environments, as HD provides the clarity that allows you to never miss a syllable, nuance or emotion. Conferences sound like participants are in the same room, even if they're across the globe.

Recording and Playback Options

Audio Enunciator (AE) Recording Package

The AE recording package provides "on-bridge" conference recording and playback for up to 240 simultaneous conferences. It also comes with an automatic recording download utility, which can convert and move recorded conferences to a location within the customer's network.

Recording Manager

The Summit Recording Manager is used to download conference recordings from the AE blade, as well as upload recordings back to the AE to be used for playback purposes.

CONTEX® Digital Record and Playback (CDRP)

The CONTEX Digital Record and Playback (CDRP) system is a state-of-the-art digital recording device that can be added to any conferencing environment. This external system is a stand-alone enhancement with a comprehensive and robust feature set that allows end-users to digitally record a conference and play it back at a later time. Users with multi-system installations may consider adding the CDRP for additional playback functionality and centralized recording.

The CDRP can be added at any time during a conference to record the proceedings. Once the conference is completed, numerous callers can access the CDRP system simultaneously to listen to the conference. Any user with a touch-tone phone can access and listen to a previously recorded conference by simply dialing into the system and entering their account number. Parties can control the speed of the playback, adjust the volume, and play conference information. Read more about the CDRP on page 56.

Voice Capture

Voice Capture is a Summit feature that allows callers to be prompted to speak various pieces of information when entering a conference. The information is recorded and made available during and after the conference. With Voice Capture, operators can systematically transcribe conferee information without delaying entry into the conference.

Multiple Summit Options

CONTEX Summit Xtend X^2 ™ /X^3 ™

This optional multi-shelf configuration allows either two (X^2) or three (X^3) 1920 port shelves to be connected into a single multi-shelf system. Eventually, Xtend will allow up to five (5) shelves to be connected. Read more about Xtend on page 58.

Automatic Conference Linking (ACL)

Automatic Conference Linking (ACL) allows a service provider to have a conference that links parties on a number of systems together. This solution is driven by the "Linking Servers," which connect to one another on a given site as well as remotely. These connections are data connections only and do not pass any voice data from the systems. The audio connection used to link a conference can occur across any type of line that can be dialed-out on and then dialed-in to (VoIP or PSTN). ACL does require the use of system audio ports, which may take away from the total number of "revenue" ports available to a given system. A conference linked between two Summit systems will use a single link line, which requires a port from each system. Read more about ACL on page 59.

CONTEX Summit® Global Operator (GO)

The CONTEX Summit GO is available in multiple Summit environments and allows an operator to manage multiple Summits from a single interface. A single GO station can be connected to up to ten (10) Summits at one time.

The Summit GO contains a soft phone client which connects automatically to any Summit connections on the GO station. In most cases, an operator need only launch the GO interface and their audio connection is taken care of. Read more about the Summit GO on page 60.

Reservation/Passcode Management Options

Passcode Server

The Passcode Server is a Java application that communicates to the CONTEX Summit system using the Compunetix Real Time Bridge Interface (RTBI) API to externally validate the DTMF string that users enter against an open database. The DTMF string entered is queried against a database of users to see if it is a valid passcode for a conference. The database connection is done using JDBC/ODBC and the query is performed using SQL that is configured in the Passcode Server's configuration files. This allows the Passcode Server to be easily integrated with virtually any database and any database table and field layout. The Passcode Server runs on Windows XP, Vista, 2000/2003/2008 Server, or Windows 7.

CONTEX® Reservation, Scheduling, and Billing System (RSB)

The completely redesigned CONTEX Reservation, Scheduling, and Billing (RSB) system offers an efficient, customizable, innovative platform to manage all back-office operations for unattended and attended conferences. The CONTEX RSB comprehensively merges the three elements of conferencing - reservations, scheduling, and billing - through a feature-rich, web-based interface. In addition to its broad capabilities, the RSB provides the same quality and reliability expected of every product in the Compunetix CONTEX line. When employed with the CONTEX Summit, the easy-to-use software package provides a complete solution for conference management. Read more about the RSB on 61.

Multi Tenancy Options

Partitioning

The CONTEX Summit can support partitioning, which allows conference information to only be displayed on specific WOC stations. Partitioning is intended to ensure that customer data for certain conferences is not viewable and accessible by all operators. The Summit supports up to nine (9) partitions. With Partitioning implemented, operator log in is required. Each WOC login then has the ability to be configured to view all nine (9) partitions or view multiple partitions (any combination up to nine total). Partitioning for each party is then based on the party's DNIS for incoming calls and the conference for outgoing calls.

Ten (10) Language Support

In the standard configuration, the CONTEX Summit supports three (3) complete message sets for each of the configured call flows (CIVR modes). The system can optionally be configured to support either five (5) complete message sets for three (3) configured CIVR modes or ten (10) complete message sets for one (1) configured CIVR mode.

Data/Web Conferencing Options

CONTEX Presenter ™

Compunetix offers server-based solutions with CONTEX Presenter, a program for CSPs who wish to incorporate web/data-conferencing into their business communications. With the full-featured version of Presenter, the user can share multiple applications instantly, including but not limited to: PowerPoint presentations, Web pages, software programs, documents, and even the user's own desktop. Presenter also provides additional features, such as chat, whiteboarding, and annotation, that allow for greater interaction among participants. Presenter's newest release provides new features such as the Light Client and Proxy Penetration that will allow more flexibility to your Presenter experience. Read more about CONTEX Presenter on 67.

CONTEX Access Server (CAS) with Cisco WebEx® Adapter
CONTEX Access Server (CAS) with MS Lync® Adapter (in a future release)

The CONTEX Summit features modular CONTEX Access Server (CAS) integration software that allows for the quick development and implementation of software "plug-ins" for conferencing add-ons integrating with other service provider offerings. The most common plug-in for the Summit CAS is the popular web conferencing server WebEx. Compunetix provides an optional adapter for this application, allowing it to integrate tightly with the conferencing processor and enabling audio controls to be embedded directly into the application's web interface. So, while participating in an online session, meeting hosts have the ability to mute/unmute audio, add participants, lock a call, etc.

Reporting Options

RTBI Data Collector

The RTBI Data Collector is an application that automatically retrieves raw billing data from the Summit and processes that data to provide billing information that can be used for invoicing customers for their conferencing services. The RTBI Data Collector runs on Windows XP or 2003/2008 Server. Read more about the RTBI Data Collector on page 70.

Conference Complete Monitor (CCM)

The Conference Complete Monitor (CCM) is a Java program that is primarily used to create participant lists. It connects to the Summit using a Real Time Bridge Interface (RTBI) session, monitors the system looking for conferences to end, and then gathers all the details about those conferences. After collecting the details, the CCM outputs the conference details to a file on the PC (or they can be posted to a web service). The output, text or XML file, is generated based on a schema, which is customizable by Compunetix.

CONTEX Report

CONTEX Report is a stand-alone utility that collects data from a number of CONTEX systems - up to 16 CONTEX Summit systems and/or 64 CONTEX 480s (up to 30,720 ports total) - and gathers it together. It uses an RTBI session to collect the raw data elements into a database and then uses SAP® Crystal Report formats to auto-generate and email reports. Read more about CONTEX Report on page 72.

Interface Options

CONTEXWeb ™

CONTEXWeb is a fully documented software development environment and Application Program Interface (API) that allows you to create custom Web interfaces for controlling conferences over the Internet. Read more about CONTEXWeb on 75.

JITC Government Options

Joint Interoperability Test Command (JITC)

JITC is the Defense Information System Agency's (DISA) primary agent for testing, evaluating, and certifying Information Technology (IT) and National Security Systems (NSS) used in joined and combined operations. The certification process ensures that a system meets the joint operability requirements of its users and assures that in mission-critical situations, communications will remain secure and intact, minimizing risk and maximizing efforts. Deploying JITC-certified Compunetix solutions means you remove the risk of a system failure due to incompatible systems, save independent testing costs and time, realize the crisis availability benefits of Multi-Level Precedence and Preemption (MLPP), and have the confidence and security that your systems will integrate seamlessly within complex environments. Read more about JITC on 78.

System Architecture

Basic Overview

The CONTEX Summit's innovative conferencing architecture allows for easy integration into almost any existing IT environment. The architecture includes sixteen voice processing blades with high-speed and high-density connectivity (1.25 Gbit/sec.) between every slot. Because it is built for VoIP (via fast Ethernet) and PSTN/ISDN connectivity, the system can handle any voice signal independent of its originating device (e.g., IP phone, landline, high fidelity, or mobile phone). All internal voice processing operates on linear codec-independent voice samples, ensuring the highest possible voice quality. The mid-plane design eliminates internal cabling and allows for easy card changes to support future system enhancements.

The CONTEX Summit supports a rich interconnection fabric that allows it to handle high-density network connection blades. This rich interconnection fabric will allow the system to eventually conference up to 9600 ports simultaneously across an unlimited number of conferences (the CONTEX Summit can support up to N/2 conferences, where N=number of available ports). It currently supports up to 1920 ports simultaneously per shelf, up to three shelves. The system is designed to be truly redundant and hot-swappable with its multiple control communication paths containing built-in prioritization.

The CONTEX Summit's unique architecture allows multiple shelves to be seamlessly connected, creating a true large-scale system. With this system design, not only do users have access to a large pool of ports, but also operators and administration personnel can access the entire system for service and operations.

Maintenance can be done without access to the physical system by using the Maintenance Client (described on 34). You can configure the system to allow clients access to the system via the corporate intranet using the tools you already have in place.

Network Connectivity

The CONTEX Summit external interfaces follow ANSI and ITU-T standards, allowing the CONTEX Summit to interface via T1, E1, Primary Rate ISDN, or VoIP (Fast Ethernet) on the same CONTEX Summit teleconferencing system. To accommodate the various types of telephone networks around the world, the Line Interface blade is available in four different versions and configurations: T1 Robbed-bit (24 channels), T1 ISDN (23B +D channels), E1 ISDN (30B + D channels), and VoIP (SIP). All features discussed in this document apply to both VoIP and PSTN/ISDN conferencing on the CONTEX Summit system.

SECTION 2

Supported Conference Types and Features

- Attended Conferences
- Unattended Conferences
- Unattended Conference Features
- Call Flow Configurations

With its ability to support both attended and on-demand (unattended) conferences simultaneously, the CONTEX Summit maximizes port usage, increases system efficiency, and quickly boosts ROI. The system can accommodate all call types including attended, unattended, reservation-based, and reservationless calls without manual port reconfiguration, without software configuration changes, and without any performance limitations. The CONTEX Summit system fully supports the two main types of conferences: attended and unattended.

Attended Conferences

Attended conferences are conferences that an operator initiates and monitors. During the course of an attended conference, an operator may perform a number of actions, including: calling conferees and joining them to the conference, answering incoming calls, helping participants who signal for assistance, and running features such as Voting or Question & Answer sessions. Four types of attended conferences exist:

Dial-out

Dial-out conferences can be either progressive or preset. With progressive conferences, the WOC operator calls one party at a time and joins them to the conference. The operator can manually enter each party's name and telephone number or select parties from a built-in directory. Preset conferences are created prior to use and are stored in a Preset Conference Directory. The operator can call and join each party to the conference by selecting each entry from the Preset Conference list.

Dial-in

Rather than having an operator dial-out to each party, parties can join a conference by calling into the CONTEX Summit system. The operator answers the incoming call, records the party's name, and joins them to the appropriate conference. Dial-in conferences can use CONTEX features such as passcode, passcode+PIN, and DNIS.

Combination

Conferences can have both dial-in participants as well as parties called by the operator or conference chair.

Event Conferences

By using Compunetix's Auto-Event, service providers can offer feature-rich, high-touch, large event-automated conferences. With Auto-Event, participants dial in with a passcode and PIN number and are automatically placed into the specific conference event. The participant's information is automatically generated, saving operators time and cutting down on the total number of operators needed for an event call.

Unattended Conferences

In addition to its full-featured attended conferencing capabilities, the CONTEX Summit system supports unattended conferences that have a wide range of easy-to-use features. Unlike attended conferences, which are created and managed by operators, unattended conferences are maintained on the system itself and do not require any operator action. From the caller's point of view, the conference is activated and conducted independently; however, an operator can assist unattended conference participants at any time during a conference.

All unattended conferences offer a wide range of capabilities and features that users can access from within the conference itself. One feature shared by all conferences is the ability to separate participants into two categories—"Hosts" and "Guests"—based on passcodes or DNIS/DID numbers. Host privileges can include many features, including the ability to dial-out to additional participants, securing the conference to prevent further participants from joining, or muting the entire conference. Participants who use Guest passcodes may be set up to enter the conference in monitor (listen-only) or talk/listen modes. Also, different Host and Guest passcodes/DNIS numbers can play different messages to a caller depending on the passcode entered or the DNIS number dialed.

The CONTEX Summit system provides several different unattended conference types that can be tailored to fit the needs of individual users.

Unattended Conference Types

Passcode Meet-Me Conferences

With Passcode Meet-Me conferences, each caller dials into the system and, after entering their passcode, joins directly with the correct conference solely on the basis of their passcode. Conference participants are separated into Hosts or Guests based on the passcode they use. When a participant dials into the system, they are initially greeted with a customizable recorded message that prompts them to enter their passcode. After the caller has entered their passcode (and once it has been verified by the system), they may hear another customizable message informing them that their passcode has been confirmed and they will now be joined to the conference.

Passcode Progressive/Chairperson Dial-out

An Unattended Progressive/Chairperson Dial-out conference allows a designated Host or chairperson to dial into the system, activate their desired conference, and call the participants to join to the conference. When the Host dials into the system, they are initially greeted with a customizable recorded message that welcomes them to the system and prompts them to enter their passcode. After the caller has entered their passcode (and once it has been verified by the system), they may hear another customizable message informing them that their passcode has been confirmed and they will now be joined to the conference.

Once the conference has been activated, the Host is placed in the conference vestibule—a location outside of the main conference where the Host can call one participant at a time and join them to the conference. With the participant on the line, the Host can press a DTMF key sequence that the party must accept to enter the conference. If the party doesn't answer, or if they decline to join the conference, the Host can

disconnect them by pressing another DTMF key sequence. The Host can move between the main conference and the vestibule at any time by pressing a DTMF key sequence, unless in a private conversation with a called party. If a Guest passcode has been assigned to the conference, however, participants can join themselves to the conference by using the passcode.

Passcode Meet-me Plus PIN Conferences

With Passcode Plus PIN, callers are prompted first for their passcode and then their PIN. The PIN is verified against a preset list of names and PINs associated with the conference, and the caller's information is then transferred to the Conference Control window. The caller will then hear a message confirming their passcode and PIN, such as, "Your passcode and PIN have been confirmed. Please wait to be joined to the conference."

Passcode Preset Conferences

An Unattended Preset conference allows a designated Host or chairperson to dial into the system and automatically connect a preset (pre-defined) group of parties. When the Host dials into the system, they are initially greeted with a customizable recorded message that prompts them to enter their passcode. After the caller has entered their passcode (and once it has been verified by the system), they may hear another customizable message informing them that their passcode has been confirmed and they will now be joined to the conference.

Once the system has verified the passcode, all members of the Preset conference (which was prepared in advance) are automatically dialed out to and prompted to press *1 to join the conference. Any unanswered or busy lines do not connect to the conference, and joined parties do not hear ringback or busy signals.The Host of an Unattended Preset conference has the ability to call and join participants who are not part of the preset conference by using the Passcode Progressive/Chairperson Dial-out method described on the previous page.

DNIS Conferences

Of all the conference types mentioned above, only Meet-Me, Unattended Progressive/Chairperson Dial-Out, and Preset conferences can be activated by using DNIS/DID (Dialed Number Identification Service and Direct Inward Dial) numbers instead of passcodes. DNIS conferences enable the CONTEX Summit system to use the DNIS/DID information provided by the telephone network. By dialing a specific number, the user will be automatically associated with the correct conference.

DNIS Conferences share all of the same major features with Passcode conferences. Please note that DNIS conferences require DNIS/DID to be delivered on the T1, E1, PRI, or Ethernet network connections to the system.

Unattended Conference Features

Each unattended conference type contains numerous features so that participants can tailor their conference with their specific needs in mind. These features are described below.

Security Features

- **Different Host and Guest Passcodes**

  Conferences can be set up to prevent fraudulent use by providing a different Host and Guest passcode. The system can be configured so that only the Host passcode allows the conference to begin, acting as the "key" for the conference. Guests dialing into the conference will hear hold music until the Host arrives.

- **Conference Security**

  A Host or chairperson may choose to lock or secure their conference. When a conference is secured, an operator cannot gain access, and additional parties attempting to join the conference are not permitted access. The chairperson enters a configurable code to secure or unsecure the conference, and audible tones confirm when the conference is secured or unsecured. It is also possible to configure the CONTEX Summit system to automatically unsecure a secured conference when a conferee dials *0 to request operator assistance.

- **Passcode Plus PIN**

  The system can be configured to capture a participant's PIN (personal identification number) in addition to the Host and Guest passcode. The system automatically records the PIN and stores it in the system's billing CDR (conference detail record) for reporting and tracking purposes.

- **Double-Passcode Entry**

  Unattended conferences may be configured to require all parties to enter a passcode for access to the conference, and then require the Host to enter a confirmation DTMF key sequence. After the caller has been identified as the Host, they are required to enter an additional passcode to activate the conference.

- **Conference Level Passcodes**

  With this feature, a conference Host can specify a Conference Level Passcode (CLP). The CLP feature increases security by forcing callers to enter a second-level passcode to enter an unattended conference. The conference Host of an unattended conference has the ability to uniquely and immediately define this passcode during the conference call, which is particularly useful in recurring private conference calls.

- **Chairperson Disconnect**

  The system can be configured to automatically end the conference if the Host disconnects their phone line. This feature provides extra security and fraud protection. Depending on the configured call flow, this feature can be transferred between the chairperson and another participant.

- **Conference Vetting**

  Unattended conferences may be configured to allow vetting once the conference is secured. When vetting is enabled, parties joining the conference after it is secured are prompted to say their name and

company. Their recording is then announced only to the Host who can speak to the caller, join the caller to the conference, or disconnect the caller.

Specialized Host Features

- **Host-only Control**

  The Summit system can be configured to allow only the conference Host or chairperson control over Conference Security and Conference Mute.

- **Conferee Count**

  The Host of an Unattended Progressive conference may enter a configurable DTMF sequence that will provide them with a count of the total participants present in the conference.

- **Project Codes**

  The Host of a conference has the ability to enter a project code that is saved to the billing file on a per-conference basis. The Host can enter the project codes either upon entry into the conference, via the CIVR menu, or on the Web (if using CONTEXWeb).

- **Conference Mute**

  A chairperson can mute or unmute the entire conference by entering a configurable DTMF sequence.

- **Dial-Out Prevention**

  This feature specifies whether or not an unattended conference Host can dial-out to additional parties. In addition to being able to block this capability, the system also supports the ability to specify whether the Host can dial-out via the DTMF on their phone, via CONTEXWeb only, or both.

Audio Enunciator Messages and Features

The Audio Enunciator (AE) blade adds the following features to an unattended conference:

- **Participant Name Record (PNR)**
  The Summit can be configured to record the spoken name of each conference participant for use during the conference. This feature can be set on a per-conference basis.

- **Entrance and Exit Announcements**
  During a conference, the chairperson can toggle Entrance and Exit Announcements on and off. These announcements use the PNR to announce each participant as they enter or leave the conference.

- **Silent Intruder Detection**
  If a participant does not record their name and company upon entry into the conference, the system plays the message, “Name not recorded,” to the conference as the party joins, alerting the conference that someone has joined but did not record a name.

- **Conference Roll Call**
  The conference Roll Call uses the PNR (Participant Name Record) to play the names of the participants to the chairperson only, or to broadcast them to all participants.

- **Configurable Call Flow (Chair IVR Mode) per conference**
  The Audio Enunciator (AE) blade includes a sophisticated Chair IVR (CIVR) that the conference chairperson can access during the conference. From the Chair IVR, the Host can control the conference by signaling the operator, dialing additional parties, locking the conference, and toggling the chairperson disconnect. The Host can also control individual parties by listening to their names and selecting them to be disconnected or called. The Chair IVR also includes a spoken conferee count. The call flow for the system, which determines the available menu options, is configurable on a per-conference basis.

- **Language Set**
  The CONTEX Summit system currently supports three (3) complete message sets for each of the fourteen (15) CIVR modes. The system can optionally be configured to support up to ten (10) complete message sets for one CIVR mode, or five (5) complete message sets for three CIVR modes. Language can be selected on a per-conference basis (for unattended conferences) or via DTMF. All system messages can be customized and re-recorded based on the configured languages.

Other Features

- **Scheduled Time or Always Available**
  The system allows all passcode conferences to be scheduled in one of several ways:
  - To take place at a certain date and time.
  - To take place for a fixed duration.
  - To be permanently enabled so that they can be activated at any time by a participant with a valid Host passcode.

- **Unlimited Participants or Restricted Number of Parties**
  Conferences can be set up to allow an unlimited number of parties access to the conference (limited only by the number of available ports in the system). Conferences can also be set up so that only a set number of participants can gain access. Parties dialing in after the limit is reached are played a “Conference Full” or “Restricted Access” message.

- **Guests Placed in Music On Hold**
  The conference can be configured so Guests of a Meet-me or Chairperson Dial-out Conference hear hold music until a Host joins the conference. With this configuration, Guests are prevented from conducting a conference without a Host in attendance.

- **Conference Quick Start**
  Conferences can be configured on a per-conference basis so that a conference can begin immediately as parties dial in, regardless of whether or not a Host is present.

- **Auto-Breakdown**
  Any unattended conference can be configured to automatically disconnect all parties when the assigned time limit is reached. The system can also be configured so that a beep will sound or a message will play a few minutes before the time expires to warn the participants that the conference will end soon. Conferees have the ability to extend their conference by pressing a configurable DTMF sequence or by contacting an operator.

- **Conferee Self-mute**

  Conferees joined in a conference with Talk/Listen privileges may choose to mute or unmute themselves by entering a configurable code.

- **Lead-time/Trail-time**

  A configurable lead-time may be provided to allow parties who arrive early for a conference to join before it is scheduled to begin. With lead-time, participants can dial-in a little early to join a conference close to when it is scheduled, so that they are not forced to call back. For conferences that are set up to break down automatically, a configurable trail-time may be provided to enable a conference to run past its scheduled end time. This is useful in providing participants with more flexibility for conference run-time.

- **First Party Message with Music on Hold**

  The conference can be configured to play a special message to the first party to dial into an Unattended Meet-me Conference. This message, which would play after the intial greeting, might say, “You are the first caller. Please wait for others to join.” If configured, the system can also place the first party into the Music on Hold setting (instead of silence) until the next party joins the conference.

- **Conference Recording**

  Unattended conferences can be configured to record the conference internally using the Audio Enunciator (AE) blade or externally using the CONTEX Digital Record and Playback (CDRP) system. Recordings can then either be played back from the AE or downloaded to a specified location.

Configurable Call Flows

The CONTEX Summit supports 14 configurable call flows on a system-wide basis. The CONTEX Summit also supports the ability for customers to create their own customized call flows on a per conference basis with CIVR Mode 16. The following call flows are currently supported by the CONTEX Summit and are selectable on a per-conference basis.

CIVR Mode 1

*0 Operator Assistance **(guests)**

*0 CIVR Main Menu **(leader only)**

- *1 Chairperson Dial-out **(leader only)**
  - *1 Joins the party to the conference and moves the host out of the vestibule
  - *2 Disconnects the party with whom the host is having a private conversation
  - *3 Disconnects the last party added to the conference
  - *5 Returns the host to the conference regardless of what state the host is in
  - *7 Redials the last number entered by the host
  - *8 Extend Conference (if system is configured to allow it)
  - *9 Disconnect all participants
    - *1 End conference **(if leader disconnect confirm. enabled)**
    - *2 Cancel Request **(if leader disconnect confirm. enabled)**
- *2 Conference Roll Call - In Conference **(leader only)**
- *3 Toggle Conference Lock **(leader only)**
- *4 Toggle Chair Disconnect **(leader only)**
- *5 Toggle Participant Name Announcements **(leader only)**
- *6 Participant Management Menu **(leader only)**
  - *1 Move to the Previous Party
  - *2 Play the Current Party Name
  - *3 Move to the Next Party
  - *4 Called Party Menu
    - *1 Move to the Previous Menu
    - *2 Transfer Host Control
      - *1 Confirm Transfer
      - *2 Cancel
    - *3 Transfer Chair Disconnect
      - *1 Confirm Transfer
      - *2 Cancel
    - *4 Disconnect the Current Party
      - *1 Confirm Transfer
      - *2 Cancel
    - *9 Rejoin the Main Conference
  - *5 Disconnect the Current Party
    - *1 Confirm Disconnect
    - *2 Cancel
  - *6 Play Party Count
  - *7 Private Roll Call
  - *8 CIVR Main Menu
  - *9 Rejoin the Main Conference
- *7 Manage Project Codes Menu **(leader only)**
  - *1 Listen to the Project Code

*2 Change the Project Code
*3 Delete the Project Code
*9 Rejoin the Main Conference

*8 Profiles Menu **(leader only - if configured)**
*1 Toggle PNR
*2 Toggle Entrance and Exit Tones
*3 Toggle Conference Quick Start
*4 Toggle Entrance/Exit Announcements **(if configured)**
*8 CIVR Main Menu
*9 Rejoin the Main Conference

*9 Exit Main Menu and Rejoin the Main Conference

Additional DTMF Commands for CIVR Mode 1

*1 Move Host in and out of vestibule

*2 Record Conference **(leader only - if configured)**
*1 Begin Recording
*2 Begin Playback
*3 Cancel

*4 Returns host to the vestibule regardless of what state the host is in

*8 Extend Conference (if Summit is configured to allow it)

*9 Disconnect all participants
*1 End the conference (if Leader Disconnect Confirmation is enabled)
*2 Cancel Request (if Leader Disconnect Confirmation is enabled)

CIVR Mode 2 (for Passcode Meet-me Conferences)

*0 Operator Assistance

*1 Help Menu

*2 Conference Roll Call - In Conference **(leader only)**

*3 Conference Roll Call - Private

*4 Conference Mute/Unmute **(leader only)**

*5 Toggle Chairperson Disconnect **(leader only)**

*6 Self-Mute/Unmute

*7 Toggle Conference Lock **(leader only)**

*8 Passcode Meet-me Dial-out **(leader only)**
*1 Join the party to the conference
*2 Disconnect the party

*9 Entrance and Exit Announcements or Chairperson Auto-dial Record (if configured) **(leader only)**
*1 Name Announce with Tones
*2 Tones Only
*3 Silence
*9 Exit Menu without making changes

OR (If configured)
*1 Begin Recording
*2 Begin Playback
*3 Cancel

CIVR Mode 5

*0 Operator Assistance
** Help Menu
*#2 Conference Recording
    1 Start Recording
        *1 Stop Recording/Playback
        *2 Return to the Conference
        Other Key -- Start Playback
*#3 Private Roll Call **(leader only)**
*4 Mute/Unmute Individual
*#4 Toggle Conference Lock **(leader only)**
*#5 Mute/Unmute Conference **(leader only)**
*#6 Increase Party Limit **(leader only)**
*8 Toggle AGC
*#8 Private Party Count **(leader only)**
*#9 Chairperson Disconnect **(leader only)**
End Conference Immediately **(leader only)**
    *1 End the Conference (if Leader Disconnect Confirmation is enabled)
    *2 Cancel Request (if Leader Disconnect Confirmation is enabled)

CIVR Mode 6

*0 Operator Assistance
#0 Help Menu
#1 Public Roll Call **(leader only)**
#2 Private Party Count **(leader only)**
#3 Chairperson Dial-Out **(leader only)**
    (acts like *0 if dial-out disabled)
#5 Participant Management Menu **(leader only)**
    *1 Move to the Previous Party
    *2 Play the Current Party Name
    *3 Move to the Next Party
    *4 Disconnect the Current Party
        *1 Return Party to Conference
        *2 Transfer Chairperson Control
        *3 Transfer Chairperson Disconnect
        *4 Disconnect the Current Party
        *9 Rejoin the Main Conference
#7 Profiles Menu
    *1 Toggle PNR
    *2 Toggle Entrance and Exit Tones
    *3 Toggle Conference Quick Start
    *4 Toggle Entrance/Exit Announcements (if configured)
    *9 Rejoin the Main Conference
*1 Increase Output Gain to Party by 1dB

*2 Stop Message
*3 Decrease Output Gain to Party by 1dB
*4 AGC Toggle **(leader only)**
*5 Mute/Unmute Conference **(leader only)**
*6 Mute/Unmute Individual (self)
*7 Toggle Conference Lock **(leader only)**
*8 Record Conference **(leader only)**
  *1 Begin Recording
  *2 Begin Playback
  *3 Cancel
*9 Record Conference **(leader only)**
#9 Chairperson Disconnect **(leader only)**
End Conference Immediately **(leader only)**
  *1 End the Conference (if Leader Disconnect Confirmation is enabled)
  *2 Cancel Request (if Leader Disconnect Confirmation is enabled)

CIVR Mode 7

*0 Operator Assistance
*1 Record and Playback **(leader only)**
  *1 Begin Recording
  *2 Begin Playback
  *3 Cancel
*4 Mute/Unmute Individual
*5 Mute/Unmute Conference **(leader only)**
*6 Help Menu
*7 Toggle Conference Lock **(leader only)**
*8 Toggle Chair Disconnect **(leader only)**
*# Chairperson Control Menu **(leader only)**
  1 Dial-out
    *1 Join the Party
    *2 Disconnect the Party
    *3 Cancel Dial-out
  2 Record and Playback
    *1 Begin Recording
    *2 Begin Playback
    *3 Cancel
  3 Private Roll Call
  4 Conference Secure and Unsecure
  5 Conference Mute/Unmute or Recall **(depending on configuration)**
  6 Return to the Main Conference
  7 Project Codes
    *1 Listen to the Project Code
    *2 Change the Project Code
    *3 Delete the Project Code
    *9 Rejoin the Main Conference

CIVR Mode 8

*0 Operator Assistance

*1 Dial-out **(leader only)**

- *1 Return to the Conference from the Dial-out Vestibule
- *2 Initiate Direct Dial-out

*2 Conference Record **(leader only)**

*3 Disconnect Last Called Party and Return to Dial-out Vestibule **(leader only)**

*4 Disconnect Last Called Party **(leader only)**

*5 Direct Dial-out Party **(leader only)**

*6 Disconnect Direct Dial-out Party **(leader only)**

CIVR Mode 9

*0 Operator Assistance

*1 Dial-out Vestibule **(leader only)**

- *1 Return to the Conference from Dial-out Vestibule
- *2 Join the Dial-out Party to the Conference
- *3 Disconnect the Party from the Dial-out Vestibule

*2 Start/Stop Recording **(leader only)**

- *1 Start/Stop Recording
- *2 Return to the Conference

*3 Start/Stop Playback **(leader only)**

- *1 Start/Stop Playback
- *2 Return to the Conference

*4 Increase/Decrease Conference Volume **(leader only)**

*5 Conference Mute/Unmute **(leader only)**

*6 Conferee Mute/Unmute

*7 Conference Lock/Unlock **(leader only)**

*8 Private Roll Call or Private Party Count (if PNR Disabled) **(leader only)**

*98 Extend Conference Duration **(leader only)**

End Conference Immediately **(leader only)**

- *1 End the Conference (if Leader Disconnect Confirmation is enabled)
- *2 Cancel Request (if Leader Disconnect Confirmation is enabled)

CIVR Mode 10

*0 Operator Assistance

*1 Dial-out Vestibule **(leader only)**

- *1 Return to the Conference from Dial-out Vestibule
- *2 Join the Dial-out Party to the Conference
- *3 Disconnect the Party from the Dial-out Vestibule

*2 Start/Stop Recording (**leader only)**

- *1 Start/Stop Recording
- *2 Return to the Conference

*3 Start/Stop Playback

- *1 Start/Stop Playback
- *2 Return to the Conference

*4 Toggle AGC

*5 Toggle Lecture Mode **(leader only)**

*6 Toggle Self-Mute

*7 Toggle Conference Secure **(leader only)**

*8 Play Roll Call

*9 Stop Roll Call

*91 Manage the Conference Project Code **(leader only)**

- *1 Listen to the Project Code
- *2 Change the Project Code
- *3 Delete the Project Code
- *4 Rejoin the Main Conference

*93 Activate/Deactivate Sub Conference **(leader only)**

CIVR Mode 11

*0 Operator Assistance

00 Request Conference Operator Assistance

*1 Dial-out Vestibule **(leader only)**

- *1 Join the host and called party to the conference
- *2 Join the called party to the conference and leave the host in the dial out vestibule **(if configured)**
- *3 Disconnect the called party and join the host to the conference
- *4 Disconnect the called party and leave the host in the dial out vestibule **(If configured)**

*2 Start/Stop Recording **(leader only)**

- *1 Begin Recording
- *2 Begin Playback
- Other Key -- Cancel

*4 Conference Lock **(leader only)**

*5 Conference Unlock **(leader only)**

*6 Self-Mute

*7 Self-Unmute

*9 Roll Call

*# Participant Count

Conference Mute **(leader only)**

99 Conference Unmute **(leader only)**

** Help Message

CIVR Mode 12

*0 Request Conference Operator Assistance **(leader only)**

00 Request Individual Operator Assistance

*1 Dial-out Vestibule **(leader only)**

- *1 Return to the Conference from Dial-out Vestibule
- *2 Join the Dial-out Party to the Conference
- *3 Disconnect the Party from the Dial-out Vestibule

*4 Conference Lock/Unlock **(leader only)**

*5 Conference Mute/Unmute **(leader only)**

NOTE: Defined by ConferenceMuteUnmuteString variable - default *5

*7 End Conference **(leader only)**

- *1 End the Conference (if Leader Disconnect Confirmation is enabled)
- *2 Cancel Request (if Leader Disconnect Confirmation is enabled)

*8 Expand Party Limit **(leader only)**

*9 Extend Conference **(leader only)**

NOTE: Defined by ExtendConferenceDTMF variable - default *9

** Help Message

1# Private Participant Count **(leader only)**

2# Private Roll Call **(leader only)**

3# In Conference Participant Count **(leader only)**

4# In Conference Roll Call **(leader only)**

5# Toggle Entrance/Exit Announcements **(leader only)**

NOTE: Defined by ToggleEntExitAnnString variable - default 5#

- *1 Name Announce with Tones
- *2 Tones Only
- *3 Silence
- *9 Exit Menu without making changes

6# Toggle PNR **(leader only)**

NOTE: Defined by TogglePNRString variable - default 6#

#6 Direct Dial-out

- *1 Confirm Disconnect/Direct Dial-out
- *2 Join the Dial-out Party to the Conference

#7 Toggle Chairperson Disconnect **(leader only)**

8# Private Announce Time Remaining **(leader only)**

9# In Conference Announce Time Remaining **(leader only)**

Stop Message

15 Toggle AGC

16 Self-Mute/Unmute

22 Start/Stop Record/Playback **(leader only)**

- *1 Begin Recording
- *2 Begin Playback
- *3 Cancel

CIVR Mode 13

*0 Help Menu
*2 Cancel Message
*4 Toggle AGC
*5 Conference Lock **(leader only)**
*6 Toggle Self-Mute
*7 Toggle Conference Mute **(leader only)**
*8 Expand Conference (Increase Party Limit) **(leader only)**
*9 Extend Conference **(leader only)**
9* Q&A Add/Remove from Queue
0# Signal for Operator Assistance
1# Change Entrance/Exit Announcement Settings **(leader only)**
    *1 Name Announce with Tones
    *2 Tones Only
    *3 Silence
    *9 Exit Menu without making changes
#1 Conference Roll Call into Conference **(leader only)**
1# Private Participant Count **(leader only)**
#2 Conference Participant Count into Conference **(leader only)**
3# Signal for Operator Assistance **(leader only)**
#6 Private Conference Roll Call **(leader only)**
#7 Toggle Conference Recording **(leader only)**
    *1 Begin Recording
    *2 Begin Playback
    *3 Cancel
#9 Toggle Chairperson Disconnect **(leader only)**
End Conference

*1 End the Conference (if Leader Disconnect Confirmation is enabled)
*2 Cancel Request (if Leader Disconnect Confirmation is enabled)

CIVR Mode 14

*0 Request Conference Operator Assistance
*2 Stop Any Message
*4 Toggle AGC
*5 Toggle Conference Lock/Unlock **(leader only)**
*6 Toggle Self-Mute/Unmute
*7 Toggle Conference Mute/Unmute **(leader only)**
*8 Increase Party Limit **(leader only)**
#1 Roll Call **(leader only)**
#2 Participant Count **(leader only)**
#3 Access Dial-out Vestibule **(leader only)**
    #4 Disconnect the Party
    #5 Join Party to the Conference
#7 Record/Playback Start/Stop **(leader only)**
    *1 Begin Recording
    *2 Begin Playback
    *3 Cancel
#9 Toggle Chairperson Disconnect **(leader only)**
99 End Conference **(leader only)**

CIVR Mode 15

*0 Request Conference Operator Assistance
*5 Toggle Conference Mute/Unmute **(leader only)**
*6 Toggle Self-Mute/Unmute
*7 Toggle Conference Mute/Unmute **(leader only)**
*# Host Control Menu **(leader only)**
    1 Project Code
        *1 Listen to the Project Code
        *2 Change the Project Code
        *3 Delete the Project Code
        *9 Rejoin the Main Conference
    2 Roll Call
    3 Locking Menu
        1 Lock/Unlock
        2 Cancel
    4 Last Caller Sub Conference
    5 Mute Line
        1 Mute/Unmute
        2 Cancel
    6 Conference Record
        *1 Start Recording
        *2 Start Playback
        *3 Cancel
    7 Exit Menu
*99 End Conference (**leader only**)
    1 End the Conference (if Leader Disconnect Confirmation is enabled)
    Other Key -- Cancel Request (if Leader Disconnect Confirmation is enabled)

CIVR Mode 16 (Custom)

System Variable	Feature Description
ConfSigOpDTMF	Initiate a conference operator request
PtySigOpDTMF	Request operator assistance
HelpMenuDTMF	Access Help menu
StopMessageDTMF	Stop message
BlastDialString	Initiate dial-out to all conference idle parties (leader only)
BrkDownConfDTMF	Breakdown conference (leader only) *1 End the conference (if Leader Disconnect Confirmation is enabled) *2 Cancel request (if Leader Disconnect Confirmation is enabled)
ChangeAnnounceDTMF	Change Exit/Entry announcement type (leader only) *1 Name Announce with Tones *2 Tones Only *3 Silence *9 Exit Menu Without Making Changes
ConfMuteDTMF	Mute the conference (leader only)
ConfMuteUnmuteDTMF	Toggle conference mute (leader only)
ConfUnmuteDTMF	Unmute the conference (leader only)
ConfSecureDTMF	Lock the conference (leader only)
ConfSecureUnsecureDTMF	Toggle conference lock
ConfUnsecureDTMF	Unlock the conference (leader only)
DialOutDTMF DialOutReturnDTMF DialOutConfirmDTMF DialOutReenterDTMF DialOutCancelDTMF DialOutConnectDTMF DialOutDiscDTMF	Enter the dial-out vestibule (leader only) Return to the conference from dial-out vestibule Confirm vestibule dial-out number Re-enter dial-out vestibule during number confirm Cancel vestibule dial-out Connect dial-out guest to conference Disconnect guest from dial-out vestibule
EnterCLPDTMF	Manage Conference Level Passcode (leader only) *1 Listen to the CLP *2 Change the CLP *3 Delete the CLP *9 Rejoin the Main Conference
EnterProjectCodesDTMF	Manage conference project code (leader only) *1 Listen to the Project Code *2 Change the Project Code *3 Delete the Project Code *9 Rejoin the main conference
EnterDataConfIDDTMF	Enter the Data Conference ID *9 Rejoin the main conference

System Variable	Feature Description
ExtendConferenceDTMF	Extend conference (leader only)
IncreasePtyLimitDTMF	Increase conference party limit (leader only)
PrivPtyCntDTMF	Initiate private party count
PrivRollCallDTMF	Initiate private roll call
PtyMuteUnmuteDTMF	Toggle self-mute
PtyMuteDTMF	Self-mute
PtyUnmuteDTMF	Self-unmute
PubPtyCntDTMF	Initiate public party count
PubRollCallDTMF	Initiate public roll call
StartStopPlaybackMenuDTMF PlBkStartCancelDTMF PlBkStartConfirmDTMF PlBkStopCancelDTMF PlBkStopConfirmDTMF	Enter the Playback Menu (leader only) Cancel Playback Start Initiate Playback Cancel Playback Stop Confirm Playback Stop
StartStopRecordMenuDTMF RecStartCancelDTMF RecStartConfirmDTMF RecStopCancelDTMF RecStopConfirmDTMF	Enter the Recording Menu (leader only) Cancel Starting Recording Initiate Recording Cancel Stop Recording Stop Recording
StartStopRecPlayMenuDTMF RecPlBkStartRecDTMF RecPlBkStartPlBkDTMF RecPlBkStartCancelDTMF	Enter the Recording/Playback Menu (leader only) Start Recording Conference Start Playback Cancel Starting Recording or Playback
PausePlaybackString	Pause playback
ResumePlaybackString	Resume playback
SkipBackPlaybackString	Skip playback backward
SkipForwardPlaybackString	Skip playback forward
ToggleAGCDTMF	Toggle AGC
ToggleChairDiscDTMF	Toggle chairperson disconnect
TogglePNADTMF	Toggle Participant Name Announcements (leader only)
TogglePNRDTMF	Toggle Participant Name Recording (leader only)
ToggleGuestMuteOverrideAllowed-DTMF	Toggle Guest Override Conference Mute (leader only)
ToggleStartStopPlaybackString	Start or stop playback (leader only)
ToggleStartStopRecordDTMF	Start or stop conference recording (leader only)
TransferToPasscodePrompt	Exit conference and transfer to passcode prompt

SECTION 3

Available System Interfaces and Features

- Maintenance Client (MC)
- Windows Operator Client (WOC)

Maintenance Client

The CONTEX Summit Maintenance Client (MC) is the easy-to-use interface through which system administrators and maintenance personnel can perform system monitoring, configuration, diagnostics, and maintenance functions. It runs on any standard Windows-based PC with Windows 2000, 2003, 2008 (both 32 and 64 bit), XP, Vista, or Windows 7 (both 32 and 64 bit) and connects to the system via TCP/IP. The MC's primary functions include: configuring ports and system options, active port troubleshooting, controlling gain status, viewing system messages and alarms, editing system configurations, performing diagnostic tests, and managing blades.

Port Maintenance and Configuration

From the MC, maintenance personnel can monitor any of the CONTEX Summit system's ports and perform port diagnostics.

For instance, they can immediately determine the status of all configured ports and designate any ports to "busy" to prevent the system from selecting them for conferences. This action allows technicians to control ports, evaluate their response, and perform system troubleshooting.

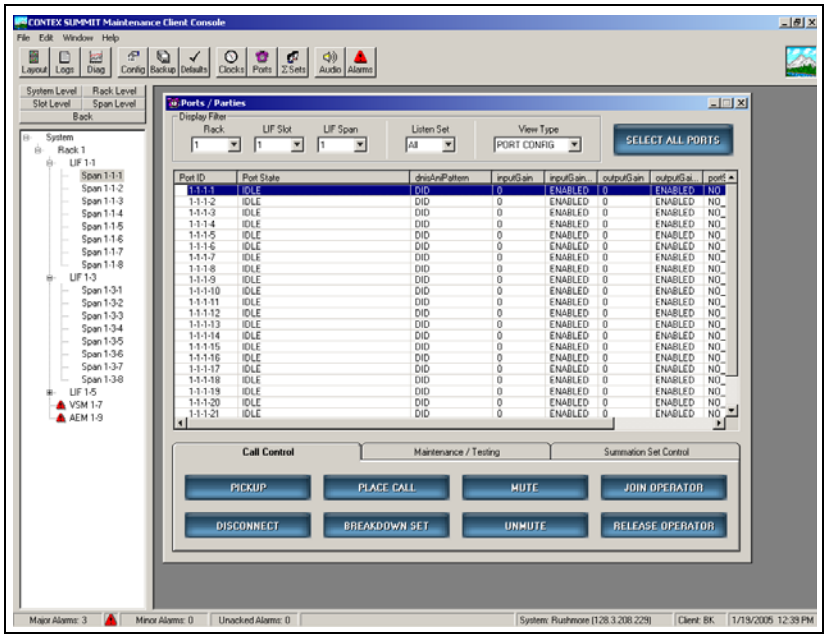


Figure 3-1 Summit MC Port Configuration Window

All CONTEX Summit ports can be configured from the MC. Available port configurations include ISDN, Wink Start, Wink Start with DNIS, FXS, and VoIP (SIP).

Port and Party Control

Using the MC's Ports/Parties window, technicians can build and control active sets of ports on the CONTEX Summit. Technicians can also observe and troubleshoot audio issues on individual ports or a set of ports corresponding to active conferences on the Summit.

Gain Control

The MC offers two methods for controlling the gain (audio input/output level) for each port:

Automatic Gain Control (AGC)

Automatic Gain Control can be turned on or off for each individual port. When AGC is enabled, the system automatically adjusts the audio input from the port to the system based on internal system thresholds.

The Summit system attempts to keep all signal levels at the AGC system level, which is adjustable between -18 and 10 dB. To achieve the AGC system level, the system will boost the signal up to the maximum gain level (adjustable between 0 and 12 dB).

Nominal Gain (manual adjustment)

The gain for any individual port can be set manually using values from -10dB to +10dB. The gain may be applied to the individual party's audio into the conference (input gain) and/or to the combined audio out from the conference to the individual party (output gain).

Alarm Messages

Alarm messages, which include information messages, are logged by the system, displayed at the MC, and stored for 60 days. They can be viewed or printed by technical personnel as needed. Alarm messages indicate conditions that might affect the performance of the CONTEX Summit. For instance, if a yellow alarm is detected by a LIF blade, the MC creates and displays an alarm. Information messages, on the other hand, are mainly configuration change responses.

Remote alarm notification is supported by SNMP, and the CONTEX Summit supports SNMP alarm traps. This will work with any standard SNMP client.

System Configurations

The MC provides a method for setting and editing system configurations (Figure 3-2). The system provides the current value, the default setting, and minimum and maximum values for each attribute.

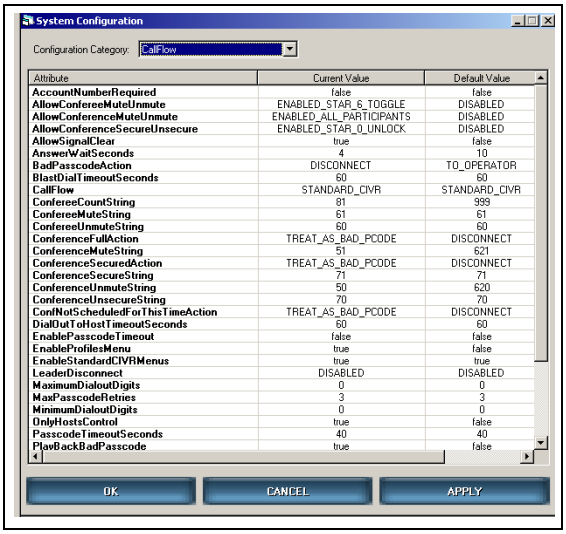


Figure 3-2 Summit System Configuration Window

Windows Operator Client (WOC)

The CONTEX Summit Windows Operator Client (WOC) is the main interface used by conference operators to create, manage, and control conferences on the CONTEX Summit system. The WOC software package is compatible with any standard PC running Windows 2000 Server, 2003 Server, 2008 Server, XP, Vista, or Windows 7 (both 32 and 64 bit). Due to its simple and efficient design, the WOC enables operators to control most aspects of the conference from only one screen, reducing the time required to learn and master the application.

The WOC is regularly recognized as the most efficient and feature-rich medium for managing large attended conferences and events, as well as servicing customer help requests. The WOC's design has evolved over a number of years with the help of customer input, and its features have been designed to decrease operator error and increase operator efficiency.

System Components

By using the WOC, operators can create, manage, and control conferences on the CONTEX Summit system. Many of the Summit's powerful conferencing features can be accessed right from the WOC's main screen. Additionally, operators can use the mouse and/or function keys to limit keystrokes and concentrate more on the details and flow of the conference, rather than on maneuvering through the software.

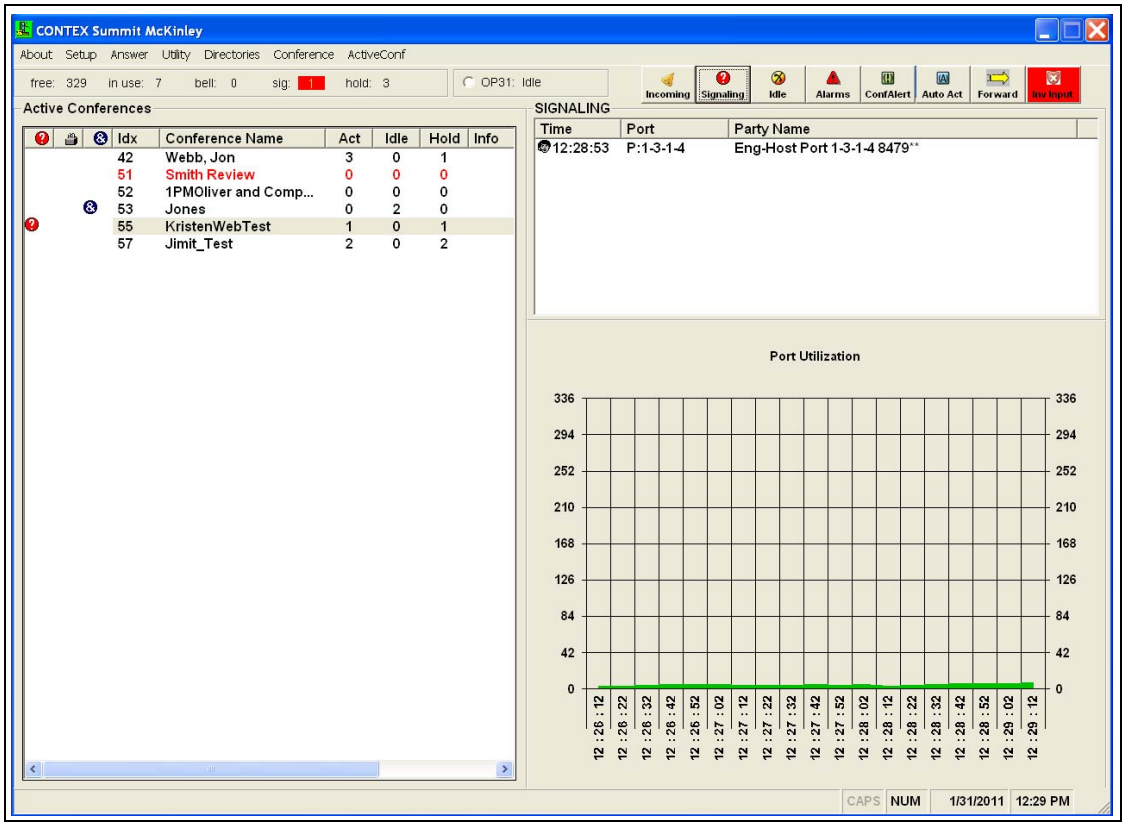


Figure 3-3 Summit WOC Main Window

The unique design of the WOC application interface (Figure 3-3) enables the conference operator to view the details of ongoing conferences, the calls being answered, the overall status of the CONTEX Summit system, and the port utilization all at the same time. The WOC's main window includes:

- Active Conference Window
- Conference Control Window
- System Shortcuts Window
- Real-Time System Status Bar
- Port Utilization Chart (and other options)

Other important features accessed from the WOC's main window include:

- Answer Calls Window
- Directories
- Conference Details Window

Active Conference Window

The Active Conference window (Figure 3-4) displays the names of all conferences currently active on the CONTEX Summit system. Conference names may be listed either alphabetically or in the order they were created. Conferences which have been marked "high profile" by the operator in the Conference Details window will display in red font. Each conference name is displayed with a cross-reference identification number, as well as real-time numerical tallies of total parties, parties who are idle, parties on hold, any additional information for the conference, and (if configured) the conference start time. Additionally, the Active Conference window displays symbols to the left of the conference name for conferences that contain a signaling party, conferences secured/locked by the conference Host and/or operator, conferences being recorded or performing a playback, and additional functions as well.

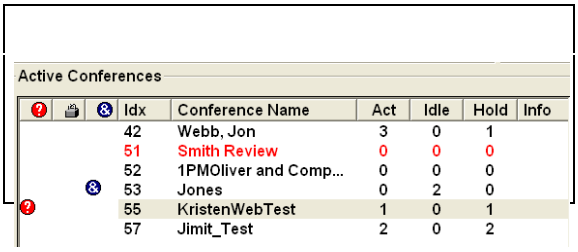


Figure 3-4 Active Conference Window

Conference Control Window

The Conference Control window (Figure 3-5) allows the operator to monitor the conference at the participant level. Conference control functions apply to either individual conferees, groups of conferees, or all conferees, greatly simplifying conferee management.

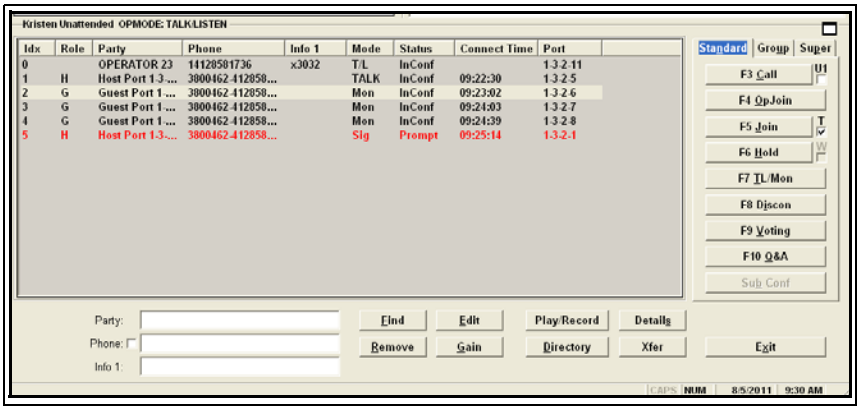


Figure 3-5 Conference Control Window

The primary operator coordinator can easily transfer, disconnect, or call new parties without having to leave the window. They can also adjust the width of any of the columns within the window.

The Conference Control window displays the following information for each participant:

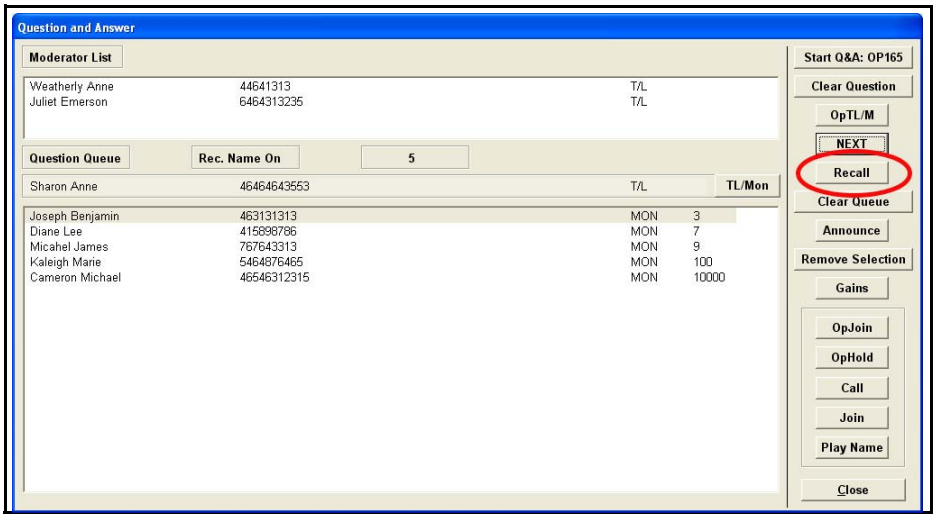
- **Idx -** An index number dynamically assigned by the CONTEX Summit system.
- **Role -** The role of the caller in the conference as assigned by the operator. Possible roles include Guest, Host, or Attended party. This column allows an operator to quickly determine the role of the caller in order to perform the correct functions on them (e.g., changing their mode between Talk/Listen and Mon, placing them on hold, etc.).
- **Name / Phone -** The conferee's name and phone number or IP address. This information may be taken from a preset conference configuration or the Answer Calls window, or the operator can enter the information on the fly. If the telephone network supports DNIS/DID and ANI, the ANI number can be automatically transferred by the WOC from the Answer Calls window to the Conference Control window.
- **Company (User Defined 1 Field) -** The User Defined 1 field can contain any label to display further information from the caller and is set by the operator within the Conference Details window. In this case, the company of the participant is specified.
- **Mode -** The participant's current audio mode in the conference. Conferees can be in either Talk/Listen (T/L) or Monitor (Mon) mode. When a party is in Talk/Listen, they can both hear and be heard in the conference; however, in Monitor mode, they can only hear the conference. The WOC also identifies the current speaker by displaying a configurable text string ("talk" for example) in the mode column. They can also be in "sig" mode if they have pressed *0 to signal the operator for assistance (the party's font also changes to red), allowing the operator to easily locate the signaling party.
- **Status -** The participant's current status in the conference. The various statuses/modes include calling, answer, hold, in conference, prompt, or idle.
- **Connect Time** - The time the party connected to the system.
- **Port -**The port number the conferee is connected to within the system. This information can be used to troubleshoot system performance or to adjust the participant's audio signal.

Conference Control Features

The operator controls the conference from the Conference Control window—calling, joining, disconnecting participants, etc—by simply selecting the participant's name and clicking the appropriate button. The operator can also easily transfer participants between conferences. For speedy results, an operator can use keyboard shortcuts instead of the mouse.

- **Individual, Group, and Super Functions**
  While a conference is in progress, the WOC operator can apply standard conferencing functions to individual parties, a selected group of parties, or to every party in the conference. The ability to control more than one participant at a time with both the group and super tabs simplifies the operator's process. For instance, before running a Question & Answer session, the operator can use the group function to place all participants other than the moderators in monitor mode. The operator can use the super function to place all of the participants on hold.

- **Talker Identification**
  The Conference Control window displays the names and states of all the parties in the conference. After a party is joined with other parties in a conference, that party's status changes to Talk/Listen (T/L) or Monitor (Mon). When a party is speaking into the conference, that party's status changes from "T/L" to a configurable text string ("Talk," for example). The status will remain "Talk" for as long as that party's voice contribution exceeds a specified threshold. After the party finishes speaking, the status changes back to "T/L."
- **Subconferences**
  An operator can break any number of conferees out of any conference and join them together in a subconference. This feature allows selected conferees to participate in private conversations without disrupting the rest of the conference.
- **Question and Answer Sessions (Q&A)**



  Operators can easily manage a Question and Answer session during a conference by using the Q&A feature (Figure 3-6). Listeners will hear confirmation tones as they press *1 to enter the Question Queue. A Moderator List and Question Queue displays the session's status. Questions can be addressed randomly or in the order received. Listeners can remove themselves from the Question Queue at any time. An operator can double-click on a participant's name within the Q&A window to open the Name and Phone Edit window and edit party information.

  Operators may also assign a Q&A priority number to each Q&A participant waiting to ask their question. This number will appear in a column on the right side of the Q&A window, and allows the operator to quickly and correctly grant high priority questioners access to ask their questions before all other participants.

  With the Summit 2.20.0 release, additional features are available, including the ability for an operator to call a participant in the Question Queue and speak with the party one-on-one and the ability to Recall a party to the current questioner line. If another party is on the podium already, that person is returned to the top of the Question Queue while the recalled party finishes their question.
- **Voting and Polling Sessions**
  Voting sessions can be used to conduct surveys or interactive tests. In a voting session, listeners are polled on topics and respond by pressing pre-assigned keys on their phones. Voting sets can be stored, retrieved, and edited for later use as well. Topical results are available immediately and can be saved to a file.

- **Individual Party Gain Control**
  The operator can apply gain to any port assigned to any connected party displayed in the Conference Control, Question & Answer, or Answer Calls windows. The amount of gain can range from -10 dB to +10 dB. Gain can be applied to a party's voice signal entering the conference (Into Conference), or it can be applied to the combined conference voice signal leaving the conference and going to the party (Out from Conference).

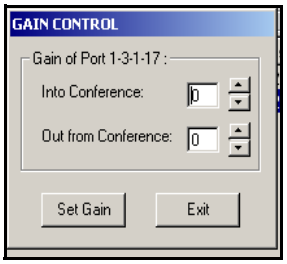


Figure 3-6 Gain Control Windows

System Shortcut Window

The System Shortcut window (Figure 3-7) allows quick and easy access to incoming calls, operator signal requests, system disconnects, system messages, conference alert messages, auto-activation messages, conference forward groupings, and invalid input messages.

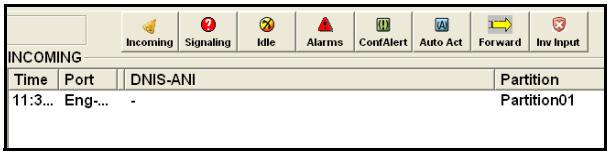


Figure 3-7 System Shortcut Window

- **Incoming Shortcut**
  Displays all incoming calls, as well as the call arrival time and the port number.

- **Signaling Shortcut**
  Displays the *0 (operator requests) within the system, including the time, the party name, and the conference from which they are signaling.

- **Idle Shortcut**
  Displays the disconnects from the system, as well as the time, the party name, and the conference from which they disconnected.

- **Alarms Shortcut**
  Displays alarm messages from the system.

- **Conf Alert Shortcut**
  Displays alert messages for conferences that have fallen below a configured number of participants, as well as conferences that have a limited duration left.

- **Auto Act Shortcut**
  Displays activation messages for any conference the system has automatically activated.

- **Forwarding Shortcut**
  Displays any conferences that are set up to forward parties from one conference to another.

- **Invalid Input Shortcut**
  Displays a list of invalid passcodes/PINs entered by callers since the WOC was connected.

- **Conf Info/Home Shortcut (if configured)**
  This shortcut displays when conference specific or general Web pages are enabled for the WOC, and toggles between Conf Info and Home. These Web pages provide an operator with pertinent information for either a specific conference or for the system as a whole.

System Status Bar

Figure 3-8 System Status Bar

Current information about free ports, incoming calls, parties signaling for assistance, and parties on hold is displayed in a system status bar in real-time at the top of the WOC application window. The status bar also displays the operator's port number, status, and mode (Talk/Listen or Monitor).

The operator can toggle their own mode by clicking on the appropriate control in the Operator status bar, shown in Figure 3-9, to the right of the system status bar. When the operators are in Talk/Listen mode, the status bar indicator is displayed in red to show that they are "on the air."

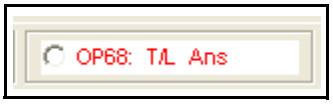


Figure 3-9 Operator Status Bar

Port Utilization Chart (and other options)

A graphical representation of the port utilization for the system is displayed in the bottom right portion of the Summit WOC's main screen (Figure 3-11). This utilization chart samples the system in 10 second intervals and then displays the graph at each connected WOC.

The WOC can now be configured to display a Web page (that the user specifies) where the Port Utilization chart would normally go (Figure 3-10). Or, if a user prefers, it can be configured to simply extend the System Shortcut window located directly above.

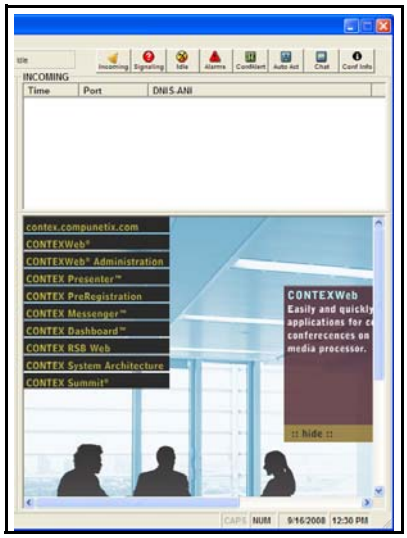


Figure 3-10 Web Option

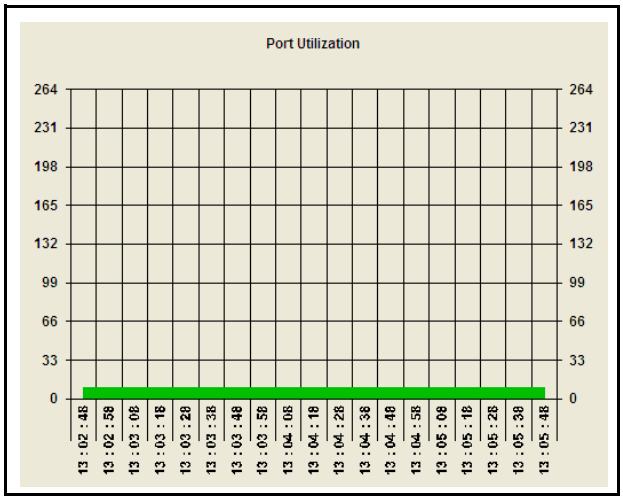


Figure 3-11 Port Utilization Window

Answer Calls Window

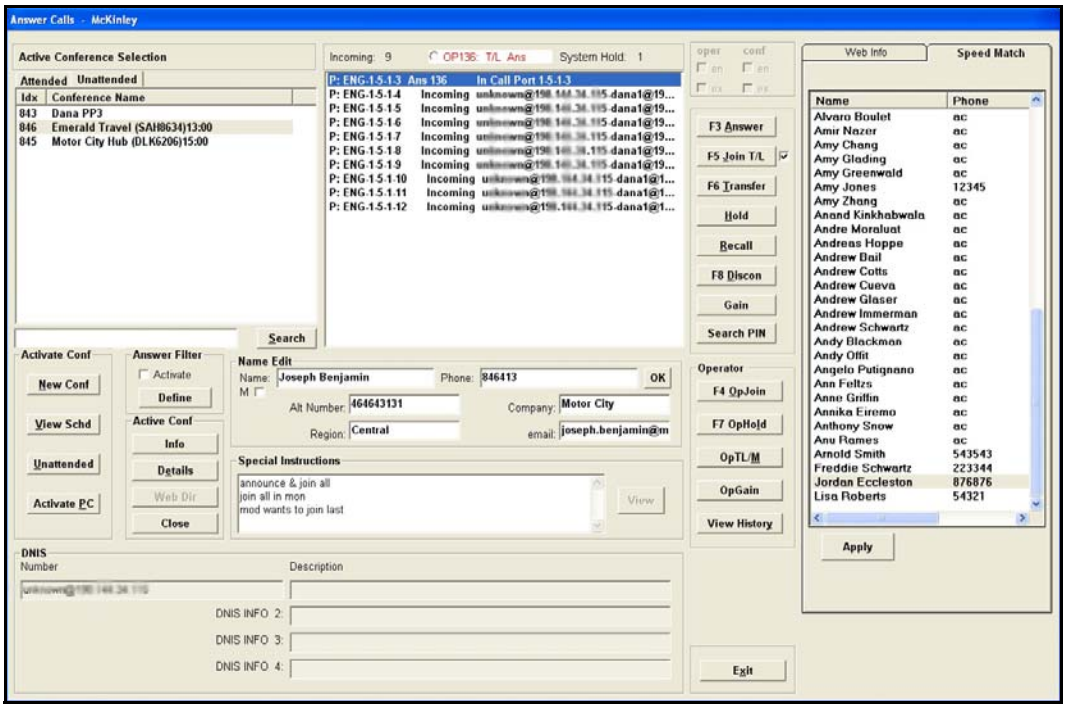


Figure 3-12 Answer Calls Window

Though an operator will frequently use the features located on the main window of the WOC, they will also spend a great deal of time in the Answer Calls window (Figure 3-12), which enables the conference operator to manage incoming calls. When an incoming call arrives at the CONTEX Summit system, a tone alerts the conference coordinator (if this option is activated). The incoming call information can be seen in the Incoming Call list.

The operator can also create a new conference, view the conference schedule, activate a passcode, or view the unattended directory, all without exiting the Answer Calls window.

- **Answer Filter**
  The Answer Filter (located in the central left area of Figure 3-12) allows the operator to filter calls by DNIS number in order to provide multiple language support or private labeling services. When enabled, the operator's incoming queue lists those calls arriving on the selected DNIS number. The Answer Filter can be enabled or disabled quickly, if necessary, to allow the operator to assist with the entire incoming calls queue.

- **Operator History**
  Operator History (the View History button) allows a user to view a history log of the operator's actions. This feature contains items such as when the operator answered a caller, which conference they placed the caller into, if they added or deleted an unattended conference, if they created a new conference, if they opened or closed a window, and if they added or deleted an entry in the DNIS directory. This log is kept for as many days as configured and is accessible for operational troubleshooting.

- **View Schedule**
  The View Schedule option (located on the left central area of Figure 3-12) allows the operator to display reservations or scheduled conferences that have been added to the system from a reservation system, such as the CONTEX Reservation, Scheduling, and Billing (RSB) system. The operator can activate a conference from the Conference Schedule window for a caller or delete a conference if necessary.

- **Search**
  The Search option allows the operator to quickly search the Active Conference Selection display for a conference name or the Host or Guest passcode.

- **Speed Match**
  With the Speed Match feature, an operator can save time by quickly selecting a party's name from a Speed Match list that will automatically fill in the rest of the party's info. This list can come from the Summit's internal Name and Phone Directory, or it can be uploaded externally as a .csv file. By selecting the Expand button, the operator can view the list of names on the right side of the WOC screen while answering calls (pictured on the right side of Figure 3-12). In order to use this feature, your PC resolution must be a minimum of 1400 x 1050 standard screen or 1440 x 900 widescreen.

Directories

The CONTEX Summit system contains several directories that store information, such as participant names, phone numbers, and preset conference configurations. Many of these directories are managed by the WOC application itself (while others are managed by the operator) and are useful for storing frequently used information. All WOC stations share six directories: Name and Phone, DNIS/DID, Preset Conference, Unattended Conference, Custom Message, and External Telephone.

- **Name and Phone Directory**
  The Name and Phone Directory is used to store names and phone numbers/IP addresses of frequently called parties. The operator can use the Name and Phone Directory to quickly build a conference, as well as search to find names and phone numbers/IP addresses. Simply double-clicking a party's name automatically transfers them to the conference conferee list.
- **DNIS/DID Directory**
  The CONTEX Summit system supports Dialed Number Identification Service (DNIS) and Direct Inward Dial (DID), which are services provided by the telephone network. DNIS/DID allow the CONTEX Summit system to immediately associate callers with conferences based on the number used to dial in to the system. The DNIS/DID Directory, which can hold up to 10,000 entries, is used to record DNIS/DID telephone numbers and descriptions.

  When an Operator answers a DNIS/DID call, the associated informational text message is displayed in the Answer Calls window. This message might indicate which conference the party should connect to. DNIS/DID numbers can also be used to filter calls at the WOC stations, allowing only certain calls to be answered by certain operators. Additionally, DNIS/DID numbers can be configured for conference playback only, or they can be assigned a specific language set so that every time the number is dialed, the callers hear the correct language.
- **Preset Conference Directory**
  The CONTEX Summit system maintains a directory of preset conference configurations that can quickly be retrieved at any time for repeated use.

- **Unattended Conference Directory**
  The Unattended Conference Directory contains all of the unattended conferences currently configured on the CONTEX Summit system. This directory shows each unattended conference, as well as the conference type (Meet-me, Chairperson Dial-out, Preset, etc.), the Host and Guest passcodes, the conference's billing code, and the expected number of participants. Operators can also set up a new unattended conference from this directory.
- **Custom Message Directory**
  The Custom Message Directory contains custom messages used as informational messages or greetings within conferences. Custom messages are generally played in response to events pertaining to conferences associated with passcodes or DNIS/DID numbers. This directory stores the custom messages and allows operators to play, upload, and manage custom messages. The Summit system supports up to 3,000 custom messages.
- **External Telephone Directory (if configured)**
  The operator has the ability to view an external contact list associated with the conference through the billing code. Contacts are compiled through an external servlet into a database. If an external telephone directory is configured, when the operator selects the Directory button in the Conference Control window, a list of contacts that have been associated with that particular conference will display, allowing the operator to easily dial-out to all conference participants without wading through an entire directory of names. This list of contacts will resemble the Name and Phone Directory, but will be specific to each conference.

Conference Details Window

A WOC operator can display detailed information about any conference at any time. Using the Conference Details window (Figure 3-13), operators can review the details and settings of the conference quickly and easily. If necessary, the settings displayed here can be changed while a conference is taking place, allowing conference operators to adjust the conference parameters on the fly. The information displayed in this window includes:

- The conference name, its billing code, whether it is attended or unattended, and a confirmation code
- Special features including roll calls, Q&A sessions, voting, sub-conferencing, and recording status (attended conferences)
- The settings for Entrance and Exit tones

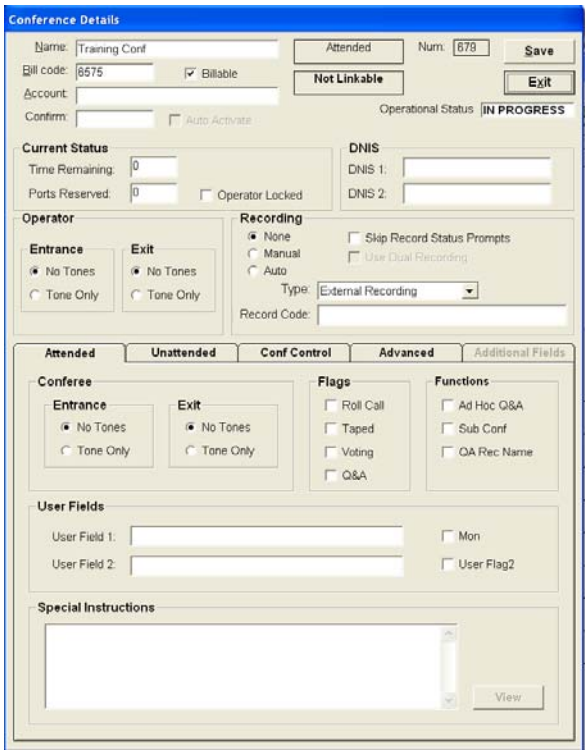


Figure 3-13 Conference Details: An Attended Conference

- DNIS/DID numbers. When this is selected, the conference will automatically be highlighted in the Active Conference window when a caller arrives on one of the DNIS/DID numbers
- The current status of the conference, including the time remaining if it is set for auto-breakdown
- Any Special Instructions assigned to the conference (attended conferences)
- Host and Guest passcodes (unattended conferences)
- Subscription settings such as Conference Quick Start, Participant Name Record, etc.
- User Defined fields to record additional information from conference participants

DNIS/DID and ANI Features

Dialed Number Identification Service (DNIS), Direct Inward Dial (DID) information, and Answered Number Identification (ANI) can be used by the Summit system so long as the telephone network of the caller provides these numbers as the caller dials into the system. This information can also be provided on SIP networks if a PSTN gateway is present in the network. When the CONTEX Summit receives an incoming call, the DNIS/DID information is extracted from the telephone network and compared with entries in the DNIS/DID directory. The CONTEX Summit system can be configured to perform particular tasks when a match is found and automate functions relating to both attended and unattended conferences.

DNIS/DID

- **Override Port Types**
  DNIS/DID information can be used to override a port's configured type and make it dynamic. Two of the more common port configurations are "passcode" and "answer-only." Callers who dial into passcode ports are prompted for a passcode before being placed in a conference; answer-only ports, on the other hand, place the caller into the incoming call queue. A DNIS/DID call arriving at a passcode port, however, can cause the port to behave as if it were an answer-only port, placing the caller in the incoming call queue. Similarly, a DNIS/DID call arriving at an answer-only port can cause that port to behave as if it were a passcode port, playing the caller a passcode message.

- **Answer Filters**
  Each WOC may have its own answer filter that indicates which DNIS/DID calls to accept. This filter can be used to route DNIS/DID calls to specific operators. For instance, calls can be filtered by language. Calls placed to a reserved DNIS/DID number may be directed to one or more Spanish speaking operators, while all other calls are directed to English speaking operators. The WOC can be configured to allow the resident operator to re-define or turn the answer filter on or off at any time.

- **Connect Callers with Conferences Automatically**
  DNIS/DID can serve as a passcode that provides direct dial-in access for Hosts and Guests in an unattended conference. Callers are not required to enter a separate passcode after they have dialed the number for their conference.

- **Override Default Greeting Messages**
  DNIS/DID information can be used to play custom messages rather than default system messages. Parties dialing into the system using a DNIS/DID Host number will hear a customized message such as, “Welcome to the ABC company conference service. Please enter your passcode to join the conference.” Additionally, the DNIS/DID numbers can be configured with a specific message language set.

- **Branded Service**
  Service can be “branded” using DNIS/DID numbers. Branded service is rendered in the name of a different vendor or for a specific customer. With branded service, callers believe an agent other than the owner of the CONTEX Summit is providing their service. DNIS/DID numbers can be reserved for any specific agent, and any calls arriving to the reserved numbers can be treated as if they were arriving at that agent’s facility.

- **Use as an Auto Link Line**
  A DNIS/DID number may be used to connect an Auto Link Line. This is used with the CONTEX Summit Linking server in order to provide additional ports for a conference by connecting two Summit media processors together.

- **Playback a Conference Recording**
  DNIS/DID numbers can be set up to be used only for conference recording playback. When configured this way, callers are answered with a system greeting prompting them for the passcode and then the conference recording code.

ANI

The CONTEX Summit system also extracts ANI information (also known as caller ID) and stores it in the conference billing record. ANI information is the actual telephone number of the phone the caller used to dial into the system. This number can be useful when auditing or approving a customer’s bill. The ANI number can also be displayed in the WOC’s Conference Control window, allowing the WOC operator to immediately verify each party’s originating telephone number.

- **ANI Lookup/Blocking**
  The CONTEX Summit can be configured to query an external database via the CONTEX RTBI API to determine the associated party details for a particular ANI. If the caller’s ANI is invalid, the system can be configured to send the party to the operator or to disconnect the party.

- **ANI as PIN**
  With special configuration and an external server, the ANI can be automatically used as a PIN number for unattended conference entry, providing a smoother process for the caller without sacrificing security.

Other WOC Features

Conference Scanning

Operators can conduct quality management checks on each on-going conference or on a selected group of conferences by using the CONTEX Summit conference scanning feature. The CONTEX Summit system permits sequential scanning (monitoring) of each conference for a configurable time interval.

Conference and System Logging

The WOC automatically logs all incoming calls, parties signaling for assistance, and disconnected parties. These logs include the time each event occurred as well as party/conference names, and they can be displayed in a readable format and printed at any time. Useful for diagnostics and auditing, CONTEX Summit system logs are stored for a configurable amount of time (typically 60 days).

Partitioning

Each CONTEX System has the ability to use partitioning, which allows conference information to only be displayed on specific WOC stations. This limits the callers and conferences that a WOC operator has access to view and assist, and it acts as a filter for conference types. Partitioning allows for more possible divisions than the Active Conference filter tab. A single Summit system supports up to 9 partitions, and service providers can divide partitions based on specific customers, specific conferences, or any other possible division within the conferences. Operators know which partitions they have access to view through their Operator Login, and they can quickly and easily switch between partitions (if authorized to view several) by selecting the Partitions menu on the main screen (not pictured in this document).

Operator Login

The CONTEX Summit WOC supports the Operator Login feature which, if configured, requires the operator to log in with a user name and password. Each operator is given certain WOC operational privileges based on their configured authorization level. The WOC supports six different login levels, which include: Administrator, Maintenance, Lead Operator, Operator, and Trainee.

Operator Probe

WOC operators can conduct quality management checks on a per-port basis by using the Probe feature. This feature allows an operator to select a port and then listen to the line to ensure good audio quality without pulling the party from their conference.

Operator Chat

WOC operators can communicate with one another by typing messages in the Chat window. This enables operators located at great distances from one another to communicate easily without disrupting the conference. Operators can send a broadcast message to other operators (either within a conference or within the entire organization), or two operators can chat one-on-one in a private room.

Music On Hold

Music on hold is available if required. The system administrator can select and control the music to be played.

Viewing Scheduled Conferences

When the CONTEX Summit is equipped with the optional Reservation, Scheduling, and Billing (RSB) system or another customer supplied reservation system, the CONTEX Summit system can schedule and automatically retrieve conferences, and WOC operators can view details about these reservations.

Viewing an Operator List

Operators can also view a listing of operators logged into the system, which includes their operator number, their IP address, the computer name as logged into the network, their operator login information, and their status.

Sounds

The WOC can play customized sounds for system actions. Any sound file (in a .WAV format) can be used to replace the standard system sounds for ring in, signal, alarm, and idle.

Recorded Greeting Messages

Generally, the messages played by the CONTEX Summit fall into two categories: system messages and custom messages. All messages played by the CONTEX Summit may be customized. The CONTEX Summit supports up to 3,000 custom messages.

Examples of System Messages:

- **Passcode Greeting**
  "Welcome to the CONTEX Summit System. Please enter your passcode followed by the pound sign."

  This message is played whenever a caller dials into the system for a Passcode conference.
- **DNIS Greeting**
  "Welcome to the ABC Corporation Conference."

  This message may be played when a caller dials into the system using a valid DNIS number.

Example of Custom Greetings based on DNIS/DID:

- **School Greeting**
  "Welcome to XYZ University. Please enter your course number followed by the pound (#) sign."

  This message could replace the generic passcode greeting.

Example of Custom Greetings based on passcode:

- **Customizable Host Confirmation**
  "Good afternoon, Mr. Smith. Welcome to your conference."

  This message may be played for either a Passcode or DNIS conference.

Operator Assistance

Participants of all types of conference calls (both unattended and attended) have the ability to request assistance from a conference operator (if on duty) by pressing *0. This sends an audible signal, as well as a visual indicator, to all operator consoles indicating that a participant requires assistance. The WOC also provides a message in the Signaling shortcut window alerting the operator of a participant's need for assistance. Additionally, the WOC can be configured to display a language identifier based on the language assigned to the DNIS number for each signaling party.

SECTION 4

Optional System Enhancements

- Redundancy Packages
- Enhanced Audio Options
- Recording and Playback Options
- Multiple Summit Options
- Reservation/Passcode Management Options
- Multi Tenancy Options
- Data/Web Conferencing Options
- Reporting Options
- Interface Options
- JITC Government Options

Redundancy Options

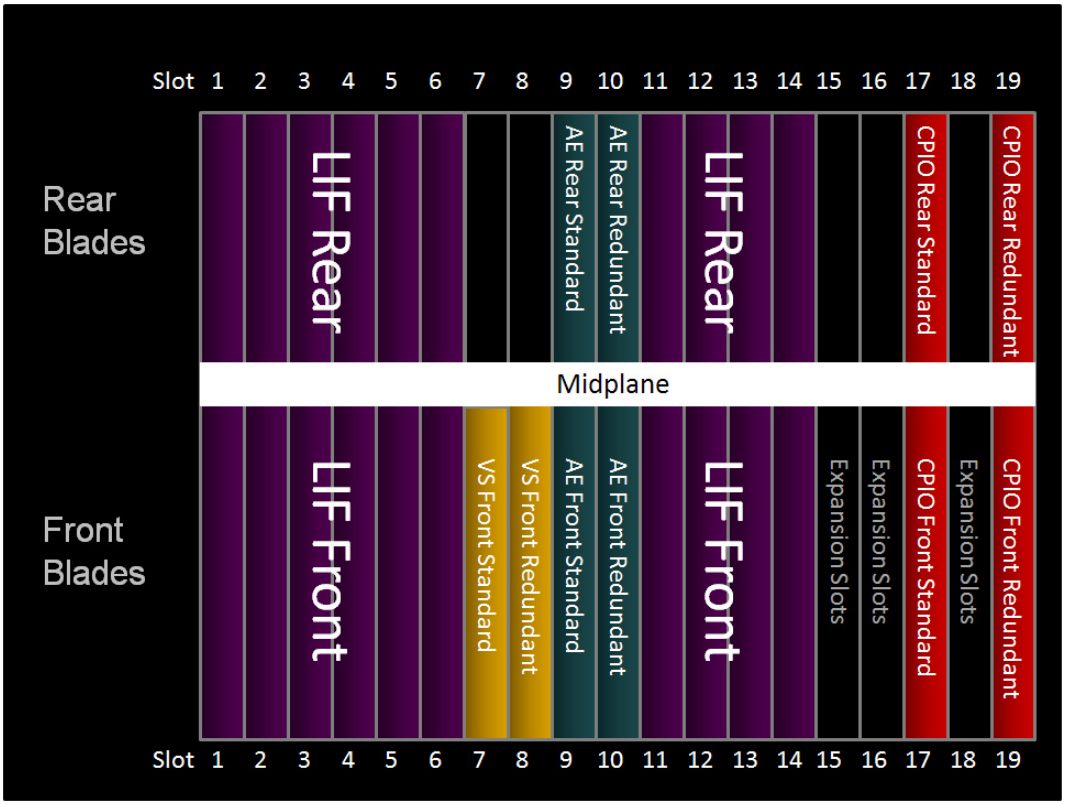
Blade Redundancy

The CONTEX Summit is renowned for its standard-setting reliability and is designed for complete redundancy. Several optional redundancy packages are available at the blade level and include:

- **Redundant Control Processor (CPIO) blades**
  All control decisions are made by the primary CPIO. There is a hot standby CPIO which stays synchronized to the primary CPIO. In the event of a hardware failure of the primary CPIO, the secondary CPIO takes over.

- **Redundant Voice Summation (VS) blades**
  In this configuration, Conference Mirroring™ is enabled and every conference is actually built twice (once on each VS blade). If a VS blade should fail, the system will detect it and can switch to the backup blade without affecting system operations.

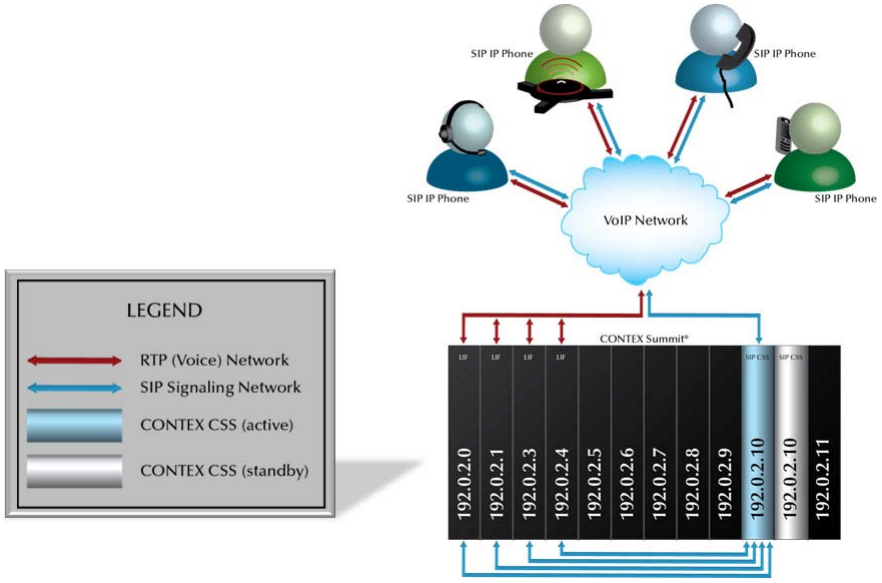
- **Redundant Audio Enunciator (AE) blades**
  With this configuration, all enunciator ports are available in a pooled configuration. Should an AE blade fail, the system will use only the good blade without affecting system operations. The redundant AE may also be configured so that all conference recordings are done twice on two separate hard drives.



CONTEX® Common SIP Signaling (CSS) Module

In the standard CONTEX Summit system, each VoIP blade is assigned a unique IP address. Rather than requiring calls to be distributed across these individual blades, the CONTEX CSS provides a common SIP signaling interface for all of the VoIP spans in the system. All incoming calls are directed through the CSS, and then distributed throughout the CONTEX Summit system.

In addition to providing a single IP address to be used by customers for all SIP signaling, the CONTEX CSS incorporates numerous features to ensure your resources are employed efficiently. By employing CONTEX CSS, the redundancy capabilities of the Summit can be enhanced. In response to a failure, the system can be configured to either transfer SIP connections to a dedicated redundant VoIP blade or (if redundant resources are not available) to distribute them to the free ports throughout the system. Both scenarios effectively provide VoIP blade redundancy helping to ensure service is not disrupted.



The CONTEX CSS utilizes redundant fast Ethernet connections to provide high speed connectivity with fail over protection. CONTEX CSS further enhances the robust capabilities of the CONTEX Summit by amplifying the reliability (fault tolerance), providing SIP Signaling redundancy, and supporting media redundancy.

Implementation Options

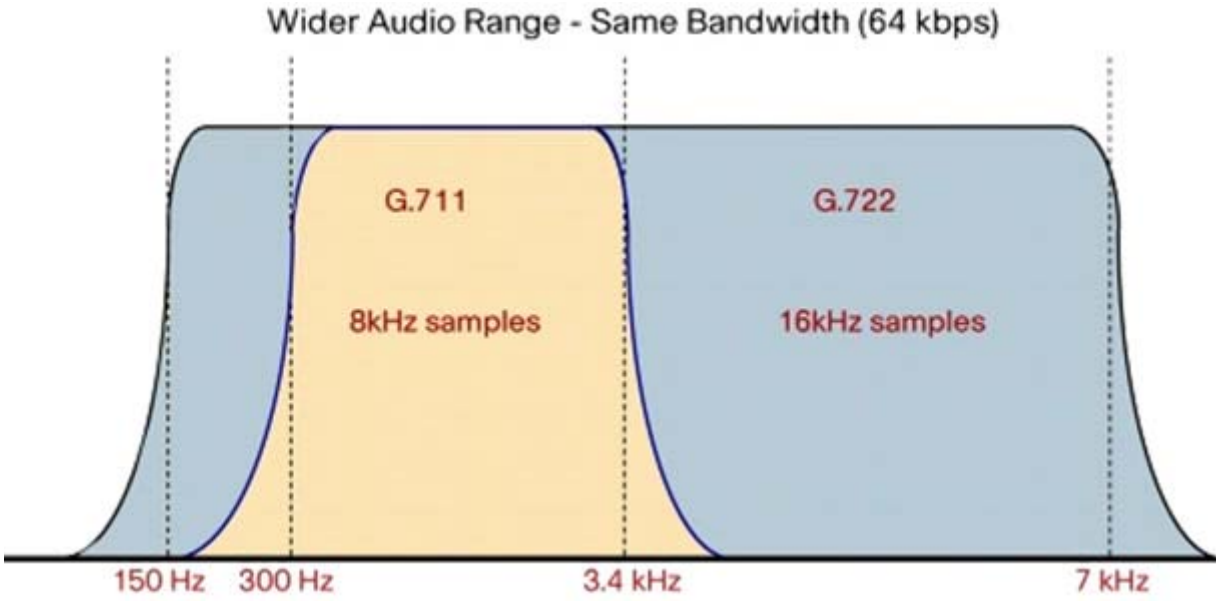
	Single SIP Dial-In	Load Balancing	Fault Tolerance	SIP Signaling Redundancy	Media Redundancy
One CSS, No Additional LIF	√	√	√		
Two CSS, No Additional LIF	√	√	√	√	
One or Two CSS, One Additional LIF	√	√	√	√*	240 ports
One or Two CSS, Two Additional LIF	√	√	√	√*	480 ports

*When two CSS Modules are utilized

Enhanced Audio Options

High Definition (HD) Audio (VoIP only)

Experience the evolution of collaboration with the unparalleled quality of high fidelity voice on the CONTEX Summit. HD quality audio can be incorporated throughout the conferencing experience. From participant voices and audio prompts to conference recording and playback, every sound is crisper and clearer with high fidelity audio. HD codecs (G.722, AMR-WB (G.722.2) and L16-16 kHz) are used with the VoIP interfaces, allowing high fidelity audio to be maintained throughout the system (7 kHz compared to 3.3 kHz for standard definition calls, see diagram below). HD is ideal for multi-lingual environments, as HD provides the clarity that allows you to never miss a syllable, nuance, or emotion. Conferences sound like participants are in the same room, even if they are across the globe.



Recording and Playback Options

Compunetix offers several solutions for conference recording and playback. These solutions are described here.

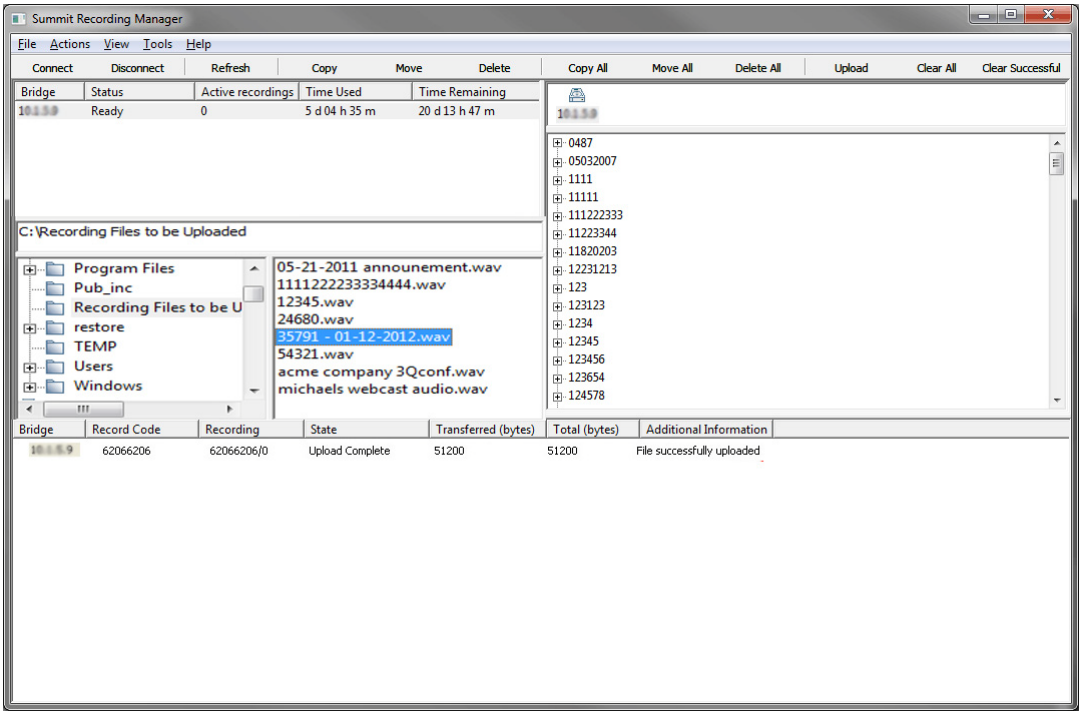
OnBoard Recording/Playback (AE Recording)

The AE recording package provides “on-bridge” conference recording and playback capabilities for up to 240 simultaneous conferences; available in 24 port increments. Each AE blade has dual 40 GB hard drives and supports the ability to internally record and playback conferences.

The CONTEX Summit supports the ability to set up a playback DNIS/DID number for users to dial in and listen to a recorded conference. The CONTEX Summit playback feature supports the ability to enable fast forward, pause, and rewind DTMF commands on a per call flow (CIVR mode) basis.

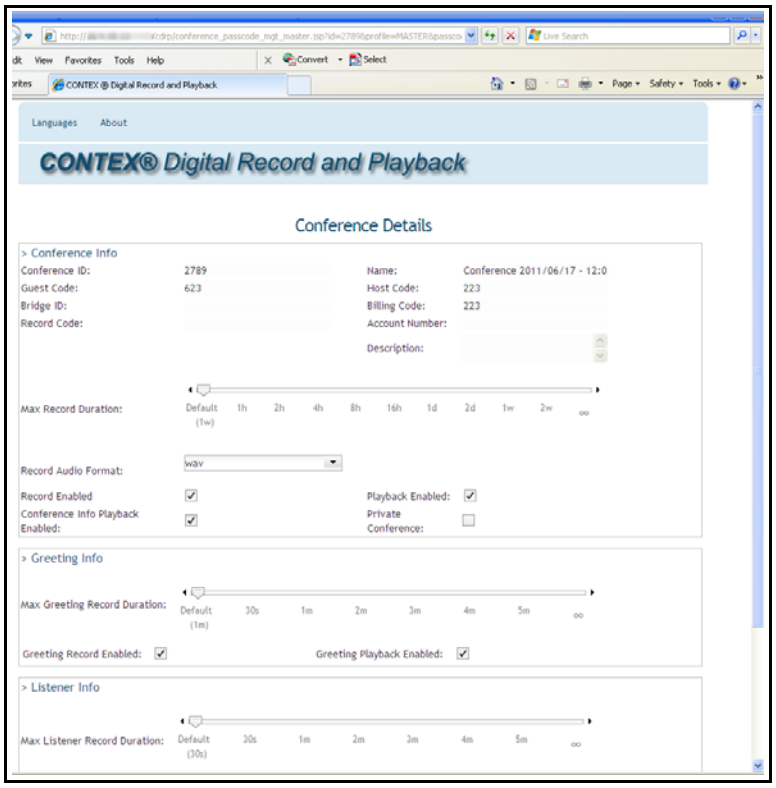
Recording Manager

The Summit Recording Manager is used to download conference recordings from the AE blade as well as upload recordings back to the AE to be used for playback purposes.



Once recordings are completed, they may be downloaded from the AE. A voice editing program can then be used to edit the recording of any unwanted or unnecessary portions. Once edited they can then be upload back to the AE so that the Summit can be used for conference playback.

CONTEX Digital Record and Playback (CDRP)



The CONTEX Digital Record and Playback (CDRP) system is a stand alone recording option that can be added to any conferencing system. It provides centralized recording from multiple systems that allows users to digitally record their conference and play it back at a later time. The CDRP acts as both an automatic external recording system that is directly connected to the CONTEX system and a processing system through which operators and other users can manage and edit recordings, and still others can perform system maintenance and configurations. The IVR audio interface allows numerous individuals to access the CDRP system simultaneously and listen to recordings. Callers can control the speed of the playback, adjust the volume, play conference information, and listen to instructions. The CDRP can be added at any time during a conference to record the proceedings. After the conference, numerous individuals can access the CDRP system simultaneously (on non-revenue ports) and listen to the conference. Listeners can also control the speed and volume of the playback, play conference information, and listen to instructions without affecting the playback of other listeners.

CDRP User Levels

The CDRP application is a Web-based interface that allows four (4) login levels, each permitting a different access over the recordings and/or users. The level is determined by the user's assigned account. A user accessing a conference may be prompted to speak their name, which is then recorded for use in a participant list.The four (4) access levels are:

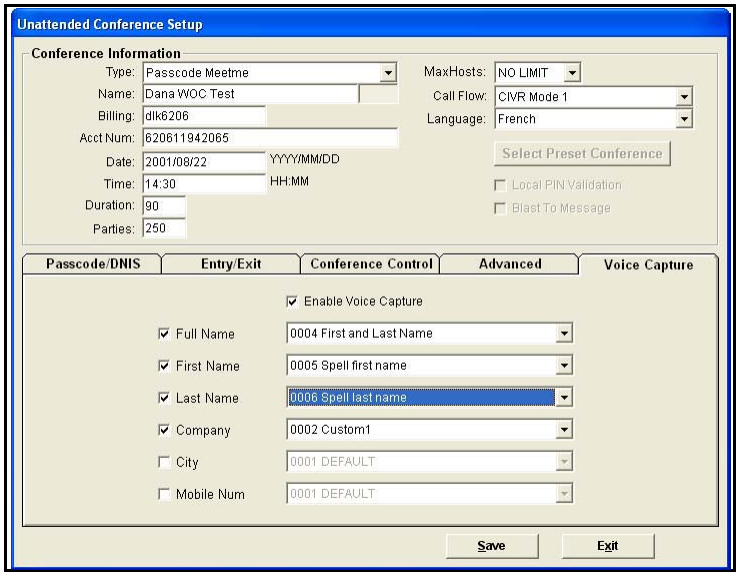
- **Super Admin**
- **Conference Admin**
- **System Admin**
- **Users**

CDRP System Requirements

Computer	Processor	Intel Core 2 Duo Processor or equivalent (minimum)
	RAM	2 GB (minimum)
	Hard drive	200 GB free space (minimum)
Software Requirements	Operator System	Ubuntu Linux 10.04
Browser Requirements		Internet Explorer FireFox

Voice Capture

Voice Capture is a Summit feature that allows a conference to be configured so that callers are prompted to speak various pieces of information before entering a conference. The recorded information is then made available during and after the conference. With Voice Capture, operators can systematically transcribe conferee information without delaying entry into the conference.



Multiple Summit Options

CONTEX Summit Xtend X2 and X3

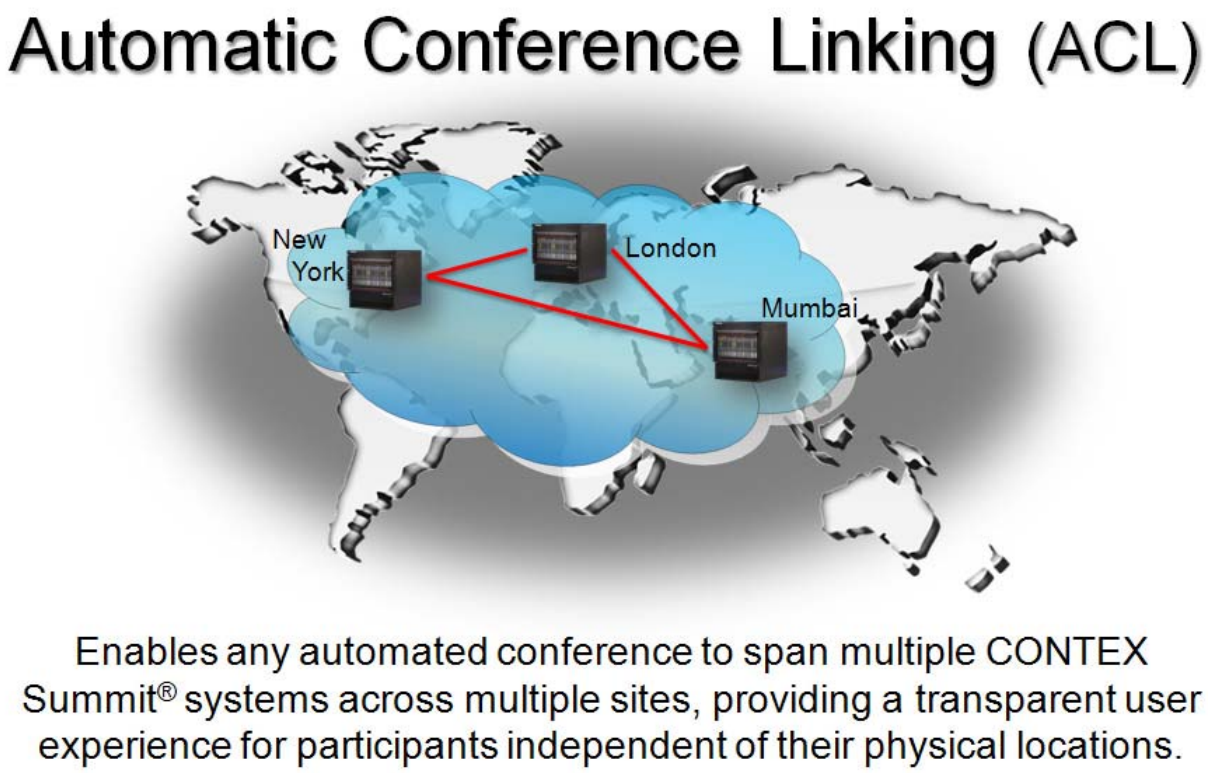
The CONTEX Summit is the collaboration industry's leading media processor, and now with CONTEX Summit Xtend X2 and X3, enterprises and service providers can expand their IP and TDM conferencing capabilities easily and efficiently. With multiple Summit systems combined into a single platform, CONTEX Summit Xtend offers a single, large-capacity port pool and viable expansion options for a variety of deployment requirements.

CONTEX Summit Xtend provides a simple and automated solution for high-volume conference environments, and unifies CONTEX Summit system management. Unlike generalized media servers, the CONTEX Summit is optimized and engineered for large-capacity, high quality voice summation, and enables a single conference call to hold as many participants as the overall port capacity of the system. With these features, CONTEX Summit Xtend is the optimal expansion technology, and enables you to achieve both lower costs and higher service levels.

Additional expansion capabilities in a common site and operational efficiencies are just the tip of the Summit for collaboration service providers (CSPs) — Xtend enables the next generation of services including automated, feature rich, and dynamic ports ready to drive any number of conferencing or multipoint applications. Versatile open APIs allow developers to maximize the full potential of the Summit's unprecedented breadth of untapped offerings and truly differentiate their businesses. It is also the clear upgrade path for Summit deployments to achieve 5,760 ports and beyond with the future releases of X4 and X5. The future of the industry is performance enhancing collaboration applications — the future of the industry is CONTEX Summit Xtend.

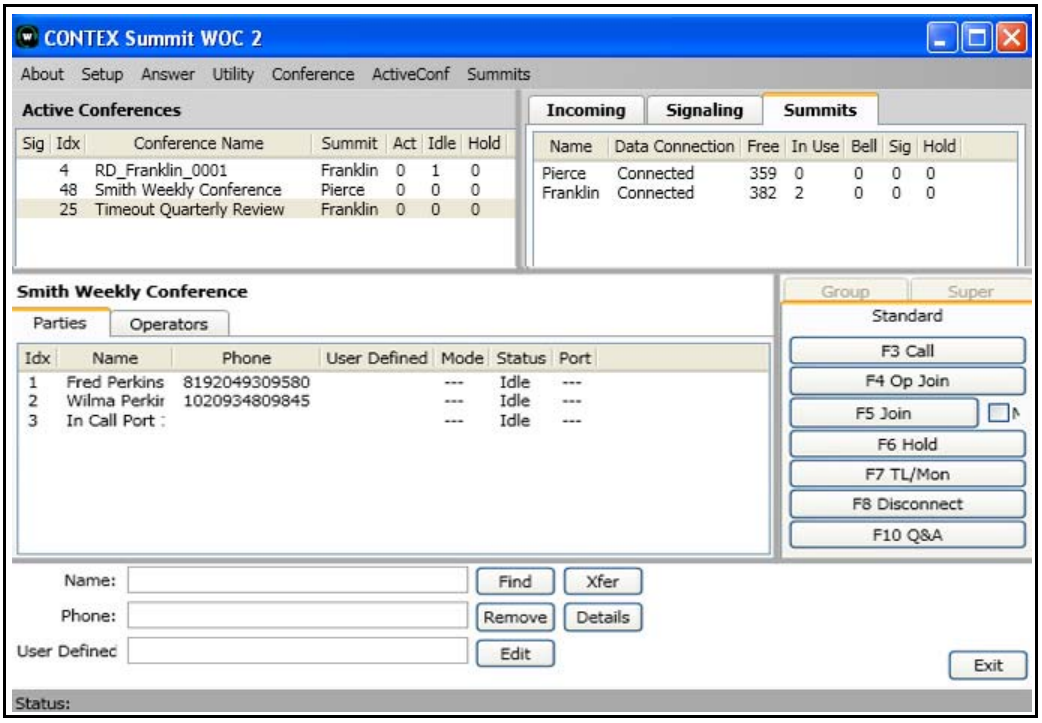
Automatic Conference Linking (ACL)

Automatic Conference Linking (ACL) allows a service provider to have a conference that links parties on a number of systems together. This solution is driven by the "Linking Servers," which connect to one another on a given site as well as remotely. These connections are data connections only and do not pass any voice data from the systems. The audio connection used to link a conference can occur across any type of line that can be dialed-out on and then dialed-in to (VoIP or PSTN). ACL does require the use of system audio ports, which may take away from the total number of "revenue" ports available to a given system. A conference linked between two Summit systems will use a single link line, which requires a port from each system.



CONTEX Summit® Global Operator (GO)

The CONTEX Summit Global Operator (GO) is available in multiple Summit environments and allows an operator to manage multiple Summits from a single interface. A single GO station can be connected with up to ten (10) Summits at one time.



The GO contains a soft phone client which connects automatically to any Summit configured on the GO station. In most cases, an operator need only launch the GO interface and their audio connection is taken care of.

Reservation/Passcode Management Options

The CONTEX system supports multiple options for reservation and/or passcode management. Customers can choose to utilize the Real Time Bridge Interface (RTBI) API and use an existing reservation system or passcode database, or they can utilize one of the options described below.

CONTEX® Passcode Server

The Passcode Server is a Java application that communicates to the CONTEX Summit system using the Compunetix Real Time Bridge Interface (RTBI) API to externally validate the DTMF string that users enter against an open database. The DTMF string entered is queried against a database of users to see if it is a valid passcode for a conference. The database connection is done using JDBC/ODBC and the query is performed using SQL that is configured in the Passcode Server's configuration files. This allows the Passcode Server to be easily integrated with virtually any database and any database table and field layout. The Passcode Server runs on Windows XP, Vista, 2000/2003 Server, Windows 2008 Server (both 32 and 64 bit) or Windows 7 (both 32 and 64 bit).

Reservation, Scheduling, and Billing (RSB) System

The RSB system is a state-of-the-art, database-managed system that allows operators and reservation specialists to reserve, schedule, and bill conferences that occur on the CONTEX Summit system. It enables end-users to make and modify reservations right from their computer using a standard Web browser. Because the RSB is fully customizable, users can easily modify the language, interface, and features for a custom presentation. The RSB currently supports up to 64 simultaneous client connections.

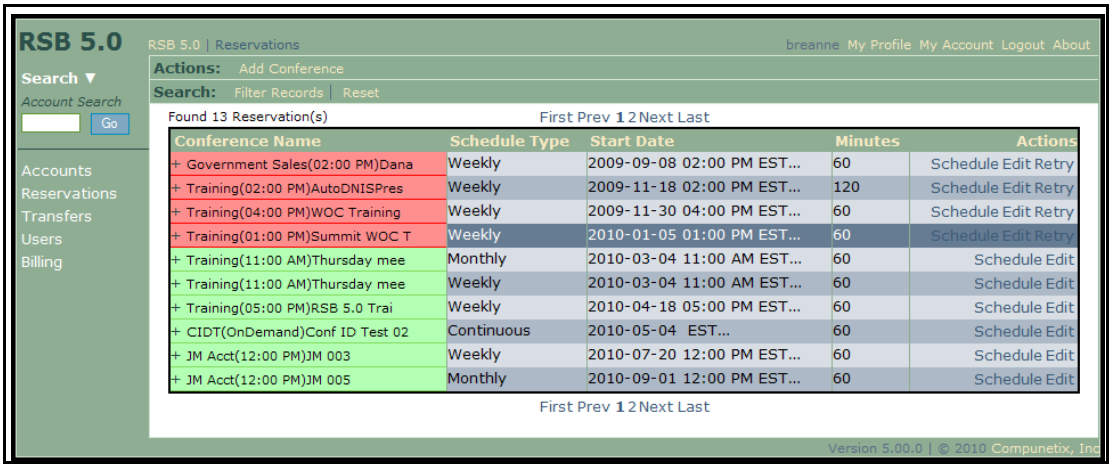


Figure 4-1 Reservation, Scheduling, and Billing System - Reservations Page

The RSB system allows users to manage the following information:

- Customers and Accounts
- Recurring, On-Demand, and One Time Reservations
- Conference Features
- Billing and Reports

Main Features

Users

The user database contains the name and personal information for all contacts contained in the RSB system. These contacts can be conferees, customer contacts, account contacts, schedulers, or system administrators. The RSB search feature can find users by their user name, contact name, or e-mail address and display or edit their detailed information, including the party's full name, user name, e-mail address, user role, and a variety of other features.

The RSB system also allows for end-users to have their own unique user name and password. By using the RSB, end users have full access to their reservations on the CONTEX system. They can make new reservations, modify existing reservations, or cancel reservations right from their computer, providing unparalleled flexibility in the creation and control of reservations. They can also view any billing information associated with their account or profile.

Accounts

The Accounts database maintains the account information that the RSB uses to generate and manage reservations. Organizations, companies, or groups who use conferencing services can have more than one sub-account associated with them. For instance, a large corporation might have sub-accounts for marketing, sales, R&D, and accounting. Conference information entered at the customer level will be carried down as the default settings for each sub-account upon creation.

For each account, the following information can be entered:

- General information, including the customer or account name, contact name and address, time zone, and the preferred Summit system.
- Conference features, including the default conference type, tone settings, roll call, Q&A, voting, auto-activate, etc.
- Billing information, including the billing contact's name and address, default billing rates, and how the conference can be billed (to account, chairperson, account and conferees, or chair and conferees).

Reservations

The RSB provides a simple and efficient way to create and manage conference reservations. With the RSB, reservations can now be filtered by many options such as by date, account name, conference name, schedule type (daily, one time, etc.), or reservation status (normal, error, and terminated). Recurring reservations can be viewed separately.

- **Creating and Editing Reservations**
  Reservations can be created at any time using the RSB system. When creating a conference, the operator can name the reservation, select the customer and account, set the scheduled time, date, and duration, select the system, and add contacts to the conference. Contacts can be selected from the Account User list or added especially for the reservation, and operators can specify the conference chairperson and any special instructions. Reservations also include information on conference features, such as entrance and exit tones, roll calls, Q&A, and voting sessions. Passcode and/or DNIS information can be added to the conference, allowing end-users to activate the conference without the aid of an operator.

  The following features are configurable:

  - **Purging Old Reservations**
    Reservations older than current date can be purged from the system after a configurable amount of time (typically 14 days).
  - **Reports**
    The RSB can generate reservation reports detailing the settings and configuration of a reserved conference. It can also generate a daily summary report showing all of the scheduled conferences for any given day.

Recurring Reservations

A recurring reservation allows the same conference to take place any given number of times. Reservation specialists can determine the start and end dates, weeks during the month, and days of the week that specific conference is to occur. With recurring reservations, an operator only has to enter the information once and specify how often the conference will occur. After that, the system takes care of creating the individual entries.

Recurring reservations can be modified on a conference-by-conference basis. For instance, if a reservation falls on a holiday, it can be changed to the next available day or deleted altogether. Reservation specialists can also perform global updates on recurring reservations (modifying time or duration) and print reports.

Notifications

The RSB provides e-mail notifications of a scheduled conference to its participants and contacts. The notification system runs constantly and queries the RSB database for new reservations, creating new e-mails based on the scheduled reservation information.

An e-mail SMTP server must be available to the system for any transmissions to be sent. The notification system has the ability to send confirmation, reminder, reschedule, cancellation, and password notifications.

Presets

A preset conference contains a list of conferee names, phone numbers, and instructions. Operators and other users can create preset conferences ahead of time and save them to use again and again. Presets can be easily created, edited, and managed from the RSB system. Also, they can be attached to an account and used as the default conference configuration whenever the account is accessed.

Billing

The CONTEX Summit automatically generates a billing record for each conference. The RSB uses the RTBI Data Collector to assemble billing data into these billing records. After a conference has taken place and the billing record has been generated, the reservation specialist can edit the billing information. This can include the billing rate, conferees, and billing method.

RSB Parameters

- **Conference Templates**
  The settings for any new conference created by the RSB can be adjusted on a per account basis. This includes entrance and exit tones, conference features (roll call, voting, Q&A, etc.), the billing method, and the conference's default billing rate.

- **Dial-out Rates**
  Numerous dial-out rates can be configured on the RSB. These rates are controlled by a "key" that corresponds to an area code or country code (e.g., 412, 724, or 01144789). Each key has an associated rate that is automatically applied when the system dials a phone number with the key.

- **Conference Rates**
  Individual conference rates can be configured for standard and discounted conferences, or rates based on date of use. The RSB supports duplicate rate names distinguished by effective dates.

- **Conference Type Rates**
  Attended Dial-out or Passcode Meet-me conferences can be billed with different rates, including on a per-conference basis, per-party, per-party per- minute, or reserved vs. actual time.

- **Dial Type Rates**
  The various dial types—dial-in, dial-out (local), dial-out (long distance), and dial-in (toll free)—can all be charged different rates.

- **Conference Feature Rates**
  Different conference features can be billed individually per occurrence in a conference. In other words, a conference that uses a roll call can have a different charge from a conference that uses Q&A and voting sessions.

- **Time Zones**
  The RSB system supports the setting of the applicable time zone for the local RSB system, the physical systems, and for customers/accounts. This setting enables the RSB to provide reservations relative to the end-user's local time zone (if configured).

RSB Client Requirements

Client PCs	Browser Requirements	Internet Explorer 7 or 8, Firefox 3.5, or 3.6 An internet/intranet connection that can provide at least a 50kbps connection to the server per user is recommended. At peak 500 kbps per user is recommended.

RSB Server Requirements

Server PCs	Processor	Dual Core Intel (Xeon 3xxx/5xxx/7xxx or Core 2 Duo) 2.66 GHz
	Memory	4GB RAM
	Software Requirements	SQL Server, Tomcat Web Server
	Hard drive	250 GB
	Disk drives	CD-ROM
	Operating System	Windows Server 2003 or 2008

Multi Tenancy Options

Partitioning

The CONTEX Summit can support partitioning, which allows conference information to only be displayed on specific WOC stations. Partitioning is intended to ensure that customer data for certain conferences is not viewable and accessible by all operators. The Summit supports up to nine (9) partitions. With Partitioning implemented, operator login is required.

Each WOC login then has the ability to be configured to view all nine (9) partitions or view multiple partitions (any combination up to nine total). Partitioning for each party is then based on the party's DNIS for incoming calls and the conference for outgoing calls.

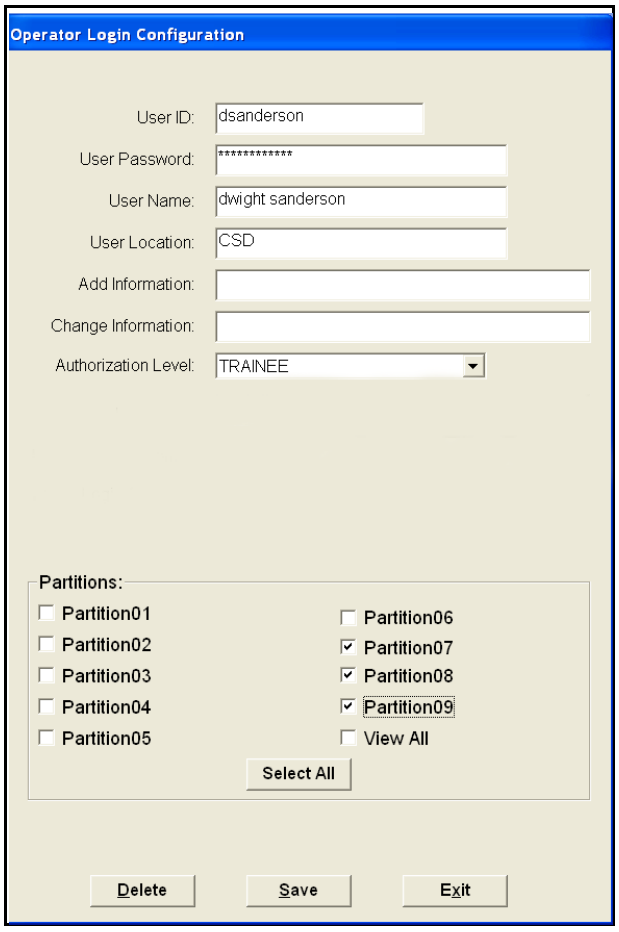


Figure 4-2 Operator Login with Partitions Available

Ten (10) Language Support

In the standard configuration, the CONTEX Summit supports three complete message sets for each of the configured call flows (CIVR modes). The system can optionally be configured to support either five complete message sets for three configured CIVR modes or ten complete message sets for one configured CIVR mode.

Data/Web Conferencing Options

CONTEX Presenter

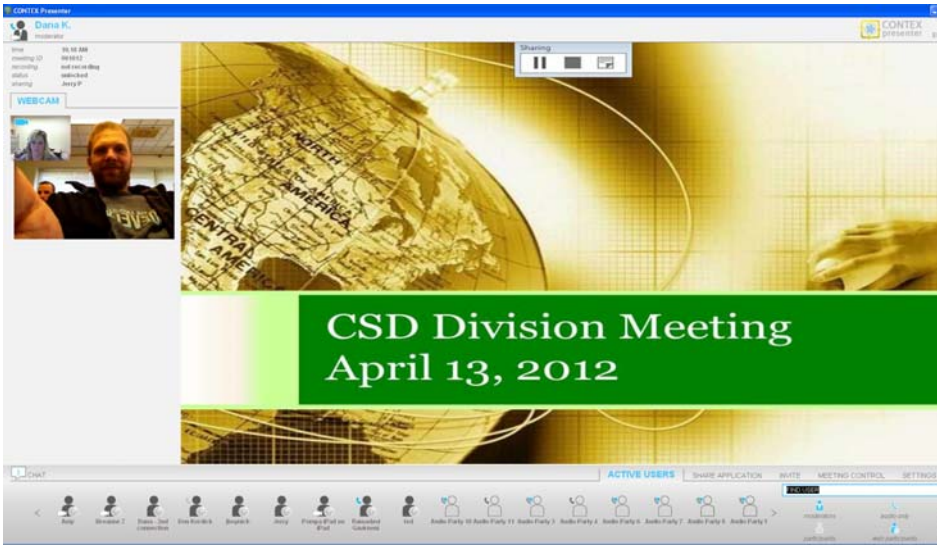


Figure 4-3 CONTEX Presenter Interface

Compunetix also offers world-class, server-based solutions with CONTEX Presenter, a program for Conference Service Providers (CSPs) who wish to incorporate Web/ data-conferencing into their business communications. With the full-featured version of Presenter, the user can share multiple applications instantly, including but not limited to: PowerPoint presentations, Web pages, software programs, documents, and even the user's own desktop. Presenter also provides additional features such as chat, whiteboarding, and annotation that allow for greater interaction among participants.

Presenter is fully integrated with the CONTEX Summit products, allowing for an easy-to-use application with single logins for Web control and data collaboration. It supports all proxy configuration options implemented in Internet Explorer and falls back to HTTP when Presenter's secure protocol is blocked by a firewall.

Presenter's Web Client (Figure 4-4) runs inside a Web browser on your computer system (either Windows or Mac OS) and does not require download or installation. It is the perfect solution for customers who need to participate in a Presenter conference and view the applications being shared by the full Presenter Client.

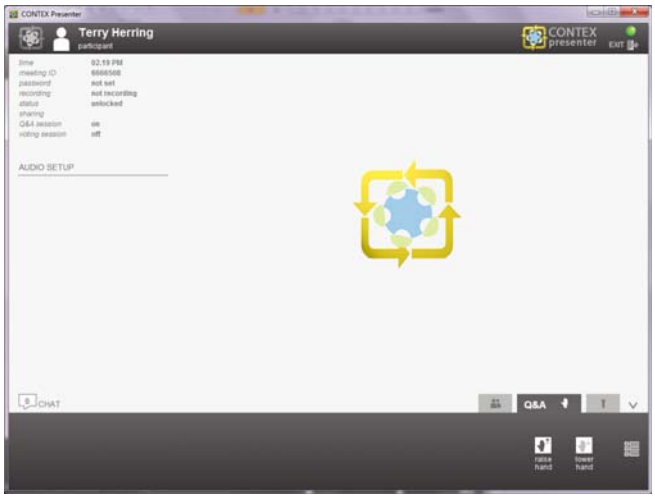


Figure 4-4 Web Client Interface

CONTEX Presenter System Server Requirements

Web server	Processor - standard	Pentium 2 GHz (minimum)
	To support 256 simultaneous clients:	4 core/ 8-way Hyperthreaded Intel Xeon CPU, at least 2.80 GHz clock speed with Turbo boost.
	Memory	2 GB RAM (minimum)
	To support 256 simultaneous clients:	3 GB RAM
	Hard drive	40 GB (minimum). A separate server is required for web administration.
	To support 256 simultaneous clients:	100 GB
	Ethernet	100 MB Fast Ethernet
	Bandwidth Requirement:	Each connected client should be allocated 150 Kbps (Kilo Bits Per Second) (to calculate total bandwidth needed multiply this by the number of purchased clients)
Operating system	Windows	Windows 2003 32-bit server or Windows 2008 64-bit Server
	Drivers	JDBC/ODBC Database Drivers JRE ver. 1.6

CONTEX Presenter Client PC Requirements

Client PCs	Processor	Pentium 1 Ghz (minimum)
	Memory	512 MB (minimum)
	Hard drive	20 MB Free disk space
	Ethernet	100 MB fast Ethernet (port 443 or port 80 open)
	Operating System	Windows XP, Vista, or Windows 7
Light Client	Browser Requirements	Internet Explorer 7,8, and later; Mozilla Firefox 3.5 and later (Mac and Windows); Safari 5.0 and later (Mac and Windows)Flash version 10 or later. Regardless of OS or browser, the Light client requires Flash 10 or later in order to operate.

CONTEX Access Server (CAS) with Adapters

The CONTEX Summit system can be integrated with Cisco WebEx via a CONTEX Access Server (CAS) plug-in. The CONTEX Summit features modular CAS integration software that allows for quick development and implementation of software plug-is for conferencing add-ons integrating with other service provider offerings. The CAS plug-in allows Cisco WebEx to tightly integrate with the CONTEX Summit and enables audio controls to be embedded directly into the application's Web interface. So, while participating in an online session, meeting hosts have the ability to mute audio, lock a call and add additional participants.

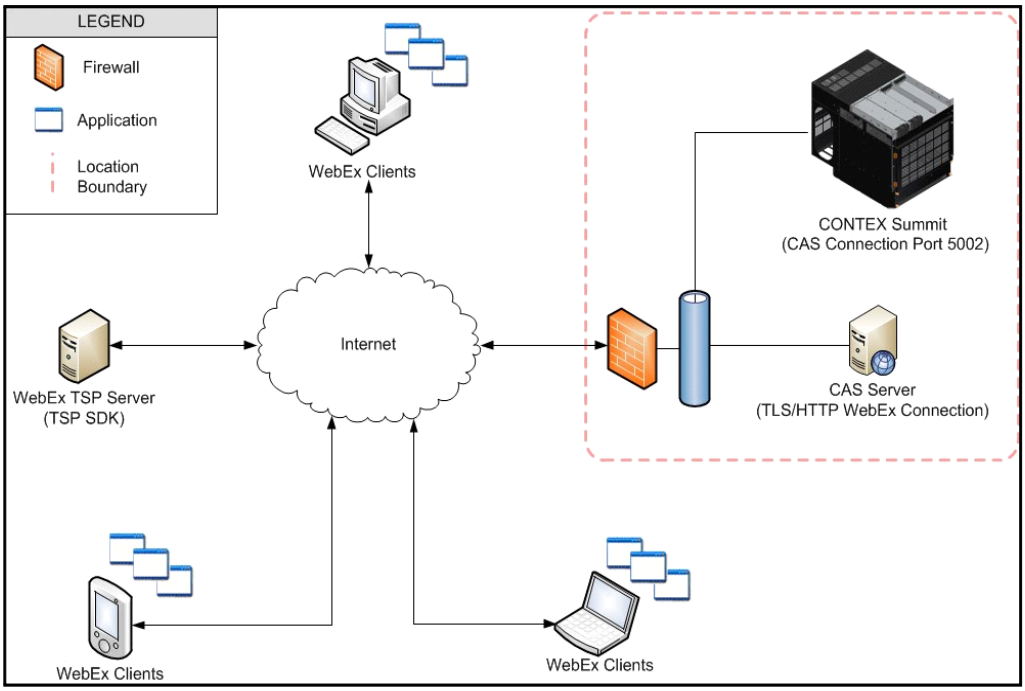


Figure 4-5 Architecture Diagram for Cisco WebEx Integration

The Summit CAS also allows service providers to create their own integration with the Summit system using Compunetix's CAS API, which is a full featured and thoroughly documented interface for conference control.

The features available with the WebEx integration include:

- **Unified Roster**
- **Breakout Rooms**
- **Participant Control**
- **Mute/Unmute**
- **Expel**
- **Mute All/Lecture Mode**
- **Outlook Scheduling**
- **Dial-out Capabilities/Call Back**
- **Secure/Unsecure Conference**
- **Talk Indicator**

Reporting Options

Compunetix several options where reporting is concerned. The Real Time Bridge Interface (RTBI) provides a simple TCP/IP link into the CONTEX Summit for collecting real time billing data, maintaining configurable system parameters, alerting, reporting, and managing passcodes. This API supports the applications that are listed in this section.

RTBI Data Collector

RTBI Data Collector allows you to gather real-time data from the CONTEX system over a straightforward TCP/IP link. With this tool, you can immediately assemble and deliver real-time events for a given conference, or review and query data for past conferences.

With the RTBI Data Collector, raw data collected from the CONTEX system is immediately deposited into a database, such as a Microsoft SQL Server database. This data can then be used to invoice customers, update account information, implement Web-based billing, or provide historical records for users. The RTBI Data Collector connects to one CONTEX and one database. Data can be requested from the system at any time.

The RTBI Data Collector automatically retrieves all data from the CONTEX Summit for the current day and ensures that the database contains all records within a configured time period. It enables users to determine if all records for a specified day have been gathered from the system. Users can also quickly download historical records and raw data stored on-board the system for a configurable time.

As soon as the RTBI Data Collector has determined that all of the raw billing data events have been assembled for a specific conference, it creates summary records for that conference.

In addition to collecting and processing billing records, the RTBI Data Collector provides users with value information that they can use to perform in-depth analysis on conferencing activities.

- **Widespread Database Access**
  The flexibility of the RTBI Data Collector enables a user to integrate separate applications with its database, allowing for easy access to and retrieval of conference summary records.

- **Analyzing Historical Activity**
  The RTBI Data Collector is the perfect tool for assembling the information needed to perform historical analysis on the CONTEX Summit system.

- **Tracking Traffic**
  Information gathered by the RTBI Data Collector can also be used to monitor the volume of conferencing on the Summit system. The detailed real-time data allows you to track increases and decreases in system traffic.

- **Monitoring Business Efforts**
  Raw data amassed by the RTBI Data Collector can also be leveraged to identify the effects of marketing campaigns, new service offerings, or other business strategies on your conferencing base.

RTBI Data Collector System Requirements

Web server (minimum requirements)	Processor	Dual Core Intel @2.66 GHz (Xeon 3xxx/5xxx/7xxx or Core 2 Duo))
	Memory	4 GB RAM
	Hard drive	250 GB (minimum)
Operating system	Windows	Windows 2003/2008/2008 R2, XP
	Drivers/Software required	Java 1.6, Apache Web Server or Microsoft IIS, Apache Tomcat 5.5, SQL database JDBC drivers

Conference Complete Monitor (CCM)

The Conference Complete Monitor (CCM) is a Java program that is primarily used to create participant lists. It connects to the Summit using a Real Time Bridge Interface (RTBI) session and monitors the system looking for conferences to end and then gathers all the details about those conferences. After collecting the details, the CCM outputs the conference details to a file on the PC (or they can be posted to a web service). The output, text or XML file, is generated based on a schema, which is customizable by Compunetix.

CONTEX Report™

CONTEX Report is a stand-alone utility that collects data from a number of CONTEX systems - up to 16 CONTEX Summit systems and/or 64 CONTEX 480s (up to 30,720 ports total)- and gathers it together. It uses a Real Time Bridge Interface (RTBI) session to collect the raw data elements into a database and then uses SAP® Crystal Report formats to auto-generate and e-mail reports.

CONTEX Report requires a number of components as shown in the architecture diagram below. A number of the items are provided by Compunetix while others are provided by the customer.

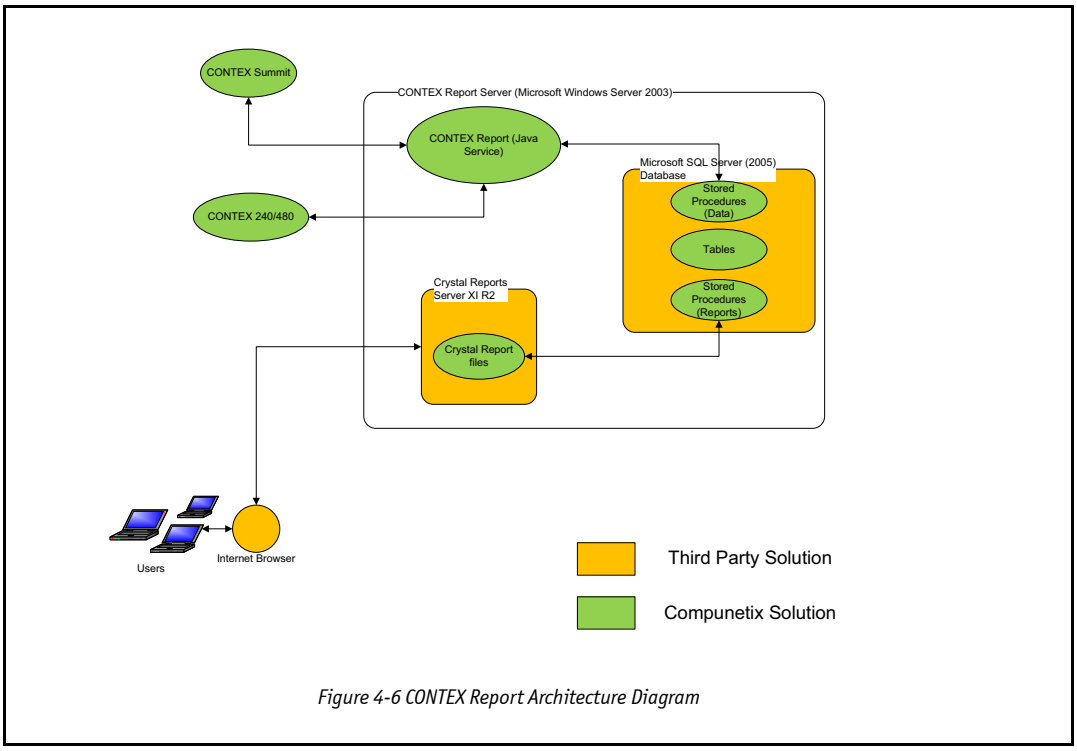


Figure 4-6 CONTEX Report Architecture Diagram

The CONTEX Report server, which should be running Microsoft Windows Server 2003, is comprised of the following elements:

CONTEX Report Application

This is a Java application, which is part of the standard installation package, that runs as a Windows service. It populates the database accordingly based on data collected from the CONTEX systems.

Microsoft SQL Server (2005) Database

Microsoft SQL Server 2005 software is optionally available from Compunetix, but is typically provided by the customer.

Compunetix provides multiple tables within the database in which the collected data from the CONTEX systems is stored. The database also contains the stored procedures for gathering the data from the CONTEX systems via the CONTEX Report application. Additionally, it contains the stored procedures for the standard reports that are provided with the system.

Crystal Reports Server (required for system operation)

Compunetix provides the Crystal Report files for the seventeen standard reports that ship with CONTEX Report. The instances of the reports are generated with Crystal Reports. Crystal Reports Server also provides the interface for creating up to five users who can login and schedule reports. Crystal Reports Server is optionally available from Compunetix, but is typically provided by the customer.

With the CONTEX Report installation, the following reports are currently available:

- **Agent Detail**
- **Agent Statistics**
- **AllOperatorActions**
- **AllOperatorStatisticsbyOperatorName**
- **AttendedStatistics**
- **AttendedTraffic**
- **BridgeDetail**
- **BridgeStatistics**
- **ConferenceOperatorActions**
- **IndividualSignal**
- **Operator Actions**
- **Operator Chat Messages**
- **Operator Statistics**
- **Operator Statistics by Name**
- **Port Utilization by Bridge Name**
- **Port Utilization for Bridge(s)**
- **Unattended Traffic**

CONTEX Report System Server Requirements

Web server	Processor - standard	Pentium 2 GHz (minimum)
	To support 256 simultaneous clients:	4 core/ 8-way Hyperthreaded Intel Xeon CPU, at least 2.80 GHz clock speed with Turbo boost.
	Memory	2 GB RAM (minimum)
	To support 256 simultaneous clients:	3 GB RAM
	Hard drive	40 GB (minimum). A separate server is required for web administration.
	To support 256 simultaneous clients:	100 GB
	Ethernet	100 MB Fast Ethernet
	Bandwidth Requirement:	Each connected client should be allocated 200 Kbps (Kilo Bits Per Second) (to calculate total bandwidth needed multiply this by the number of purchased clients)
Operating system	Windows	Windows 2003/2008 32-bit Server, XP
	Drivers	JDBC/ODBC Database Drivers JRE ver. 1.6

Interface Options

CONTEXWeb™

CONTEXWeb is a powerful software development platform that provides all of the tools necessary for you to create your own customized Web interface. Using CONTEXWeb's Web-based conferencing control application makes it no longer necessary for CSPs to develop, distribute, and support multiple customer end user platforms; rather, it allows customers to grant end users control over their own conferences. End users can schedule when a conference will begin, determine who will be included in the conference, secure the conference, and initiate advanced conferencing features such as Voting and Q&A sessions right from their desktop. Conferences created using the CONTEXWeb interface can also combine attended and unattended passcode conferencing features.

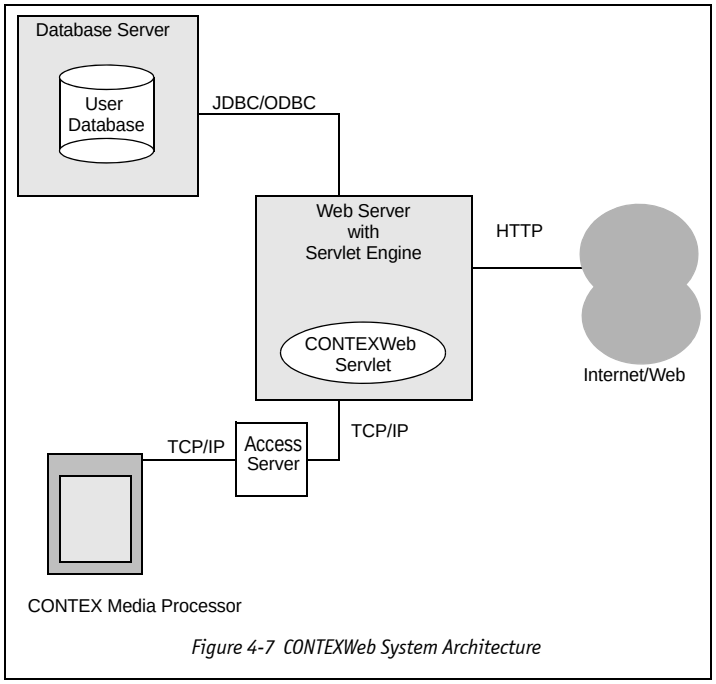


Figure 4-7 CONTEXWeb System Architecture

In addition, end users are given full system access and control through CONTEXWeb, allowing them to create and manage unattended conferences without placing reservations. CONTEX Web's easy-to-use, feature-rich, Web-based conference control ultimately saves end users time by allowing them to control their conferencing experience as much as they desire.

CONTEXWeb Features

CONTEXWeb will enable you to either create custom Web interfaces or use our already-designed interfaces (examples of which are shown in Figure 4-8 and Figure 4-9) with the following capabilities:

Chairperson-Initiated Conferencing

The conference chairperson can create a conference by simply going to a specific Web page and entering their user name and password. Once the chairperson's login and password has been authenticated, they are sent to a custom-designed conference control page.

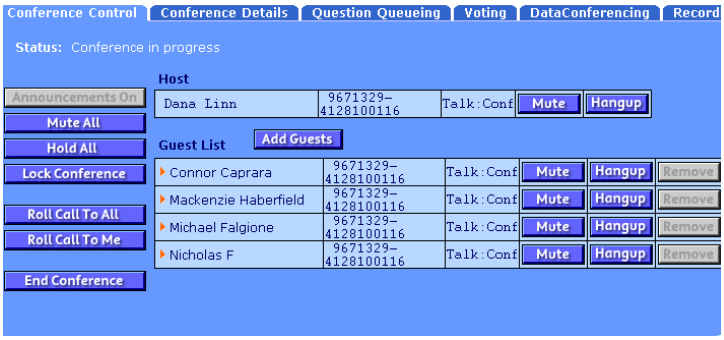


Figure 4-8 Example of a CONTEXWeb Interface

Conference Capabilities and Features

From the CONTEXWeb interface, the conference chairperson can perform a number of tasks, including:

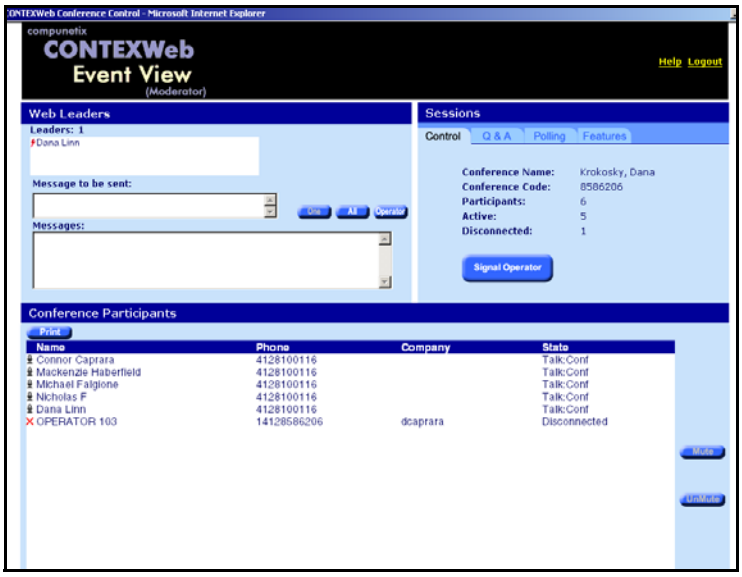


Figure 4-9 Example of a CONTEXWeb Interface

- Create a conference
- View and edit conference details (conference name, special instructions, and confirmation code)
- Connect their audio to the conference
- Add/edit/delete conference participants
- Call participants
- Join participants
- Place participants on music hold
- Disconnect participants
- Change participants' modes between Monitor and Talk/Listen
- End the conference
- Run special conference features such as a Q&A session or voting
- Access Participant Name Record functionality (PNR)
- View and manage a personal phone book
- Use CONTEXWeb chat to send text message to other users logged into the same conference

Definable Passcodes

Using the Real Time Billing Interface (RTBI), the conference Host can define a passcode that dial-in participants can use to access the conference. This is useful when the party's location is not known at the time of the conference.

Loss of Connection Protection

The conference can be configured to function normally if the chairperson leaves the CONTEXWeb page or loses their Internet connection. The chairperson can return to CONTEXWeb at any time and regain control over the conference.

CONTEXWeb System Components

CONTEXWeb has three main components that work together to provide conference management and control: the Web server with servlet engine, the Access Server, and the user database.

Web Server with Servlet Engine

The Web server contains the CONTEXWeb servlet, the CONTEXWeb templates, the configuration file, the static and dynamic HTML pages, and the images, flash files, javascript, applets, etc. used by the interface.

CONTEX Access Server (CAS)

In order for CONTEXWeb to provide conferencing control, it must communicate with the CONTEX Access Server (CAS) shown in Figure 4-7. The CAS is a dedicated communications link between the CONTEXWeb server and one or more CONTEX Summit systems. It provides all of the command communication between CONTEXWeb and the Summit system(s), enabling conference creation, management, and control. The CAS communicates with both the CONTEXWeb Server and the CONTEX Summit via TCP/IP communication links. Note: CONTEXWeb will not work unless the CAS has been set up and configured.

User Database

CONTEXWeb can be configured to access a SQL database. The database can be used to manage CONTEXWeb conferences, environments, phone books, web users, and more. For a user to have access to a CONTEXWeb application, they must have an account on the CONTEX Summit system and a valid entry in the Web users database. CONTEXWeb can use the phone book database to provide personalized phone books for users who would like to keep and manage conference participants in a private directory.

CONTEXWeb System Requirements

Web server (minimum requirements)	Processor	Dell, Power Edge, R410 Chassis Dual Quad Core, E5530 Xeon (2.4 GHz recommended)
	Memory	4 GB RAM
	Hard drive	250 GB (minimum)
	Ethernet	100 MB Fast
	Browser	Can be certified for different browsers on request
Operating system	Windows	Windows 2003/2008/2008 R2, XP
	Drivers/Software required	Java 1.6, Apache Web Server or Microsoft IIS, Apache Tomcat 5.5, SQL database JDBC drivers

JITC Government Options

Joint Interoperability Test Command (JITC)

JITC is the Defense Information System Agency's (DISA) primary agent for testing, evaluating, and certifying Information Technology (IT) and National Security Systems (NSS) used in joined and combined operations. The certification process ensures that a system meets the joint operability requirements of its users and assures that in mission-critical situations, communications will remain secure and intact, minimizing risk and maximizing efforts.

Interoperability and unified collaboration can now be found in the CONTEX Summit. Deploying JITC certified Compunetix solutions means you remove the risk of a system failure due to incompatible systems, save independent testing costs and time, realize the crisis availability benefits of Multi-Level Precedence and Preemption (MLPP), and have the confidence and security that your systems will integrate seamlessly within complex environments. The JITC features available depend on the Summit system software version.

The following describes the features that are available specifically within a JITC enabled system:

Multi-Level Precedence and Preemption (MLPP)

The MLPP service allows for priorities to be assigned to individual calls and conferences. Based on the priority of the call or conference, if network or Summit resources are not available for a call with a high priority or precedence, a call of lower precedence can be preempted, allowing the higher priority call or conference to be completed. Precedence levels are: Routine, Priority, Immediate, Flash, and Flash Override, ranging from lowest to highest.

JITC Blast Dial Into Conference

The JITC functionality builds upon the existing capability to blast dial preset parties into a conference. With a JITC Blast Dial conference, a message is played continuously, with no delay, until all parties have joined the conference, or the Host forces the conference to start via DTMF. When a Host forces a conference to start, additional parties in the process of being joined will not hear the configured notification. The conference notification will continue to play for two seconds or less after the last party has answered. This will signal that the conference is ready to begin. In the case that no parties answer and the originator is the only one in the conference, the conference will automatically end. The originator will hear a message that the conference is ending because no parties have answered and will then be disconnected. With JITC, the preset conference will also have a precedence level assigned.

Multiple Dial Attempts

For JITC, the system is able to store at least two different phone numbers for every party. Any time the Summit dials out to a party, either operator assisted or unattended (because of a group/blast dial), in the event that the party is not reachable at the primary number, the Summit will dial out to the secondary number in an attempt to join the party to the conference. The Multiple Dial Attempts feature works for both internally and externally validated conferences as well as for unattended conferences. In the case of attended conferences, the Multiple Dial Attempts feature is enabled when the conference is created and cannot be modified afterwards.

SECTION 5

Technical Specifications

- Conferencing Specifications
- Application Program Interfaces (APIs)
- System Specifications
- Computer Specifications

Conferencing Specifications

General Specifications

Dynamic Port Allocation

The CONTEX Summit fully supports dynamic port reallocation. Customers may draw from the pool of available unused ports at any time. When an entire conference is released or an individual conferee disconnects, the associated ports are immediately returned to the pool of available ports. This process ensures that all ports not currently in use are available, utilizing port capacity more efficiently.

Unlimited Number of Conferences

The number of conferences is limited only by the number of ports. An unlimited number of conferences is permitted, up to N/2 at any given time (where N is the number of conferencing ports).

Unlimited Number of Conferees

The number of conferees is limited only by the number of ports. An unlimited number of conferees are permitted per conference, anywhere from 2 to N parties per conference (where N is equal to the total number of conferencing ports).

Full Duplex Conferencing

All conferencing performed by the CONTEX Summit is full duplex, allowing an unlimited number of conferees to speak at the same time. The system has saturation protection to prevent a large number of simultaneous talkers from hearing poor quality audio.

Online Diagnostics

The diagnostics routines are performed in the background on a continual basis. This is done automatically and no administrative intervention is required to initiate this testing. In the event of a failure, the system administrator must interpret the generated alarm and act accordingly.

An operator can troubleshoot the system and run diagnostics from any WOC station. The system shortcut window on the main screen of the WOC station reports user signaling, incoming call notification, and party going idle status.

Available Information/Logs

Traffic and alarm logs are maintained on all system operator consoles and are classified according to severity. Additionally, the system stores billing information available to all operator stations. Parameters, parties, features, and records can be managed and accessed from the administrative subsystem. The system records information pertaining to each conference and allows for most parameters to be changed if necessary.

New Card/Blade

When a new card is added to the system, it goes through a Power On Self-Test (POST) routine to test the functionality of the blade components. This test is performed to ensure that any conferences currently running on the system will not be disturbed by introducing the card to the system. If the blade passes the POST, it is brought into service by the system. Any required configuration information is sent to the blade at that time. If the blade is not ready for use, the blade will request a software download from the system.

Silent Intruder Detection

The CONTEX Summit supports silent intruder detection that alerts conference participants when a party joins their unattended conference without recording their name (when Participant Name Record is enabled). The system plays a message that states, "Now joining Name Not Recorded."

Audio Specifications

Complete Digital Conferencing and Clarity

The excellent voice quality and clarity of each conference on the Summit system is due to the use of sophisticated digital conferencing technologies. The voice quality is completely independent of the number of conferees per conference (as opposed to analog systems).

High Fidelity Audio Support

In addition to continuing the CONTEX tradition of conference call clarity, the Summit is the only system on the market that offers high-fidelity audio compatibility. The Summit system supports both standard 3 kHz PSTN audio sound as well as higher bandwidth (7-14 kHz) audio. This positions the Summit as the only current carrier-class MCU that can support wideband audio for new services (VoIP networks) and devices (wideband audio telephones) that take advantage of this dramatic higher quality audio.

Noise Filtering

The conferencing algorithms executed by the Digital Signal Processors (DSPs) completely eliminate extraneous line noise or background noise from entering the conference. The noise floor does not change as the size of the conference increases.

DTMF Suppression (Tone Block)

The LIF supports the ability to enable DTMF suppression on a per-span basis. DTMF suppression prevents any DTMF from playing into the conference.

Embedded Echo Cancellation

The CONTEX Summit supports built-in echo cancellation that reduces any echo to provide higher audio quality. Echo is caused by impedance mismatches when the phone line changes from two to four wires. The CONTEX Summit echo cancellation is self-configuring and can eliminate echo signals with an echo delay between 0 and 32 milliseconds (for PSTN lines) and up to 128 milliseconds (for VOIP).

Echo cancellation can be enabled on a per-span basis. In addition, the Summit features echo suppression to eliminate echoes which are not removed by the echo cancellation.

Gain Control

The CONTEX Summit offers two methods for controlling the gain (audio input/output level) for each port:

- **Automatic Gain Control (AGC)**
  AGC can be turned on or off for each individual port. When AGC is enabled, the audio input from the port to the system is automatically adjusted by the system based on internal system thresholds. The system attempts to keep all signal levels at the AGC system level, which is adjustable between -18 and -10 dB. To achieve the AGC system level, the system will boost the signal up to the maximum gain level (adjustable between 0 and 12 dB).

- **Nominal Gain (manual adjustment)**
  The gain for any individual port can be set manually using values from -10 dB to +10 dB. The gain may be applied to the party's voice signal before entering the conference (input gain) and/or to the combined voice signals leaving the conference (output gain).

Application Program Interfaces (APIs)

All Compunetix audio conferencing systems have been designed to integrate tightly into existing telecommunication environments. The CONTEX Summit system software uses a set of ASCII text file report formats that define how to transfer and interpret data. Through the use of documented Application Programming Interfaces (APIs), Compunetix systems allow for the easy exchange of data information between existing information systems and the CONTEX Summit platform. These APIs normally pertain to transfer of data between CONTEX Summit applications; however, other applications can use APIs to interpret CONTEX Summit data. For instance, the CONTEX Reservation, Scheduling, and Billing (RSB) system creates R-Reports, which describe edited and approved billing records. These R-Reports may be retrieved and interpreted by a program that prints invoices.

The CONTEX Summit System APIs include the following:

CONTEX Access Server (CAS)

This API provides complete system-level control, as well as conference control and viewing. It additionally enables the development of applications to connect to and manage conferences on the CONTEX Summit. This API can be used to provide end-user conference control via the Web or other control mechanisms.

Real Time Bridge Interface (RTBI)

The Real Time Bridge Interface (RTBI) provides a simple TCP/IP link into a CONTEX Summit system for maintaining configurable system parameters, alerting, reporting, managing passcodes, and collecting real time billing data. By using RTBI, you can configure system parameters such as “Prepaid warning time.” Passcode management includes getting the passcode from the correct port, verifying it, notifying the system if the passcode is valid or invalid, and ending the conference based on passcode settings. You can also request billing data at any time and use this data to determine accurate, real-time billing.

Operator Statistics

The CONTEX Summit system can produce several operator reports with items such as the number of seconds both a caller and a signaling party wait on the line before an operator answers.

RTBI Reserve Session

The RTBI Reserve Session makes it possible to interface any reservation system with the CONTEX Summit system. It consists of messages that provide reservation information to the CONTEX Summit system. After the reservations are transferred, the WOC operator can view, edit, and activate the conferences that the reservations describe.

Billing (CDR) Interface

This interface provides formatted conference billing information and enables easy integration with existing customer billing services. The billing interface provides multiple billing formats in an ASCII-based format for easy importing and integration. Custom formats are available upon request.

G-Reports

G-Reports contain basic, preliminary information on completed conference calls. These reports can be created using the Billing Processor and are easily displayed so the operator can quickly review conference details. These reports include the following information:

- **Connected Parties**
  The G-Report lists each connected party, as well as specific details about each party. For instance, the G-Report lists each party's port, connect time, disconnect time, on-hold time, and billable minutes.

- **Conference Statistics**
  The G-Report lists the durations for calls of each of the following dial types: standard dial-in, toll-free dial-in, local dial-out, and non-local dial-out.

N-Report

The N-Report is created at the same time the G-Report is created. The N-Report contains information similar to that contained in the G-Report; however, unlike the G-Report, the N-Report is not intended to be displayed and read at the console. Rather, it is transferred from the CONTEX Summit system as a compact data package. The N-Report can be retrieved by billing software, such as the RSB system, or by invoicing software.

E-Report

The E-Report is created at the same time the G-Report is created and lists error information associated with the N-Report. Accordingly, it can be analyzed to determine the possible cause for some system problems. For instance, if an N-Report cannot be imported into the RSB system, the E-Report may indicate why.

R-Report

The R-Report is created by the RSB system when approved billing records are exported. Like the N-Report, the R-Report is a compact data package. This report can be retrieved and interpreted by invoicing software.

Customized Report Formats

Compunetix can implement special report formats, including those used by other vendors. It is possible, therefore, for CONTEX Summit equipment to interface seamlessly with software systems other than those developed by Compunetix.

System Utilization Reports

These reports provide a means for tracking passcode usage as well as port utilization for the system, allowing for management of system resources for increased efficiencies and planning.

Operation Event Logging

The CONTEX Summit system collects and logs events including user log in/off, incoming port events, operator signal for assistance, conference begin/end, conference scan, Question & Answer sessions, Voting sessions, system status snap shot, and system alarms. These events can be used to create reports detailing operator efficiency, system status, port use, and external application use.

Line Interface Blade Specifications

The CONTEX Summit external interfaces follow ANSI and ITU standards and allow the CONTEX Summit to interface via T1, E1, or Primary Rate ISDN to any central office, PABX, or channel bank.

To accommodate the various types of telephone networks around the world, the Line Interface module is available in four different versions and configurations: T1 Robbed-bit (24 channels), T1-ISDN (23B + D channels), and E1-ISDN (30B + D channels).

The physical connection for the Line Interface module is an RJ-45 connector interface and is also available with the pinouts listed in the chart below.

Pin	Meaning
1	RX+
2	RX-
4	TX+
5	TX-

T1 Interface Specifications

The receive line on the T1 Line Interface blade has the following characteristics:

- Interface contains 100 Ω (Ohms) impedance
- Received signals are recovered by -10 dB of cable attenuation
- Loss of signal detection is done according to ITU-TG.775 and ATT TR 54016

The CONTEX Summit T1 Line Interface blade is not designed to directly accept a signal from the last network repeater. Interface to the public network generally requires a Channel Service Unit (CSU). The jitter attenuator meets jitter transfer requirements of the PUB 62411, PUB 43802, TR-TSY 009, TR-TSY 253, TR-TSY 499, and ITU-T 1.431 and G.703. The T1-ISDN signaling messages are sent and received through the D channel (time slot 24).

The transmit line interface has the following characteristics:

- The configurable transmit equalizer supports up to 133 feet 22 AWG transmission line.
- The output is transformer-coupled output.
- The pulse shape meets the AT&T and ITU pulse templates.
- The output impedance matches 100 Ω (Ohms) line impedance.
- The line frequency is 1.544 MHz ±200 Hz in Master Mode.
- The line interface uses binary 8 zero suppression.
- The transmit line may be configured to meet T1.403 and T1.102.
- The transmit jitter attentuation generates a “jitter free” transmit clock and meets the following requirements: PUB 62411, PUB 43802, TR-TSY 009, TR-TSY 253, TR-TSY 499, and ITU-T 1.431 and G.703.
- The T1 Line Interface module supports either D3/D4 or ESF framing.
- The T1 Line Interface module supports the following:
    - DTMF tone generation and detection
    - Automatic Gain Control
    - Insertion and detection of A, B, C, and D bits
    - Yellow and blue alarm detection
    - µ-law for audio coding
    - HDLC via D-channel for ISDN

Signaling Protocols

The following signaling protocol options are provided by the CONTEX Summit T1 interface:

- **Foreign Exchange Subscriber (FXS)**
  Used for connection of the CONTEX Summit to a dedicated phone line via a channel bank.

- **Wink Start**
  Used for the connection of the CONTEX Summit to a Central Office or PBX tie line.

Below is an example of how the signaling protocols work:

4-Wire Wink Start Protocol

Initially, for an idle line: Incoming AB=00, Outgoing AB=00

Outgoing Call Sequence:

1. CONTEX seizes line. Set AB=11.
2. Remote switch returns a wink, i.e. AB=11 for 140 to 290 milliseconds.
3. When the wink is over, (incoming AB goes back to 00) CONTEX then dials the DTMF string.
4. At this point, the system goes CONNECTED so the operator can hear call progress tones.
5. When the call is complete, the incoming AB bits are set to 11.
6. Either side, the CONTEX or the remote switch, signals the termination of the call by setting AB=00.
7. Incoming Call Sequence:
8. The remote switch seizes the line. CONTEX incoming AB goes to 11.
9. CONTEX winks back, setting CONTEX AB to 11 for 250 ms.
10. CONTEX then waits 1 second, sets the outgoing AB bits to 11 to signal a completed call, and goes CONNECTED.
11. Either side, the CONTEX or the remote switch, signals the termination of the call by setting AB=00.

E1 Interface Specifications

The receive line on the E1 Line Interface blade has the following characteristics:

- The E1 Interface has 120 Ω (Ohms) line impedance.
- Received signals are recovered up to -10 dB of cable attenuation.
- The interface detects loss of signals per ITU-T G.775 and ETS 300233.

The E1 Line Interface module is not designed to accept a signal directly from the last network repeater. Interface to the public network generally requires a Channel Service Unit (CSU).

E1-ISDN signaling messages are sent and received through the D channel (time slot 16). The interface uses LAPD as the data link layer protocol, as described in ITU recommendations Q.921. The layer 3 protocol follows the ITU recommendations Q.931.

The transmit line interface has the following characteristics:

- The output is transformer-coupled output.
- The pulse shape meets the ITU G.703 pulse template.
- The output impedance matches 120 Ω (Ohms) line impedance.
- The line interface is programmed to HDB3 zero code suppression mode.
- The line interface complies with ITU I.431 ISDN and G.704 for PCM30 (E1 Channel Associated signaling).
- A-law used for audio coding.

VoIP Specifications

Supported RFCs

The CONTEX Summit supports the following IETF RFCs for SIP call control:

- **RFC 2327**
  SDP: Session Description Protocol
- **RFC 2617**
  HTTP Authentication: Basic and Digest Access Authentication
- **RFC 2976**
  SIP INFO Method
- **RFC 3261**
  SIP: Session Initiation Protocol

- **RFC 3262**
  Reliability of Provisional Response in SIP
- **RFC 3263**
  SIP: Locating SIP Servers
- **RFC 3264**
  An Offer/Answer Model with the Session Description Protocol (SDP)
- **RFC 3550**
  RTP: A Transport Protocol for Real-Time Applications
- **RFC 3551**
  RTP Profile for Audio and Video Conferences with Minimal Control
- **RFC 3605**
  RTCP Attribute in the Session Description Protocol (SDP)
- **RFC 3611**
  RTP Control Protocol Extended Reports (RTCP XR)
- **RFC 3960**
  Early Media and Rington Generation in SIP
- **RFC 4028**
  Session Timers in the Session Initiation Protocol
- **RFC 4566**
  Session Description Protocol
- **RFC 4733 (Formerly RFC 2833)**
  RTP Payload for DTMF Digits, Telephony Tones, and Telephony Signals

Codecs Supported (VoIP-only Rear)

The CONTEX Summit with VoIP-only rears support the following codecs:

- PCM µ-law
- PCM A-law
- G.729 A/B 8 kbps
- G.723.1
- G.726 32 kbps
- G.726 16 kbps
- G.726 24 kbps
- G.726 40 kbps

System Specifications

General Features

Model	Total Ports T1 System	Total Ports E1 System
CONTEX Summit (per shelf)	192 - 1920 in 192 port increments	240 - 1920 in 240 port increments
	*** Multi-shelf configuration available	

Physical Specifications

Power Requirements

All power requirements assume a fully populated, single-shelf Summit system.

Model	Item	Requirements
CONTEX Summit AC Power Supply (optional)	Input Voltage	88 to 264 VAC
	Peak Current	12.4 Amps @ 100 VAC
		10.8 Amps @ 115 VAC
		5.6 Amps @ 230 VDC
	Nominal Power	1290 Watts
	Thermal Output	4405 BTU/Hr (nominal)

Model	Item	Requirements
CONTEX Summit DC Power Supply	Input Voltage	-42V to -56 VDC
	Peak Current	30.7 Amps @ -42 VDC
		26.8 Amps @ -48 VDC
		24.8 Amps @ -52 VDC
		23.0 Amps @ -56 VDC
	Nominal Power	1290 Watts
	Thermal Output	4405 BTU/Hr

Dimensions

Model	Height	Width	Depth	Weight
CONTEX Summit (single shelf)	21 in (533.4 mm or 12 µ)	19 in (482.6 mm)	26 in (660.4 mm)	100 lbs (45.36 kg) Fully Populated

NOTE: The Summit itself is a 19" wide rack-mountable piece of equipment. The 21" measurement includes a 1" flange on each side of the system.

Environment

The CONTEX Summit system requires the following environment to operate correctly:

- Temperature: 32° to 95°F / 0° to 35°C
- Relative Humidity: 5% to 90% (non-condensing)

Warranty

Compunetix guarantees one year parts and labor for all hardware and one year software upgrades and technical support. Post-warranty maintenance programs are available for all hardware and software.

Computer Specifications

Windows Operator Client (WOC)

Processor	Pentium IV 1.4Ghz (minimum)
Memory	250 MB RAM per WOC
Hard drive	160 GB hard drive (minimum)
Display	SVGA video interface (capable of 1024 x 768 resolution)
Operating system	Windows 2000/2003/2008 Server, XP, Vista, Windows 7, Windows 7 64-bit
Minimum bandwidth requirements	75 Kbps
Tolerable latency between WOC and system	up to 120 ms in each direction

The PC used to run the WOC software may be connected to the system through a LAN.

Maintenance Client

Processor	Pentium IV 1.4Ghz (minimum)
Memory	150 MB RAM per MC
Hard drive	160 GB hard drive (minimum).
Display	SVGA video interface (capable of 1024 x 768 resolution)
Operating system	Windows 2000/2003/2008 Server, XP, Vista, Windows 7, Windows 7 64-bit

The PC used to run the MC software may be connected to the system through a LAN.
It is recommended that the MC be on the same network segment as the Summit system.

Summit Logging Utility

Processor	Pentium IV 1.4Ghz (minimum)
Disk drives	CD-ROM drive
Memory	2 GB (minimum)
Hard drive	1.2 GB hard drive (minimum)
Display	SVGA video interface (capable of 1024 x 768 resolution)
Operating system	Windows 2000, XP, Vista
Minimum bandwidth requirement	700 Kbps
Tolerable latency between IP logger and system	up to 20 ms

Billing Processor

Processor	Pentium IV 1.4Ghz (minimum)
Disk drives	CD-ROM drive
Memory	512 MB RAM (minimum)
Hard drive	1.2 GB hard drive (minimum)
Display	SVGA video interface (capable of 1024 x 768 resolution)
Operating system	Windows 2000, XP, Vista
Minimum bandwidth requirement	900 Kbps
Tolerable latency between Billing and system	up to 20 ms

INDEX