

Nortel Communication Server 1000/Communication Server 2100 Solution/Meridian SL-100

Nortel Integrated Conference Bridge: Service Implementation Fundamentals

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New in this Release

This chapter contains information on Integrated Conference Bridge Service available with Communication Server 1000 Release 7.0.

Features

There are no new features introduced with this release.

Other

Revision History

May 2010	Standard 04.01. This document is up-issued to support Communication Server 1000 Release 7.0.
May 2009	Standard 03.01. This document is up-issue to support Communication Server 1000 Release 6.0.
December 2007	Standard 02.02. This document is up-issued to support Communication Server 1000 Release 5.5.
June 2007	Standard 01.02. This document is up-issued to support Communication Server 1000 Release 5.0.
September 2005	Standard 01.01, ICB Release 4. Updated NTP to include workaround regarding IP changes in Dual Card Configuration mode that fail to allow reassignment of IP.

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Introduction

Purpose and audience

This document instructs system administrators and installers how to install, configure, operate, and maintain the Nortel Networks Integrated Conference Bridge as a part of the overall Meridian system. In this guide, Meridian system refers to either the Meridian 1, Nortel Networks Communication Server 1000, or the Communication Server 2100/Meridian SL-100 switch. The Integrated Conference Bridge (ICB) card allows you to schedule and configure multiple simultaneous conferences.

You can install the ICB card in either the Meridian 1, Communication Server 1000 (CS 1000), or CS 2100/Meridian SL-100. In the majority of places the ICB operates the same way regardless of the system in which you install it. When the information differs between the systems, this guide contains separate sections for the Meridian 1 and CS 1000, and the CS 2100/Meridian SL-100 (for example, configuration information).

Structure

This document contains the following sections:

- “Product description” (page 17) - describes how the ICB operates and the conference features it provides, as well as the card hardware and software characteristics.
- “Engineering guidelines” (page 35) - describes ICB system resource allocation, and software and hardware requirements.
- “Installation and configuration” (page 45) - describes how to prepare the system for installation, install the ICB card, connect the ICB to the administration terminal, and configure the ICB. This chapter contains separate configuration sections for the Meridian 1 and CS 1000, and the CS 2100/Meridian SL-100.
- “Browser user interface” (page 81) - describes how to use the browser user interface (BUI), a web-based server, for conference administration and scheduling, as well as user administration and maintenance of the ICB.

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- "Telephone user interface" (page 137) - describes how to use the telephone user interface (TUI) for simple conference reservation, as well as lists commands available to participants during an active conference.
- "Microsoft Outlook GUI" (page 153) - describes how to use the Microsoft Outlook GUI for audio conference reservations.
- "Maintenance" (page 171) - shows how to perform maintenance and troubleshooting operations. Includes a description of the Command Line Interface (CLI).
- "Reports" (page 199) - introduces the reports that the ICB can generate and describes billing.
- "Upgrades" (page 217) - provides procedures for upgrading to ICB Release 4 from previous releases.
- "Password security" (page 231) - describes ICB password protection and access restrictions.
- "Product integrity" (page 239) - provides environmental specifications and shows regulatory standards.
- "List of terms" (page 243) - describes the terms used in this guide.

How to check the version and issue of this document

The version and issue of the document are indicated by numbers (for example, 00.03).

The first two digits indicate the version. The version number increases each time the document is updated to support a new software release. For example, the first release of a document is 01.01. In the next software release cycle, the first release of the same document is 02.01.

The second two digits indicate the issue. The issue number increases each time the document is revised, but re-released in the same software release cycle. For example, the second release of a document in the same software release cycle is 01.02.

ATTENTION
FOR MORE INFORMATION
To determine whether you have the latest version of this document and how documentation for your product is organized, check the release information in the *Meridian 1 Library Navigator* () or the *Meridian SL-100 Master Index of Publications* ().

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References in this document

Nortel Networks Communication Server 1000

If you are installing the ICB in a Communication Server 1000, see the following documents for additional information:

- *Large System Management* (), NN43021-700
- *Large System Planning* (), NN43021-220
- *Transmission Parameters Reference* (), NN43001-282
- *Input/Output Administration* (), NN43001-611
- *Features and Services* (), NN43001-106

Nortel Networks Communication Server 1000S

If you are installing the ICB in a Communication Server 1000S, see the following documents for additional information:

- *Planning and Installation Guide* (), 553-3031-120
- *Installation and Configuration Guide* (), 553-3031-210
- *Signaling Server IP Line Applications Fundamentals* (), NN43001-125

CS 2100 or Meridian SL-100

If you are installing the ICB in a CS 2100/Meridian SL-100, see the following documents for additional information:

- *IPE Reference Manual* (), 555-4001-129
- *Alarm Clearing Procedures* (), 555-4031-543
- *Routine Maintenance Procedures* (), 555-4031-546
- *Card Replacement Procedures* (), 555-4031-547
- *Log Report Reference Manual* (), 555-4031-840

End user documentation

The following documents apply to all platforms:

- *Nortel Networks Integrated Conference Bridge Release 4 User Guide* (), P0989944 - shows end user how to schedule and manage a conference using either the Telephone User Interface or the Browser User Interface.
- *Nortel Networks Integrated Conference Bridge Release 4 Quick Reference Card, P0989945* () - provides a list of Telephone User Interface commands; comes in a package of 20.

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Product description

Purpose

This chapter describes the functional and physical characteristics of the Nortel Networks Integrated Conference Bridge Release 4. Technicians can install the Integrated Conference Bridge (ICB) card in either a Meridian 1, Nortel Networks Communication Server 1000, Meridian SL-100, or Nortel Networks Communication Server 2100. This guide uses the term "Meridian system" to refer to either the Meridian 1, Meridian SL-100, Communication Server 1000 (CS 1000), or CS 2100.

The chapter contains the following sections:

- "ICB description" (page 17) - describes the ICB card and the role it plays in conference calls. Summarizes ICB features and services.
- "Hardware overview" (page 21) - describes the hardware components of the ICB system.
- "ICB operation" (page 27) - shows how ICB conferences operate.

ICB description

Conference administration

The ICB card allows users to schedule and administer multiple simultaneous conferences. Schedule conferences based on time-of-day, duration of each conference, and number of individuals (conferees) participating in, or ports allocated, for each conference. Schedule a conference using one of the following:

- "Browser user interface" (page 81) - point and click web-page application
- "Telephone user interface" (page 137) - telephone keypad entries
- "Microsoft Outlook GUI" (page 153) - Microsoft Office Outlook graphical user interface (GUI)
- Ad hoc meeting - audio conference created now

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The ICB card provides announcements and tones that relate to specific events during conferences. These events include the following:

- advising the chairperson and conferees of the status of the conference connection
- indicating when a conferee joins or leaves the conference, and
- warning the chairperson and the conferees when the conference is about to expire.

Technicians can install multiple ICB cards into:

- a Media Gateway chassis shelf for a CS 1000
- an Intelligent Peripheral Equipment (IPE) shelf for a Meridian 1/CS 1000
- an Option 11 shelf
- an IPE shelf for a CS 2100/Meridian SL-100

Each ICB card can operate independently, providing up to 32 ports for a single conference. The ICB card can support up to ten simultaneous, separate conferences.

When users establish a single-card conference, they use the 32 ports on the card. If two conferences are held at the same time, they need to share the 32 ports. For example, if one user sets up a 10-port conference, the other can set up a 22-port conference.

Technicians can connect two ICB cards to provide up to 62 ports for a single conference. In dual mode, there can be only one dual-card meeting per pair of cards. The user database and access numbers are not shared in a dual-card configuration. There is a separate access number required for a dual-card meeting.

The ICB supports several simultaneous conferences. The number of conferences depends on the number of ICB ports available and the number of participants (conferees) in each conference. Each ICB card supports the following:

- maximum number of participants as follows:
  - single-card: 32 participants
  - dual-card: 62 participants (unless Chairperson Control over a Dual-card Meeting is activated, in which case it is 60 participants)
- any number of conferences (up to 10) with one or more participants in each conference

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The ICB communicates with the system software by emulating a digital line card (XDLC), which allows existing software to control the operation of the ICB. Configure each ICB port as an Automatic Call Distribution (ACD) M2616 digital telephone set.

System overview

The ICB comes as a single card, or a pair of cards if additional ports are required to support a dual-card meeting. Each card stands alone, even in the dual-card configuration. For dual-card meetings, the primary card uses ports on the secondary card. The following rules apply:

- Each card (that is, the primary and secondary) has its own set of users. There is no "common list" for both cards.
- To schedule a conference, the user logs into the card in which their account is defined. If the user has two accounts, one on each card, they must try each card separately to find available resources for the conference. There is no automatic pooling between cards.
- A user, super-user, or executive-user can have accounts on many cards at a company (that is, a customer can have one person who administers multiple bridges for their company).
- Dual-card conferences can only be scheduled by users on the primary card.

ICB conference feature summary

The ICB:

- Allows volume control by conference participants.
- Offers customized conference-specific greetings.
- Enables users to acquire and release chairperson control while in a conference.
- Delivers pre-meeting and post-meeting participants notifications.
- Allows one chairperson per conference.
- Offers optional chairperson control on the secondary card of a dual-card conference.
- Provides for one or more permanent bridge configurations.
- Supports multiple conferences simultaneously.
- Provides chairperson commands during an active conference.
- Provides conferee commands during an active conference.
- Allows conference extension beyond the scheduled time.

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- Issues a 10-minute warning, before the conference termination. Also issues a second warning, two minutes before conference termination.
- Supports dial-in and voice prompts for multiple languages including: N.A. English, Latin-American Spanish, French, Brazilian Portuguese, L.A. Spanish, Japanese, Korean, U.K. English, German, Chinese, Dutch, Canadian-French, Swedish, and Italian. Refer to the Sales and Marketing Bulletin for the latest supported languages.
- Provides conference password security, requiring the chairperson and/or the conferees to enter a Dual-Tone Multifrequency (DTMF) password before entering the conference.
- Automatically starts and terminates conferences based on reservations scheduled in advance.
- Provides Group Call with smart retry.
- Provides the ability to reserve a port in each conference for the chairperson.
- Provides "Block scheduling" for recurrent conferences, up to one year in advance and up to 52 iterations of recurrent conferences.
- Offers an over-booking option, enabling the administrator to allocate up to 125% of port resources (based on the idea that most conferences are scheduled with more ports than are required).
- Provides an emergency bridge option, which creates a permanent bridge that automatically dials a pre-determined list of DNs when someone dials the emergency bridge DN. The emergency bridge does not support the dual-card configuration.
- Provides automatic conference expansion, allowing additional conferees to join the conference. For the expansion to work, the ports hosting the additional conferees must be both unassigned and available.
- Provides entry and exit indications - provides four options to indicate the entry and exit of a conference participant:
  - entry by name, exit by name
  - entry by name, exit by tone
  - entry by tone, exit by tone
  - silent entry and exit
- Allows the first conferee joining the conference to turn off and turn on conference music.
- Controls access to the conference in progress by monitoring the maximum number of scheduled attendees at each conference.

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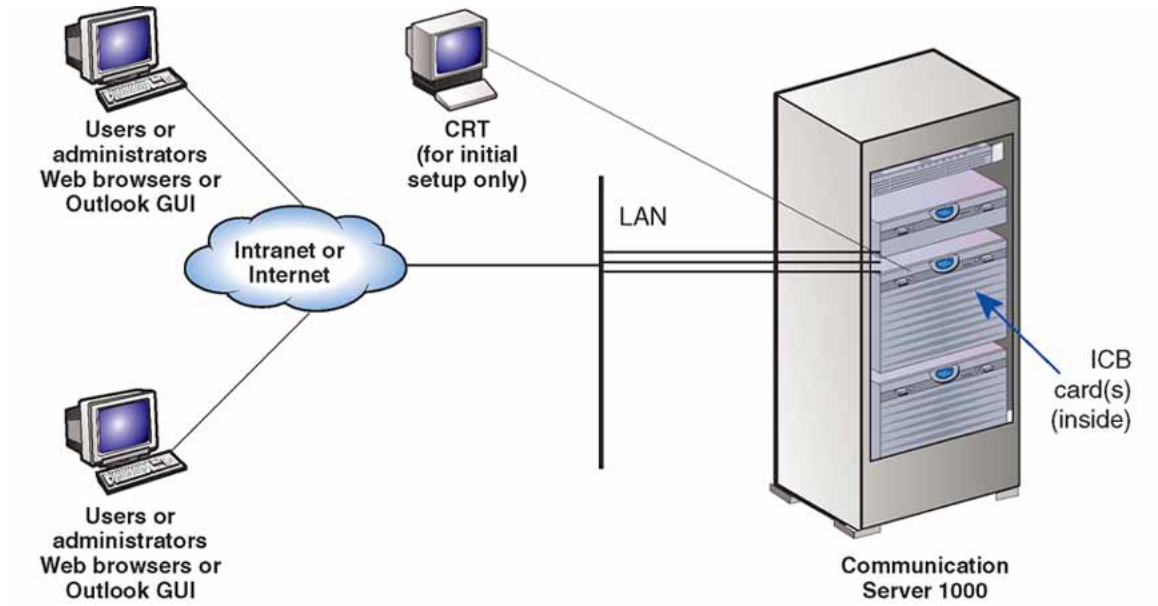
- Manages time and date for scheduled conferences and reserves ports for each conference.
- Provides recorded announcements to conferees who attempt to enter a meeting too early or after a meeting has ended.
- Issues audible responses to conferees based on the conference activity.
- Allows recording of a brand line (custom) greeting to replace the standard greeting.
- Provides a scheduling display that indicates meeting reference number and whether a custom greeting has been created.
- Provides scheduling receipts e-mailed to users (receipt includes the direct meeting access DN or the single DN access DN).
- Provides for Microsoft Outlook integration using the calendar to schedule meetings.
- Provides a second warning tone before ending the conference.
- Allows users to copy a conference.
- Allows the chairperson control of the conferee volume.
- Provides current speaker indication.
- Allows for questions and voting display.
- Provides for default conference settings.
- Allows users in the ICB card to access audio conference scheduling in Microsoft Outlook.
- Supports 500 users per card.
- Provides for up to 52 recurring conferences.
- Allows the administrator to define a time zone.
- Offers a toll-free prefix in the e-mail notification.
- Provides separate user, chairperson, and administrator context help.
- Provides enhancements to the billing report.

Hardware overview

Figure 1 "ICB system composition" (page 22) shows ICB system composition.

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Figure 1
ICB system composition



1. You install one or more Integrated Conference Bridge (ICB) cards in a Media Gateway chassis shelf of a CS 1000 or in an IPE shelf of the Meridian 1/SL-100. Each ICB card serves a specific set of users.
2. You connect cards to the corporate Intranet/Internet through a TCP/IP Ethernet LAN, which is a 10BaseT or 100BaseT physical connection.
3. You connect a CRT or Terminal Emulator directly to the serial port of the ICB. You require this terminal for initial installation only. You perform all administration and maintenance activities remotely.
4. Users and administrators access the ICB cards from their desktops (which can be on the Internet behind a firewall).
5. Users can schedule a meeting from a Web browser or from the MS Outlook GUI.

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ICB hardware design characteristics

Each ICB card occupies one slot in a Media Gateway chassis slot (CS 1000) or an IPE shelf (Meridian 1/CS 1000/CS 2100/SL-100). ICB Release 4 is based on a new hardware platform. The ICB card has the following hardware interface characteristics:

- uses the microprocessor unit (MPU) based on the 50MHz MPC 860P Power Quad Integrated Communications Controller
- uses standard interface buses and personal computer memory card international association (PCMCIA) cards and handles files that are compatible with MS-DOS operating system on the PCMCIA storage device and formatted with fat 16 file system. The fat 32 file system is not supported.
- uses 4MB flash memory for boot purposes
- accesses all 32 DS-30X voice/signaling timeslots
- provides echo cancelling and volume control
- users 128 KB SRAM memory for saving trap data during resets
- emulates an M2616 digital telephone set on each ICB port
- supports Card-LAN interfaces
- performs X12 signaling protocol messages for input/output
- uses digital signal processor (DSP) for conferencing and DTMF detection
- provides the drivers for the new hardware through the MPU firmware
- The DSP firmware:
  - Provides DTMF tone detection.
  - Provides for A-law and u-law conversion.
  - Provides the functionality for the conference bridge.
  - Downloads the code from the MPU.
  - Communicates with the MPU.
  - Analyzes the loudness off all received signals continuously and selects the two loudest signals to be the active speakers.
  - Handles two-way conversation in conferences with three to 62 conferees.
  - Normalizes the pulse code modulation (PCM) input samples.
  - Provides gain control on all output samples.
  - Provides software upgrades using a PCMCIA Flash card.

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- provides self-tests of internal hardware components and allows card monitoring and maintenance through the maintenance port; provides enable/disable capabilities similar to existing Meridian cards
- provides one RS-232 serial port for administration and maintenance access
- provides enhanced Call Detail Recording (CDR - Meridian 1 only) and billing options
- provides an optional Ethernet interface over a Maintenance interface
- provides a Command Line Interface (CLI) accessible by direct connection, modem, telnet, or BUI emulation for performing OA&M functions
- enables the reservation of one port on each card for TUI-only interaction
- provides an embedded web-based server
- provides a customized ICB BUI login window
- offers automatic backup. Backup configurations can be e-mailed to a predefined e-mail address

Table 1 "ICB hardware list" (page 24) describes each hardware component of the ICB application. These components connect the ICB to the local or remote maintenance terminal.

Table 1
ICB hardware list

Component	Description
NT5D51BC or higher ICB card	An IPE card that provides bridge and conference scheduling for up to 10 simultaneous conferences.
NT5D62FA or later PCMCIA hard drive card	This PCMCIA card contains the ICB software and configuration. Install the PCMCIA card in the lower PCMCIA drive.
NT5D52 Ethernet Adapter card	Install this adapter card to provide Ethernet connection for the ICB. ***Note 1:*** NT5D52BC for CS 1000, CS 1000M, Meridian Option 11C, and Meridian SL-100. ***Note 2:*** NT5D52CA is used for Meridian Options 51-81C.

Note: Caution - You may need the NTCW84JA I/O Panel Filter Connector for a large system. See “Installing the NTCW84JA I/O Panel Filter Connector for a Large System” (page 47) for more information.

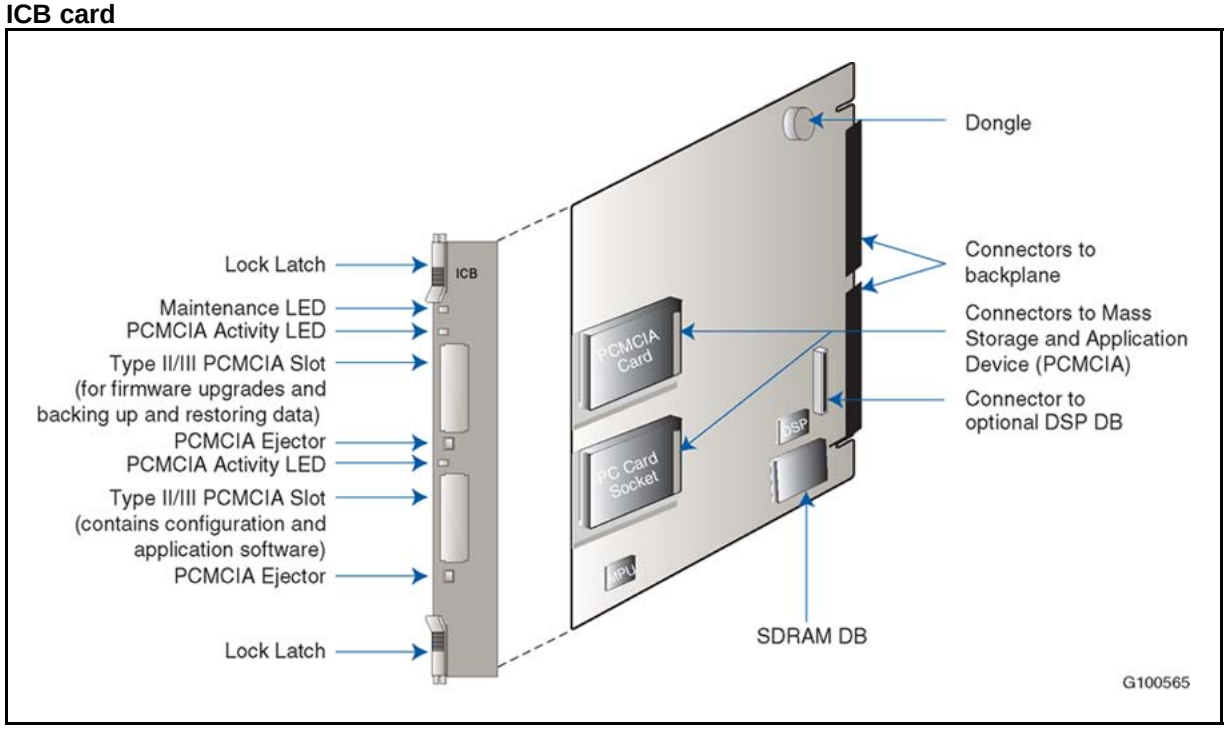
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ICB card description

The ICB card has two PCMCIA sockets. PCMCIA hard drive cards store the ICB voice files, application scripts, and MPU and DSP firmware. The ICB comes with the PCMCIA hard drive. The bottom socket houses the PCMCIA hard drive card that contains the current firmware and customer data. Use the top socket to upgrade the firmware, and to backup and restore customer data.

Figure 2 "ICB card" (page 25) shows the component side of the ICB card and the faceplate. The component side shows the DRAM and the PCMCIA socket locations. The faceplate shows the card LED and the PCMCIA activity light-emitting diode (LED) indicators and the slot locations for PCMCIA cards.

Figure 2
ICB card



The ICB faceplate provides the following:

Maintenance LED - The ICB faceplate provides a red LED to indicate the enabled/disabled status of the card and to indicate the self-testing result during power up or card insertion into an operating system. This LED indicates the following:

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- The LED is lit when the ICB card is disabled.
- The LED is off when the ICB card is enabled and ready for use.
- The LED blinks three times, runs software from the PCMCIA, then blinks three times again and stays on. The LED remains on until the software is enabled when the ICB card successfully completes the self-test.

PCMCIA activity indicator LEDs - These LEDs are next to the PCMCIA slots and indicate the following:

- The LED is lit when the PCMCIA card is disabled.
- The LED is off when the PCMCIA card is enabled and ready for use.
- The LED blinks when the PCMCIA card is in use.

Type II/III PCMCIA slots - The ICB faceplate provides two Type II/III PCMCIA card slots. These slots house the PCMCIA cards. Install the PCMCIA hard drive card that stores voice files, application scripts, and MPU and DSP firmware in the lower slot. Use the upper slot for upgrading the firmware, and backing up and restoring customer data.

External equipment

VT100 type terminal

Use a VT100 terminal for initial card configuration. After initial card configuration, use the BUI to perform operations, administration and maintenance (OA&M). Connect the terminal to the ICB RS-232 interface using one of the following methods:

- Direct connections:
  - directly to the IPE module I/O panel
  - directly to the DB-9 connector on the NT5D52 Ethernet Adapter card installed on the I/O panel
- Remote connections:
  - to the IPE module I/O panel through a modem connection

The terminal interface must be set at 9600 baud, 8 data bits, 1 stop bit, and no parity. The flow control is hard wired (do not use XON/XOFF flow control).

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Ethernet application

ICB Ethernet use has the following characteristics:

- The ICB Ethernet connection is separated from the external LAN traffic by a firewall.
- The Ethernet Adapter connection for ICB is NT5D52AA for the IPE module application.
- The Ethernet provider assigns the IP address for the ICB. Enter the IP address from the Maintenance terminal.
- To access the ICB CLI over the Ethernet, use a TELNET client on a PC workstation or in the LAN.

ICB operation

The ICB provides flexibility in configuring conferences. Configure conferences as follows:

- pre-scheduled conferences with a fixed number of ports and start/stop times
- pre-scheduled conferences with a variable numbers of ports, where ports are added when required (if available) and subtracted by the system automatically as conferees leave the conference
- permanent bridges with fixed numbers of ports that can be used without pre-scheduling the conference

The minimum duration of a conference is 15 minutes and the maximum duration of a time-limited conference is 12 hours. The conference starting time and duration can be scheduled in increments of 15 minutes.

The ICB card continuously monitors the audio signal level received from each conferee and selects the two loudest signals for transmission. The two loudest signals are summed and inserted into the PCM sample prior to their transmission to other conferees. This implementation of the two loudest signals improves the interrupting capability of a conference connection and allows normal two-way conversation that all conferees can hear.

In addition to the conferee timeslots, the ICB provides a timeslot between the MPU and the DSP. This timeslot transmits message prompts, entry and exit tones, or both that the system broadcasts to all conferees when requested by the MPU.

The ICB uses ACD features to route external incoming trunk and local line conferees to their appropriate conferences. The ACD features provide queuing, chairperson features, and event reporting for each conference.

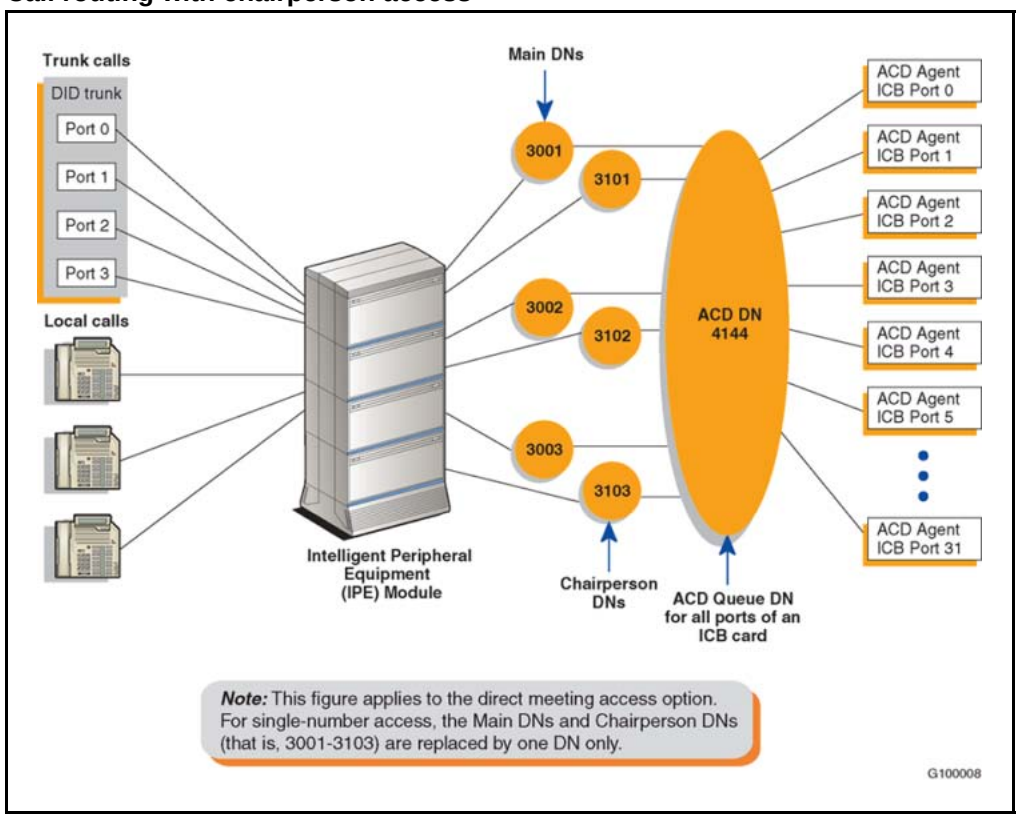
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The ACD features used by the ICB card provide the following:

- easy software configuration
- incoming calls, announcement on arrival, call management, and reporting queues
- operational statistics reports
- enhanced call routing

Figure 3 "Call routing with chairperson access" (page 28) shows the call routing for three conferences and shows the conference chairperson access DN for each conference. The figure also shows the ACD DN for the ACD queue that controls the path of all ports on an ICB card. The right-hand side of the figure shows the distribution of ICB ports as ACD agents.

Figure 3
Call routing with chairperson access



Join the conference using the direct meeting access method

Assign a main DN and a chairperson DN, for each conference. The main DN is the number the conferees dial to get into the conference and the chairperson DN is the number the chairperson dials. Configure the DNs in the Meridian/CS 1000 system when installing the ICB card. The

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total number of DNs is equal to two times the number of simultaneous conferences. For example, 10 simultaneous conferences require 20 DNs: 10 main DNs and 10 chairperson DNs.

When several conferences occur simultaneously in the same ICB card, the conferee dials the DN assigned to a specific conference. The ICB card identifies the dialed DN and routes the conferee to the appropriate conference represented by that specific DN. The system assigns all ports on the ICB card to the appropriate conference through the ACD DN assigned to that ICB card. The chairperson dials the chairperson DN to a specific conference. This number is different from the DN dialed by the conferees for the same conference.

The ICB performs DTMF detection on ICB ports identified as chairperson ports. DTMF detects when conferees enter a conference password. A conference can start without the chairperson. If all allocated ports for a conference are taken up with conferees, the chairperson cannot join the conference, unless a port is specifically reserved for the chairperson. The chairperson can also join if the system allows conference expansion and there are free, un-scheduled (floating) ports available.

The first conferee joining the conference hears an announcement indicating that no other conferee has joined the conference, followed by 60 seconds of music. The system repeats the announcement with 60 seconds of music, until another conferee joins the conference.

Join the conference using the single DN access method

The single DN access method to all meetings provides users with a alternative method of accessing the ICB. This feature reduces the amount of Direct Inward Dialing (DID) numbers that have to be configured in the switch and provides the following benefits:

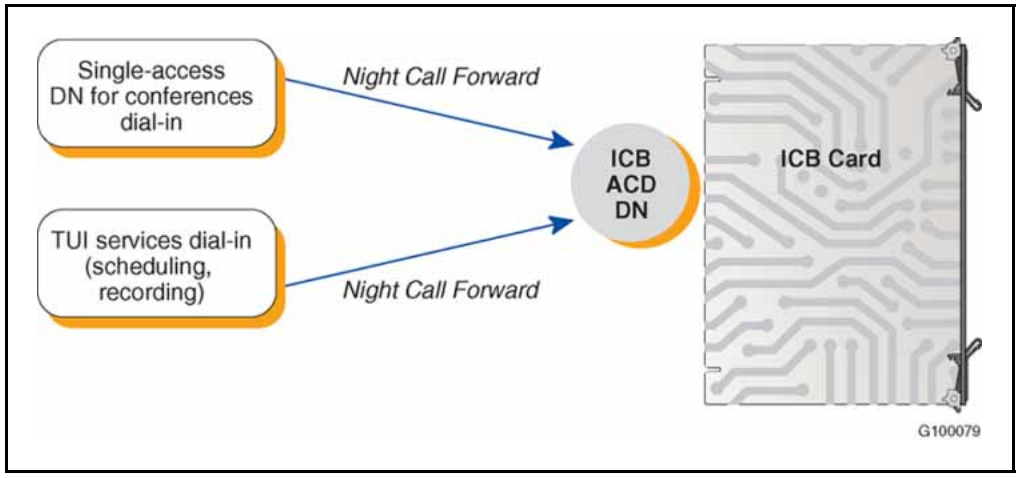
- Saves 20 DID numbers from the customer's DID range.
- Saves 20 ACD or Phantom DNs in the Meridian system thereby providing a cost savings.
- Simplifies installation as there is no DN pair configuration.
- Saves work if a change in the numbering plan is required in the Meridian system.

The only trade-off is that callers have an additional step when accessing a meeting (that is, after dialing the single-access DN, they must enter the chairperson, or meeting, DN of their specific meeting).

Figure 4 "Single DN access method (one ICB card)" (page 30) shows the DN configuration for single DN access with one ICB card.

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Figure 4
Single DN access method (one ICB card)



The DNs on the left in Figure 4 "Single DN access method (one ICB card)" (page 30) can be Phantom DNs or CDNs, instead of ACD DNs. The DNs must be DID numbers.

In a dual-card system, each card requires its own single-access DN. In a dual-card set, conferences that span the two cards do not support the single DN access method. However, in a dual-card set, simple conferences that use only one card support the single DN access method.

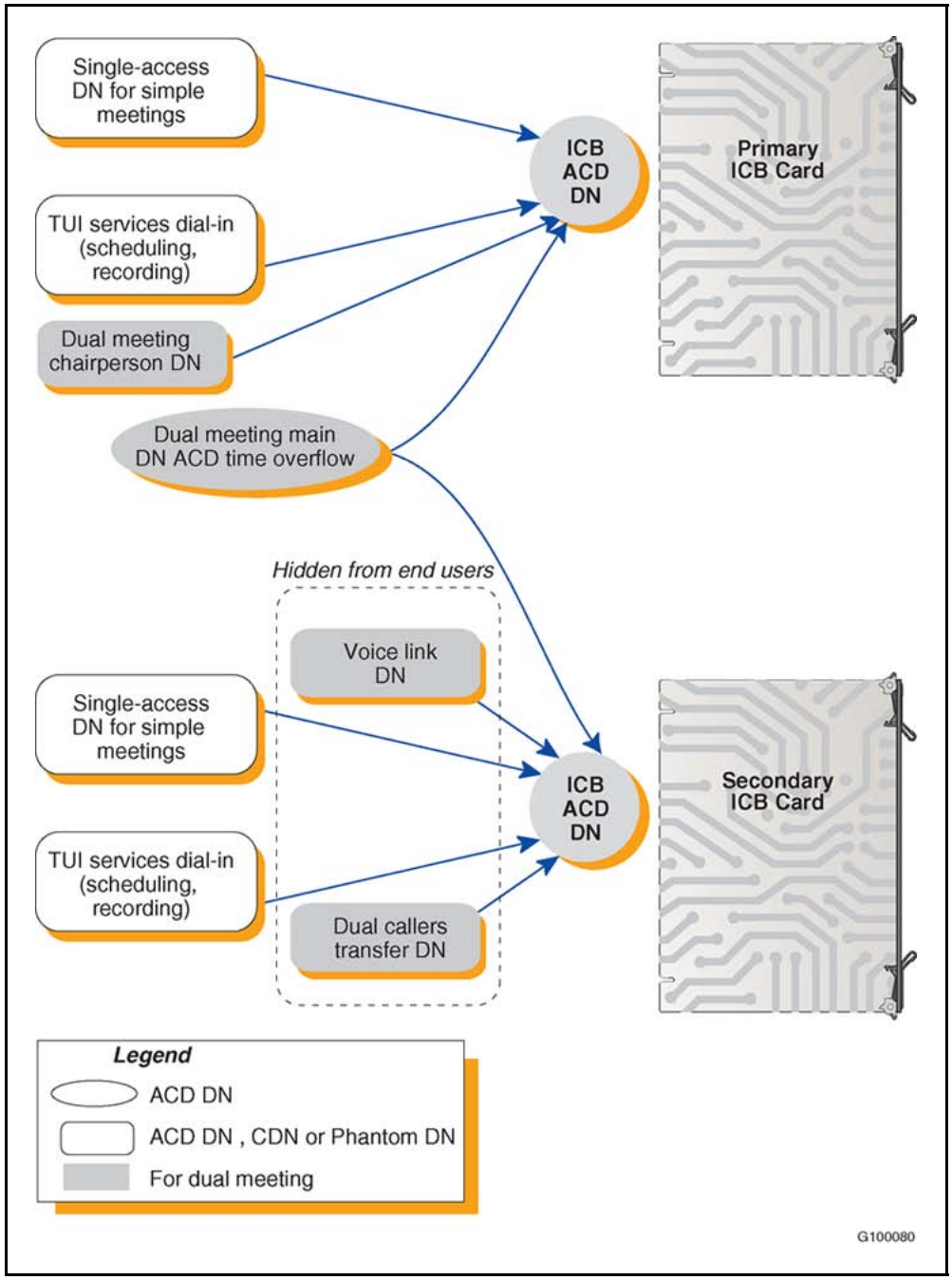
Figure 5 "Single DN access method (two ICB cards)" (page 31) shows the DN configuration in a Meridian system for the single DN access method when the system uses two ICB cards. Single DN access requires one DN, instead of the separate 10 DNs required with direct meeting access.

The figure shows a configuration that supports the following:

- Simple conference contained in the primary ICB - participants dial the single-access DN at the top of the figure.
- Simple conferences contained on the secondary ICB - participants dial the single-access DN at the bottom of the figure.
- Meetings spanning both cards - participants dial the "Dual meeting main DN" in the middle of the figure and the chairperson dials the "Dual meeting chairperson DN". The figure shows that dual-card meetings do not use the single-access DNs.

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Figure 5
Single DN access method (two ICB cards)



Note: All DNs on the left side of the figure must be DID numbers.

Single DN access is mutually exclusive from the direct meeting access method in a ICB card or card pair. Configure the card for one access method; the system does not support combinations on the card or card pair.

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Callers to all meetings access the ICB by dialing one common fixed number. The ICB prompts the caller for the meeting or chairperson DN to enter the required meeting. In this mode of operation, configure the single-access DN in the Meridian system and ICB only. Access DN pairs are pre-coded in the card.

Expand the conference

Conference expansion allows the system to increase the number of conferees if there are remaining ICB ports that are both unassigned and unused. Allow or deny conference expansion for each conference using the browser user interface (BUI) (see the "Add ports as needed field" in the “Scheduling window” (page 91)).

When reserving the ICB ports for each simultaneous conference, the system does not tag ports for a specific conference. The ICB counts the number of reserved ports and compares these against the total number of ports provided by the ICB card. The ICB then makes sure that the reserved ports do not exceed the total number of ports provided by the ICB card.

If additional (non-scheduled) callers try to join a conference, but there are no floating ports, or the system locks out additional conferees, the ICB card issues an overflow tone. The system then disconnects the call.

If the system releases un-scheduled (floating) ports from a conference, they are immediately available to be used by other conferences that have the expansion feature enabled.

End the conference

When scheduling a conference, indicate the number of ports, start time, and duration of that conference. The conference ends based on the start time and conference duration. Ten minutes before the end of a conference, the ICB card issues an announcement warning the conferees that the conference terminates in 10 minutes. Two minutes before the end of a conference, the ICB card issues a second announcement warning the conferees that the conference terminates in two minutes.

When the conference time expires, the ICB card issues the final warning to the conferees. The ICB sends a release message to the Meridian system for all associated ICB ports. These ports become available for the next planned conference. If there is no other scheduled conference, they become floating ports which the system does not reserve for any conference. Floating ports are available to expand conferences in progress.

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Conferees can exit a conference at any time. The ICB detects when a conferee exits the conference. If enabled, the ICB announces the conferee's name. When one conferee is on the conference, the system issues an announcement that only one conferee is present, followed by 60 seconds of music. The system repeats this announcement and the music, until at least one more conferee joins in, or the ICB terminates the conference at the scheduled end time, or if the conferee or chairperson issues the stop music command (*19).

Note: A conference can begin and end two minutes before the defined time. This feature allows the system to close all terminating conferences two minutes earlier and start all scheduled conferences immediately after closing the terminating conferences. This feature is important when terminating and starting conferences use some of the same DNs.

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Engineering guidelines

Purpose

This chapter provides guidelines for engineering ICB Release 4. Engineering guidelines can vary depending on the system platform. The chapter includes the following sections:

- "System requirements" (page 35) - outlines the software and hardware requirements for the Meridian 1, CS 1000, and CS 2100/Meridian SL-100.
- "System capacity" (page 37) - outlines the system capacity requirements for the Meridian 1, CS 1000, and CS 2100/Meridian SL-100.
- "System compatibility" (page 37) - lists the various compatible systems.
- "Automatic call distribution resource allocation" (page 38) - describes the ACD DN resource requirements.
- "LAN configuration" (page 39) - provides guidelines for configuring the LAN options.

System requirements

Software

The required system software is as follows:

- **Meridian 1** - X11 Release 17 supports ICB Release 4 with up to 16 ports per card; X11 Release 22 and later supports ICB Release 4 with up to 32 ports per card.
- **CS 1000** - Release 1 and above supports ICB Release 4 with up to 32 ports per card.
- **Meridian SL-100** - MSL09 and later supports ICB Release 4 with up to 32 ports per card using the feature Flexible Voice/Data TN.

The system software must contain the basic and advanced automatic call distribution (ACD) features and routing software.

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Meridian 1 and CS 1000 software packages

In addition to standard basic software, the following software packages are required:

- ACD basic package (45)
- ACD advanced features (41)
- Digital set (88)
- End-to-end signaling (10) - required if chairperson calls locally within the same switch
- Phantom TN (254), optional, but required if Phantom TN is used
- Network ACD Enhanced Overflow (178), optional, but required for the dual-card configuration
- The following packages are optional, but are required for billing:
  - Call Detail Recording (CDR) package 4
  - CDR with Charge Account (CHG) package 23
  - Charge Account/Authorization Code Base (CAB) package 24

Meridian SL-100 software packages

In addition to the standard Meridian SL-100 software, the following software packages are required:

- ACD Basic, ACD Routing Enhancement
- MSL Digital Phones M2000-Display
- MSL Flex LEN on IPE
- MSL Enhanced Peripheral Equipment (IPE)

Hardware

Table 2 "Hardware specifications" (page 36) describes the ICB hardware specifications.

Table 2
Hardware specifications

Item	Descriptions
Port capacity	12-32 ports on a single card. Up to 62 ports in a dual-card configuration, unless chairperson control is required on the second card, in which case the capacity is 60 ports.
Capacity upgrades	Upgradeable from 12 to 62 ports.
Maximum number of conferences	Up to 10 simultaneous conferences with a total of 32 conferee ports per card.

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Table 2
Hardware specifications (cont'd.)

Item	Descriptions
Maximum number of BUI sessions	Up to 20 simultaneous user sessions on the BUI. Same is true in dual-card configuration. There can be up to 500 users per card.
Maximum number of TUI sessions	Only one user can be active in a TUI session. While one TUI user is active, other users will wait in the ACD queue.
PCMCIA card	PCMCIA Type II or III.
System interface	DS-30X, CE-MUX, Card LAN, Ethernet Adapter.
Maintenance terminal	Optivity, VT-100 terminal or PC with VT100 emulation.
Power requirements	Power is supplied by the power supply of the shelf/module where the ICB card is installed. Each ICB card requires a total maximum power of 3.5 watts.
Real time impact	Comparable to that of a digital line card (DLC).

System capacity

Physical Capacity

Each ICB card occupies one slot on the Gateway/IPE chassis shelf. The total number of ICB cards per system is limited by these factors:

- For Meridian 1 or CS 1000M: The number of IPE shelves multiplied by eight. Option 11C and Wall-Mount systems are limited to six cards.
- For CS 1000: The number of Gateway chassis shelves multiplied by four cards.
- For CS 2100/Meridian SL-100: Up to eight cards can be supported per IPE shelf.

System compatibility

Meridian 1 and Option 11

ICB Release 4 is compatible with the following Meridian 1/Option 11 systems:

- Option 11C, 11E, 11C Mini
- Option 21 and 21E
- Option 51, 51C
- Option 61, 61C
- Option 71
- Option 81, 81C
- SL-1 systems with IPE upgrade (NT and XT)

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CS 1000

ICB Release 4 is compatible with all CS 1000 systems.

CS 2100/Meridian SL-100 system compatibility

ICB Release 4 is compatible with all CS 2100/Meridian SL-100 system configurations.

Automatic call distribution resource allocation

The ACD function routes incoming calls to the ICB, where each ICB port operates as an ACD agent. All ICB ports are part of the same ACD queue and operate as a pool of ports with equal status. The system identifies the ACD queue with an ACD DN that handles the connection of conferees (ACD agents) to the appropriate conference.

ACD resources must be reviewed in the Incremental Software Management (ISM) of the customer configuration, if applicable. Each ICB port represents an ACD agent that uses a Terminal Number (TN)/Line Equipment Number (LEN) from the system resources.

The configuration DN and the corresponding TNs on the CS 1000, or LENs on the CS 2100/Meridian SL-100, are system resources. The system resources allocated to the ICB must be subtracted from the overall system resources and cannot be used for any other application, as long as they are assigned for ICB use.

Note: If a customer uses Agent ID and the direct meeting access method, the agent IDs must be consecutive (for example, 00-31).

Each ICB card, using the direct meeting access method, requires the following:

- One ACD group for each ICB card.
- Assign ACD agent TNs/LENs and corresponding M2616 digital sets. Each configured ICB port appears as an M2616 digital set of an ACD agent. The number of TNs/LENs is equal to the maximum number of ports provided by the ICB card. For an ICB with 32 ports active, the configuration requires 32 TNs/LENs. TNs/LENs require 32 DNs for the ACD incalls key and 32 DNs for the secondary directory number (SDN) key (Key 2).
- An ICB card configured to the maximum capacity of 32 ports and 10 simultaneous conferences requires 87 ACD DNs and 32 TNs/LENs as follows:
  - one ACD DN assigned to the ICB card
  - 32 TNs/LENs assigned to the 32 ports (1 PDN and 1 SDN for each TN/LEN; these can be internal DNs - non-DID)

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— 20 ACD DID DNs (10 DN pairs) for dialing into the potential conferences

Note: For single-number access, replace this with 1 DN.

— 1 DN for TUI access

Full 62-port dual-card conferencing, using the direct meeting access method, requires the following:

- Two ICB cards and six ACD groups as follows:
  - — 64 ACD agents (32 for each card), non-DID
  - — 64 secondary DNs for these agents, non-DID
  - — 36 DNs for simple conferences (9 pairs in each card)

    Note: For single-number access, replace this with 2 DNs (1 for each card).

  - — 1 DN for dual-card conference access
  - — 1 DN for dual-card chairperson access
  - — 1 DN for the link DN, non-DID
  - — 1 DN for the transfer DN, non-DID
  - — 2 DNs for TUI access (1 for each card)

    This provides a total of 170 DNs, 40 of which are DID.
- Assign an Ethernet port to each ICB card with an IP address, subnet mask, and gateway during installation.

  Note: On the CS 2100/Meridian SL-100, verify that there are enough DS30A links back to the extended peripheral module (XPM) to handle the traffic.

LAN configuration

ICB customers should select one of the following alternatives for BUI access:

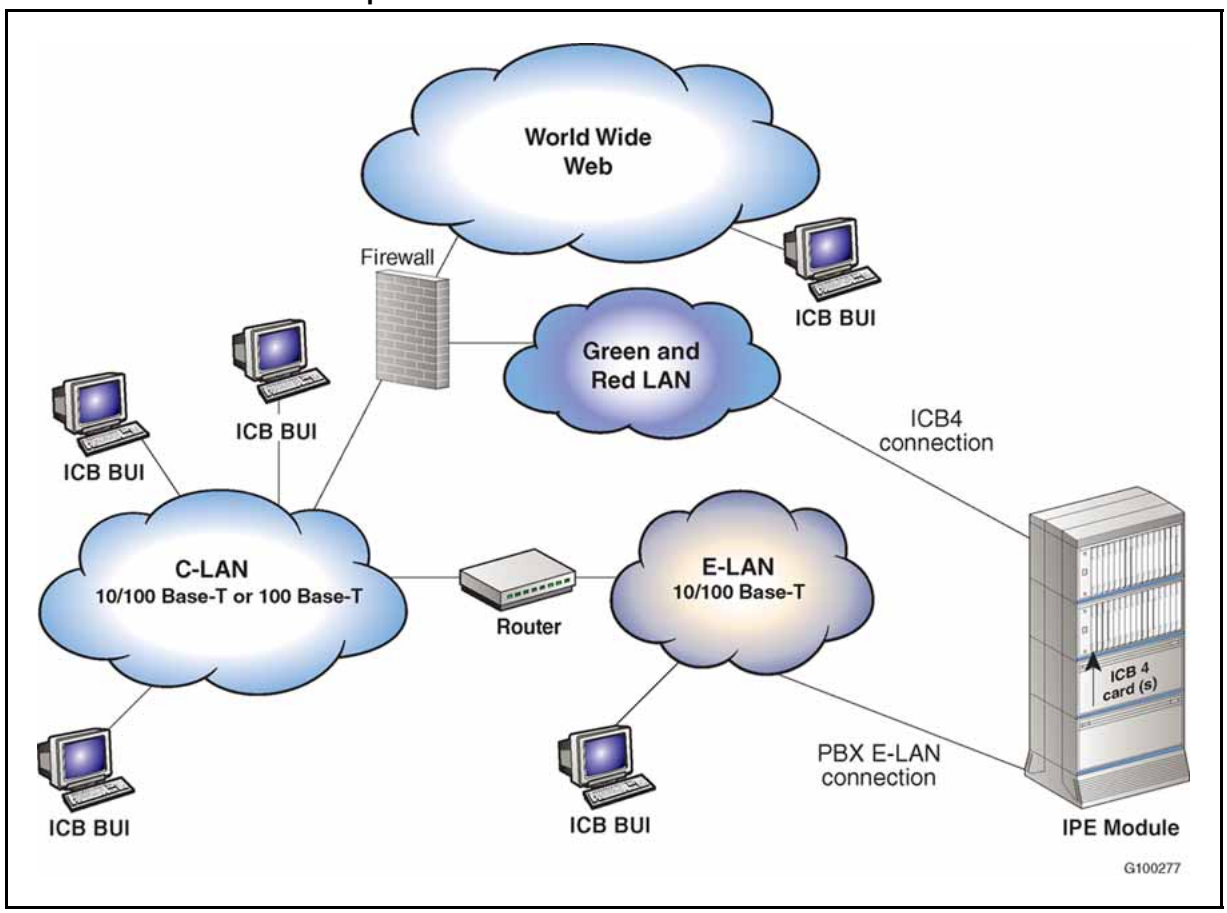
- users and administrators access the ICB from the global internet (the new capability of MICB Release 3)
- users and administrators access the ICB from the customer LAN/intranet only (existing MICB Release 2 capability)

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Global internet access

Global internet access requires careful configuration of security elements. Figure 6 "Global internet access example" (page 40) shows a sample configuration.

Figure 6
Global internet access example



In typical configurations, the firewall does not allow any kind of access from the World Wide Web into the C-LAN. Only access from the C-LAN hosts to the World Wide Web is allowed (for example, HTTP and FTP).

Hosts that need to be accessed from the World Wide Web must be placed in a special sub-network called the Green and Red LAN. The firewall isolates the Green and Red LAN from the C-LAN. Devices that can be accessed from the World Wide Web are put into this segregated LAN segment. Nortel Networks recommends that the Green and Red LAN be the location of the ICB connection.

On the other hand, C-LAN hosts require open access to the ICB for administration and maintenance.

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Table 3 "Firewall access permissions" (page 41) summarizes the recommended access permissions allowed by the firewall. All other paths not in the table should be denied.

Table 3
Firewall access permissions

Source	Destination	Protocol
WWW	ICB	HTTP
C-LAN	ICB	HTTP, FTP, TELNET
ICB	WWW	FTP (optional; allows upgrade from the web)
ICB	C-LAN	FTP
ICB	Mail Server	SMTP

Notes

Take the following notes into consideration:

- Technically, a firewall can be configured to enforce these access restrictions even when the ICB is in the C-LAN. However, a Green and Red LAN is usually used, because it is safer.
- Cards of a dual-ICB set must be in the same LAN segment, with no restrictions between them.

LAN/intranet access only

In this configuration, the ICB is not accessible from anywhere in the World Wide Web (assuming this policy is enforced by the firewall). There are two options for this type of configuration: C-LAN connection and E-LAN connection.

Figure 7 "LAN/intranet access only - C-LAN connection" (page 42) shows an example of the C-LAN connection.

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Figure 7
LAN/intranet access only - C-LAN connection

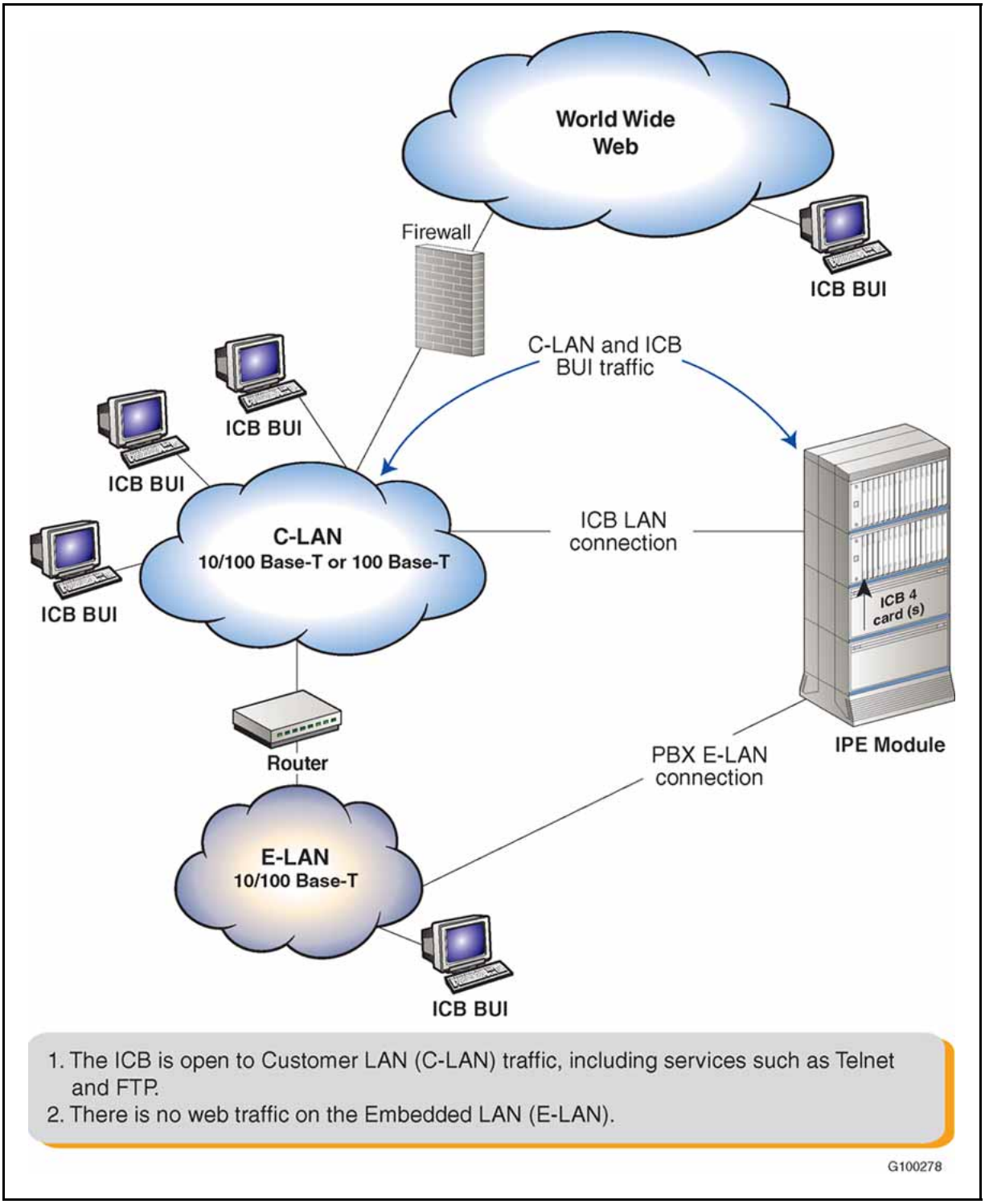
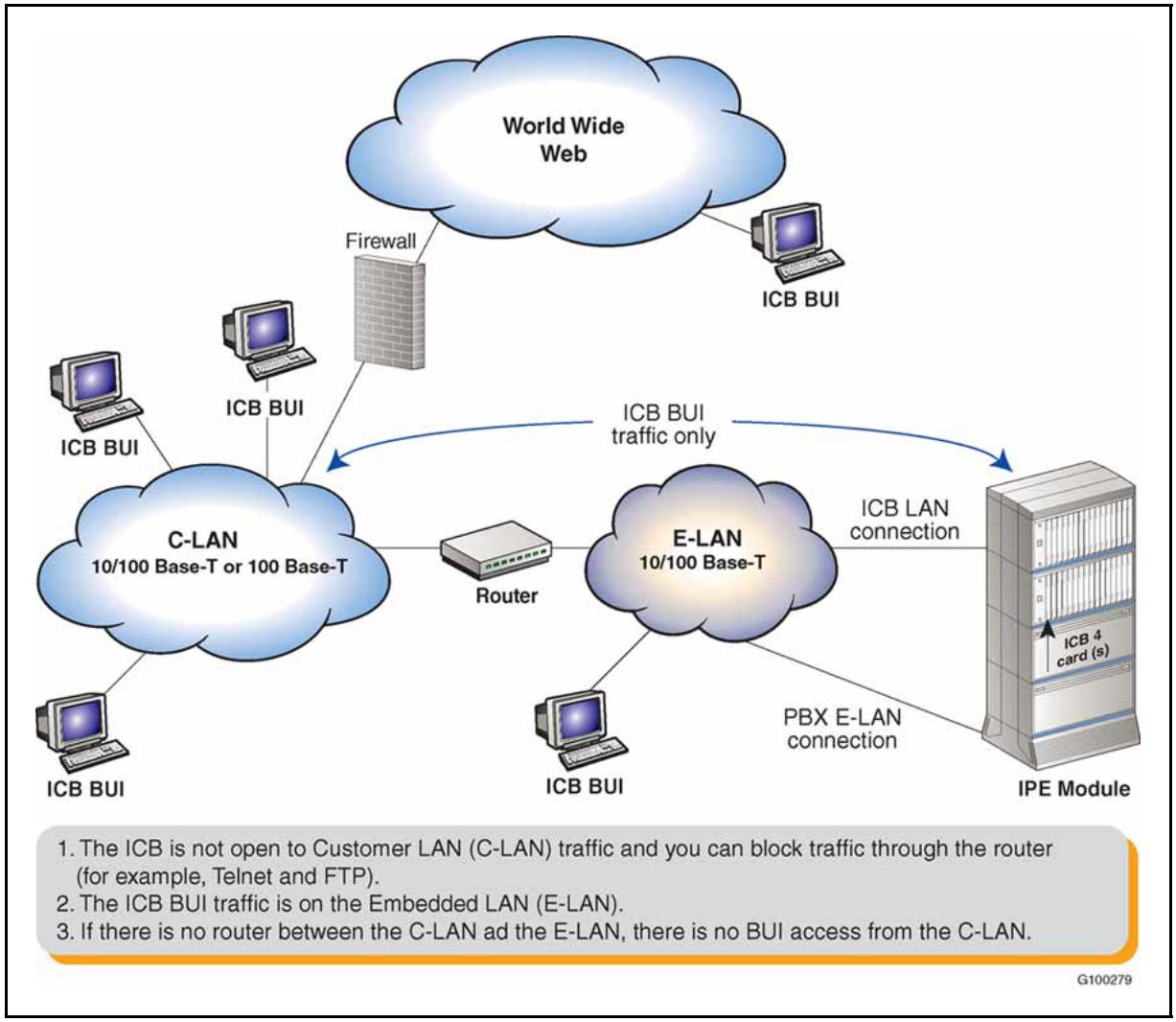


Figure 8 "LAN/intranet access only - E-LAN connection" (page 43) shows an example of the E-LAN connection.

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Figure 8
LAN/intranet access only - E-LAN connection



Notes

The following notes apply to LAN/intranet access only:

- The ICB does not interact with the Meridian system through the E-LAN, so logically there is no requirement to put it there. In addition, if the E-LAN is completely separated from the C-LAN, the ICB cannot be in the E-LAN.
- Nortel Networks recommends that customer try not to put any BUI traffic on the E-LAN if possible.
- Each site should select the most convenient option, taking into account the physical LAN endpoints available near the ICB card.

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- When there are multiple ICBs (that is, more than three) and the BUI is used frequently, the BUI traffic can load the E-LAN, so it may be better to connect the cards to the C-LAN.
- The ICB has a broadcast-storm protection mechanism: it shuts off the LAN port (temporarily) when traffic is too heavy. Nortel Networks recommends that the ICB be put in a "quiet" LAN segment to get a better response time.

Summary of LAN installation information

Use the following steps when installing and configuring the LAN:

Step	Action
1	Determine whether the ICB is to be accessed from the World Wide Web.
2	If yes, coordinate the firewall configuration with your IS group according to Table 3 "Firewall access permissions" (page 41).
3	Determine what is the physical connection point of the ICB. Note these requirements: 10Base-T or 100Base-T, full-duplex.
4	Get the following ICB IP parameters from your IS group: IP address, gateway address, and subnet mask.
5	Get the Mail Server IP address from your IS group. Confirm that the ICB is allowed to access this server by SMTP.

--End--

Testing:

Use the following steps to test the LAN configuration:

Step	Action
1	After the ICB is installed and the IP parameters are configured, try to "ping" from any host in the C-LAN to the ICB or from the ICB to a host on the C-LAN.
2	In the case of World Wide Web access, try accessing the ICB from a browser (HTTP access).

--End--

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Installation and configuration

Purpose

This chapter describes how to prepare the system for installation, install the ICB into:

- the IPE module for Meridian 1
- the Option 11 shelf
- the Media Gateway for CS 1000
- the IPE module for CS 2100/Meridian SL-100

This chapter also describes how to connect the ICB to the administration terminal, and configure the card.

The chapter contains the following sections:

- “Getting started” (page 45) - describes the steps to use when preparing for an installation.
- “CS 1000 configuration” (page 47) - shows how to configure the Meridian 1 and CS 1000.
- “CS 2100/Meridian SL-100 configuration” (page 55) - shows how to configure the Meridian SL-100.
- “ICB installation and configuration procedures” (page 65) - shows how to install the card and set up the web server.
- “ICB Installation Wizard” (page 73) - describes how to use the BUI’s Installation Wizard to complete configuration.

Getting started

To begin the installation, unpack and inspect the components, take inventory, and determine which IPE card slot(s) in which to install the ICB card(s). See Table 1 "ICB hardware list" (page 24) for a complete listing of the ICB hardware.

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Unpack and inspect the equipment

Unpack and inspect the equipment for damage. Follow the steps in Procedure 1 “Prepare for the installation” (page 46), before performing the installation and configuration procedures in this chapter.

Procedure 1
Prepare for the installation

Step	Action
1	Remove items from the installation site that can generate static charge.
2	Use antistatic spray if the site is carpeted.
3	Ground yourself before handling any equipment.
4	Remove equipment carefully from its packaging. Save the packaging, in case the card has to be returned.
5	Inspect the equipment for faults or damage. Report any damaged component to your Nortel Networks representative and the company who delivered the equipment.

--End--

Take inventory

After unpacking and inspecting the equipment, verify that all necessary components are on site before beginning the installation. Check the equipment received against the shipping documents. Report any missing parts to your Nortel Networks representative.

Verify IPE Slot(s)

The ICB card can be installed in any IPE card slot associated with full 50-pin I/O cables. Table 4 "ICB installation into card slots" (page 46) lists the Meridian system modules and the card slots appropriate for ICB installation.

Table 4
ICB installation into card slots

Meridian system modules	ICB card slots
NT8D37BA/EC IPE modules, and NT8D11BC/ED CE/PE modules.	All available IPE card slots.
NT8D37AA/DC IPE modules.	IPE card slots 0, 4, 8, and 12.
CS 1000.	1, 2, or 3 of the Media Gateway, or slots 7, 8, 9, or 10 of the Media Gateway Expansion.

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Determine the access method

Select the access method, single-number or direct meeting access, the system will be using. With direct access, configure 10 DN pairs. In single-number access mode, configure only the single-access DN. In both cases, the BUI provides instructions about what to do next.

Installing the NTCW84JA I/O Panel Filter Connector for a Large System

For Large Systems, the standard IPE module I/O filtering is provided by the 50-pin filter connectors mounted in the I//O panel on the back of the IPE shelf. The filter connector attaches externally to the MDF cables and internally to the NT8D81AA backplane to the I/O panel ribbon cable assembly. For 100BaseTX TLAN operation, the standard I/O filter connector must be replaced with the NTCW84JA ITG Line-specific I/O filter connector for the slot occupied by the ICB card.

Note: The NTCW84JA ITG-filter connector is not required on Small Systems or Succession 1000 systems.



CAUTION

For Large systems manufactured between 1998-1999 and shipped in North America, IPE modules have the NT8D81BA backplane to I/O panel ribbon cable assembly with a non-removable filter connector. The NT8D81BA is compatible with a 10BaseT TLAN. If a 100BaseT TLAN is required, order the NT8D81AA Backplane to I/O panel ribbon cable assembly to replace it. Do not install the NTCW84JA filter connector onto the existing non-removable filter connector.

CS 1000 configuration

Prior to installing any of the ICB hardware, configure the system software for the ICB card(s) through the system TTY terminal.

Summary

The following summarizes the tasks for configuring the CS 1000:

1. LD 23 - Define the ACD DN assigned to the ICB card.
2. Define DNs using either:

   LD 23 - Define ACD DNs and assign them to the ICB card.

   or

   LD 10 - Define Phantom TNs and forward them to the ACD DN assigned to the ICB card.
3. LD 11 - Configure ICB ports as digital sets.
4. LD 23 - Configure the main DN for dual-card conferences.
5. LD 15 - Configure the CDR data if the feature Charge Account is used for billing.

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Assign ACD DNs

The first step is to assign ACD queue.

Table 5
LD 23 - Define the ACD queue assigned to the ICB card

Prompt	Response	Description
REQ	NEW	Add new data.
TYPE	ACD	ACD data block.
CUST	xx	Customer number.
ACDN	xxxx	ACD DN assigned to the ICB card.
MAXP	32	Maximum number of ACD agent positions.
HOML	NO	Logout on handset removal.

Table 6
LD 23 - Assign the ACD DNs for the ICB card

Prompt	Response	Description
REQ	NEW	New control data block.
TYPE	ACD	ACD data block.
CUST	xx	Customer number.
ACDN	xxxx	Conferee (main) or chairperson DN.
MAXP	1	Maximum number of ACD agent positions.
NCFW	xxxx	ACD DN assigned to ICB card.
Note: Repeat commands in this table for each ACD DN being configured.		

Note: The number of DNs defined for each ICB card using direct meeting access depends on the number of conferences and bridges specified on the card. A maximum of 10 conferences can be configured requiring 20 DNs, two for each conference. One DN is for the conferees to call in (the main DN) and one DN is for the conference chairperson.

Define Phantom TN blocks

Phantom TNs can be used, instead of ACD DNs, to serve as chairperson DNs, conferees DNs and TUI DNs.

Enter the CS 1000 definitions for the Phantom TN in LD 10 as follows:

1. The specific TN and DN vary by site.

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Those variables are represented by "x" in Figure 9 "Phantom TN definitions (LD 10)" (page 49).

2. CFXA is the Class of Service (CLS) that enables Call Forwarding.
3. The last four variables in the screen (under FTR) are the main ACD DNs in LD 23.

Figure 9
Phantom TN definitions (LD 10)

```
DES   MICB
TN    xxx    x    xx    xx        PHANTOM
TYPE  500
CDEN  4D
CUST  0
WRLS  NO
DN    xxxx    x     MARP
AST   NO
IAPG  0
HUNT
TGAR  1
LDN   NO
NCOS  0
SGRP  0
RNPG  0
XLST
SCI   0
SCPW
SFLT  NO
CAC   3
CLS       CTD    DTN    FBD    XFD    WTA   THFD   FND    HTD   ONS
  LPR     XRD    CWD    SWD    MWD    LPD   XHD    CCSD   LND   TVD
  CFTD    SFD    MRD    C6D    CNID   CLBD  AUTU
  ICDD    CDMD   LLCN   EHTD   MCTD
  GPUD    DPUD   CFXA   ARND   OVDD   AGTD  CLTD   LDTD   ASCD
  MBXD    CPFA   CPTA   HSPD   UDI    ACC   HBTD   DDGA   NAMA   MIND
  NRWD    NRCD   NROD   SPKD   CRD    PRSD  MCRD
  EXRO    SHL    ABDD   CFHD   DNAA
  CWND    USRD   BNRD   OCHD   RTDD   FAXD
PLEV  02
AACS  NO
MLWU_LANG   0
FTR   DCFW   12     <ACD   DN>
```

The next step is to configure ICB ports as digital sets.

Table 7
LD 11 - Configure ICB ports as digital sets

Prompt	Response	Description
REQ	NEW	Add new data.
TYPE	2616	Digital telephone set M2616.
TN	l s c u s c u	Terminal number of the ICB card, Options 51C, 61C, and 81C.For Option 11C and CS 1000.
Note: The administrator should consider chairperson dial-out restrictions through the ICB ports to prevent international dial-out.		

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Table 7
LD 11 - Configure ICB ports as digital sets (cont'd.)

Prompt	Response	Description
CUST	xx	Customer number.
CLS	FLXA VCE, WTA	FLXA = Flexible Voice/Data Allowed. VCE = Voice. WTA = Warning Tone Allowed. ACD agent (Use FLXA).
KEY	0 ACD <ACD DN> <CLI> <pos ID>	ACD DN plus CLI plus position ID.
KEY	1 SCR <any DN>	Line key.
KEY	2 NRD	Not ready key.
KEY	3 MSB	Make set busy key.
KEY	4 TRN	Call transfer key.
KEY	9 CHG	Change key. Use with CDR and billing feature.
Note: The administrator should consider chairperson dial-out restrictions through the ICB ports to prevent international dial-out.		

The number of virtual ACD agents of the ACD queue is equal to the number of ICB ports. For example, if 12 ports are enabled, define 12 ACD agents. If the TN for the ICB card is specified as 28 0 6, then TNs for the 12 agents are specified as 28 0 6 0 through 28 0 6 11.

Note: Agent IDs must be consecutive (for example, 2000-2031).

Figure 10 "LD 20 ICB configuration" (page 51) shows a sample LD 20 printout of a built ICB port.

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Figure 10
LD 20 ICB configuration

```
PT0000
REQ: PRT
TYPE: TNB
TN   76 0 8 0
SPWD
DATE
PAGE
DES

DES  MICB
TN   076 0 08 00
TYPE 2616
CDEN 8D
CUST 0
AOM  0
FDN
TGAR 1
LDN  NO
NCOS 0
SGRP 0
RNPG 0
SCI  0
SSU
XLST 0
SCPW
CLS  CTD FBD WTA LPR MTD FND HTD ADD HFD
     MWD LMPN RMMD SMWD AAD IMD XHD IRD NID OLD VCE DRG1
     POD DSX VMD CMSD CCSD SWD LND CNDD
     CFTD SFD DDV CNID CDCA MSID DAPA BFED RCBD
CPND_LANG ENG
HUNT
PLEV 02
SPID NONE
AST
IAPG 0
AACS NO
ITNA NO
DGRP
PRI  01
DNDR 0
KEY  00 ACD 4004 0  4939210
         AGN
     01 SCN 4939250 0     MARP
        CPND
          NAME MICB CHANNEL 0
          XPLN 14
          DISPLAY_FMT FIRST,LAST
     02 NRD
     03 MSB
     04 TRN
     05
     06
     07
     08
     09 CHG
     10
     11
     12
     13
     14
```


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Configure DNs for a dual-card conference

When a dual-card conference is defined, two meetings are defined on two cards. First, the meeting is booked on the primary card allocating the maximum free ports. Second, the meeting is booked on the secondary card allocating the rest of free ports for the dual-card conference. The user defines a dual-card conference only on the primary card.

When a user dials into a dual-card conference, the call can terminate either on the primary or on the secondary card. Calls to the dual-card conference main ACD DN are forwarded according to the ACD time overflow night table.

On both cards (primary and secondary), the user cannot use the dual-card conference pair DNs for a simple meeting. Therefore, nine DNs are available for simple meeting and bridges.

For a dual-card configuration, one card functions as the primary card and the other as the secondary card. Define for each card an ACD data block with an ACD DN in LD 23, as shown in Table 5 "LD 23 - Define the ACD queue assigned to the ICB card" (page 48).

For the primary card, configure the following DNs:

- DN pairs (up to nine) - These pairs serve as chairperson and conferee DNs for single-card conferences (less than 32 ports) on the primary card.

  Note: If single-number access is being used, DN pairs are not required. Instead, define the single-number access DN in this step which callers use to access a simple conference on the primary card.

- TUI DN - This is the DN that users dial to set up single-card conferences on the primary card. Do not configure this DN, if the TUI is not going to be used.
- Chairperson DN - This is the DN that chairperson of a dual-card conference dials to enter a dual-card conference. This DN is required for dual-card setup.

Therefore, for the primary card, configure up to 20 DNs in LD 23 that Night Call Forward (NCFW) to the ACD DN of the primary card.

For the secondary card, configure the following DNs:

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- DN pairs (up to nine) - These pairs serve as chairperson and conferee DNs for single-card conferences (less than 32 ports) on the secondary card.

  Note: If single-number access is being used, DN pairs are not required. Instead, define the single-number access DN in this step which callers use to access a simple conference on the secondary card.

- TUI DN - This is the DN that users dial to set up single-card conferences on the secondary card. Do not configure this DN, if the the TUI is not going to be used.
- Transfer DN - This is the DN that transfers dual-card conference participants from the primary card to the secondary card when the primary card reaches capacity. The primary card fills up first in a dual-card conference. Configure this DN for dual-card setup.
- Link DN - This is the DN the creates a speech path between the primary card and the secondary card for dual-card conferences. Configure this DN for dual-card setup.

Therefore, for the secondary card, configure up to 22 DNs in LD 23 that Night Call Forward (NCFW) to the ACD DN of the secondary card.

The main DN must also be configured for the dual-card conference. The main DN is the DN that conferees dial to enter the dual-card conference. When the conferees dial the main DN, the main DN forwards them to the ACD queue of the primary card. When the primary card becomes full, the transfer DN transfers further conferees to the secondary card. Use Table 8 "LD 23 - Configure the main DN for dual-card conferences" (page 53) to configure the main DN for dual-card conferences.

Table 8
LD 23 - Configure the main DN for dual-card conferences

Prompt	Response	Description
REQ	NEW	Add new data.
TYPE	ACD	ACD data block.
CUST	xx	Customer number.
ACDN	xxxx	The main DN for dual-card conferences.
MAXP	1	Maximum number of ACD agent positions.
Note: Carriage return to the end and start again.		
REQ	NEW	New control data block.
TYPE	NACD	Network ACD data block.

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Table 8
LD 23 - Configure the main DN for dual-card conferences (cont'd.)

Prompt	Response	Description
CUST	xx	Customer number.
ACDN	xxxx	The main DN for dual-card conferences.
TABL	N	Night time overflow table.
- TRGT	xxxx 0	xxxx is the ACD DN of the primary card.0 is the time, in seconds, for an immediate transfer to the primary card.
- TRGT	yyyy 2	yyyy is the ACD DN of the secondary card.2 is the time, in seconds, for a delayed transfer to the secondary card.

Table 9 "Sample dialing plan for a 62-port dual-card configuration" (page 54) shows a sample dialing plan for a 62-port dual-card configuration.

Table 9
Sample dialing plan for a 62-port dual-card configuration

Description of DNs	DNs for the primary card	DNs for the secondary card	Configure in...
ACD DN	7000	8000	LD 23
Pair DNs for single-card conferences	7001-7018 (NCFW = 7000 in LD 23)	8001-8018 (NCFW = 8000 in LD 23)	LD 23
TUI DNs	7019 (NCFW = 7000)	8019 (NCFW = 8000)	LD 23
Chairperson DNs	7020 (NCFW = 7000)		LD 23
Transfer DN	N/A	8021 (NCFW = 8000)	LD 23
Link DN	N/A	8022 (NCFW = 8000)	LD 23
Main DN	7021 (TRGT = 7000 0)	7021 (TRGT = 8000 2)	LD 23

Note: Because of the number and variety of DNs programmed for the dual-card setup, Nortel Networks recommends creating a dialing plan chart similar to Table 9 "Sample dialing plan for a 62-port dual-card configuration" (page 54). Refer to this chart when configuring the primary and secondary card attributes, including the dual-card settings, in the administration BUI.

Finally, configure each port on the primary and secondary cards as a digital set. See Table 7 "LD 11 - Configure ICB ports as digital sets" (page 49).

Assign CDR data

If charge account is used for CDR billing, then configure the feature Charge Account for CDR billing. Remember to define Key 9 on all ICB key ports. See Table 10 "LD 15 - Define the charge account for CDR data" (page 55).

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Table 10
LD 15 - Define the charge account for CDR data

Prompt	Response	Description
REQ	CHG	Change customer data.
TYPE	CDR_DATA	CDR data block.
CHLN	23	Set the charge account number length to 23.

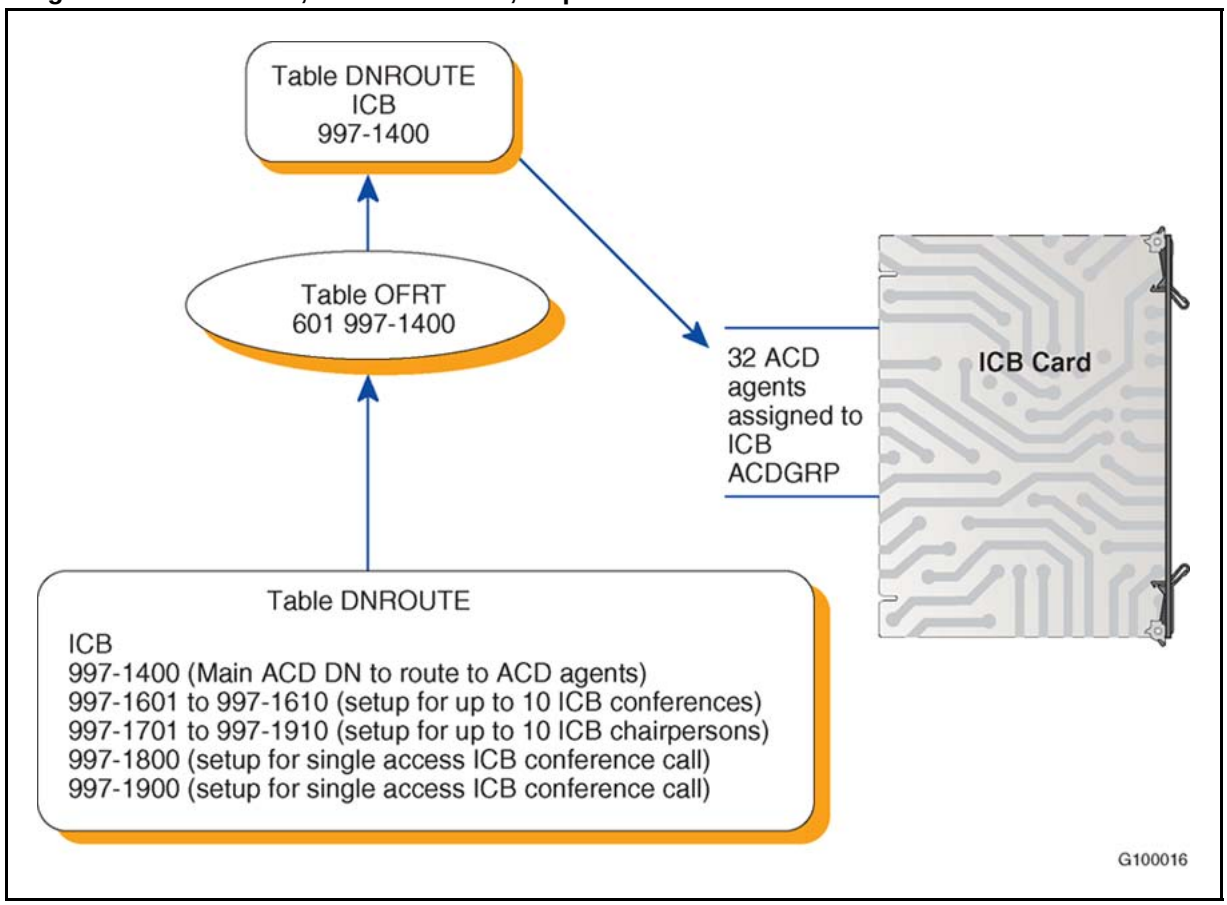
CS 2100/Meridian SL-100 configuration

Single-card configuration

After installing the ICB card(s) and connecting the terminal for CLI access and the server for BUI access, perform CS 2100/Meridian SL-100 database configuration. Figure 11 "Single-card conference, 10 conferences, 32 ports" (page 55) shows the tables to datafill for single-card setup.

Note: If single-number access is being used, the DN pairs are not required. Instead configure a single-number access DN.

Figure 11
Single-card conference, 10 conferences, 32 ports



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Configuration procedure

Single-card installation enables up to 10 conferences on one 32-port ICB card. Each ICB card can use one ICB ACD Group to handle all the access DNs required.

To configure an ICB single-card conference with direct meeting access, from a maintenance and administration position (MAP) terminal follow the steps in Procedure 2 “Configure a single-card conference” (page 56).

Procedure 2
Configure a single-card conference

Step	Action
1	Define LENs as FLXA (MSL09 or above) in table LNINV for a 32-port conference. Refer to Figure 12 "LNINV example" (page 57).
2	Define the ICB ACDGRP and ACD agents assigned to the ICB card. See Figure 13 "ACDGRP example" (page 57), Figure 14 "ACDSGRP example" (page 57), and Figure 15 "ACDLOGIN example" (page 57).
3	Define the ICB conference and chairperson bridge DNs. Refer to Figure 16 "DNROUTE example" (page 58). This step provides the following: **a** Main DN for conference ACD groups to access the ICB agents on the card. **b** Conference DNs and Chairperson DNs. **c** TUI DN and Assistant DN. **d** Single number access conference and chairperson DN.
4	Define the night service route from ACDGRP NSROUTE. The night service DN assigned in table OFRT allows conference and chairperson ACDGRPs to route to the ICB card ACD agents. Table DNROUTE defines the routes. Figure 17 "OFRT example" (page 58) shows an example of table OFRT routing to 214 997 1400 (ICB DN) assigned in table DNROUTE.
5	Use the following tables and command interfaces (CIs) to datafill the ICB for single-card configuration: • Table LNINV. • Table ACDGRP. • Table ACDSGRP. • Table ACDLOGIN. • Table CUSTACD (optional).

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- Table ACDENLOG (optional).
- Table DNROUTE.
- Table OFRT.
- Table OFCENG.
- Service Orders.

Figure 12
LNINV example

```
LEN CARDCODE PADGRP STATUS GND BNV MNO CARDINFO
-------------------------------------------------------------------------------
IPE1 00 0 00 00 5D51AB NPDGP WORKING N NL Y FLXA
```

Note: Cardcode can also be configured as an 8D02 digital line card.

Figure 13
ACDGRP example

```
ACDNAME CUSTGRP ACDRNGTH THROUTE NSROUTE PRIOPRO DBG
MAXCQSIZ MAXWAIT ACDMIS MSQS DISTRING OBSWTONE FRCNGTSV
OPTIONS
-------------------------------------------------------------------
MICB BNRRCH 12 OFRT 600 OFRT 600 0 Y 2 0 N N NONE N N (ACDDISP 4)
(NONIMCUT ) $
```

Figure 14
ACDSGRP example

```
ACDGROUP SUBGROUP RECORDER
-----------------------------------------------------
MICB              1 NONE
```

Figure 15
ACDLOGIN example

```
LOGINID  CUSTGRP  PSWD      OPTIONS
1234     BNRRCH   N    N    $
```

6 The ACD login ID must match the ICB physical port connection to the CS 2100/Meridian SL-100. The ACD agents login must be in descending order, otherwise the ICB card cannot login the

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agents. After adding the ACD login IDs, enter the first agent's ID in the ICB BUI (see "Step 1 - Basic Card Settings" (page 74)).

Note: If using Enhanced ACD Login to login specific ACD agent IDs, datafill tables CUSTACD and ACDENLOG to make sure ICB ACD agents can log in.

Figure 16
DNROUTE example

```
AREACODE OFCCODE STNCODE DNRESULT
-------------------------------------------------------------------
214 997 1601 FEAT ACD MICB PRIM 0 0
214 997 1602 FEAT ACD MICB SUPP 0
214 997 1603 FEAT ACD MICB SUPP 0 (Also used for TUI and Assistant DN)
      .....cont until # of ports needed are configured
214 997 1701 FEAT ACD MICB SUPP 0 0
214 997 1702 FEAT ACD MICB SUPP 0
214 997 1703 FEAT ACD MICB SUPP 0
      .....cont until # of ports needed are configured
```

Note: The DNs in bold are only required when using single access DNs.

Figure 17
OFRT example

```
RTE RTELIST
-----------------------
600 (RT 214 NP LCL 9971400 Y N $) $
```

Note: Use this table to forward, through night service, the ACD main conference and chairperson conference to the ICB ACD prime DN. This example uses 997 1400 as the ACD Prime DN.

7 Define each ICB port as an M2616 digital telephone set. Define ICB ports as ACD agents in SERVORD. Define the digital set keys as follows:

- Key 1: ACD
- Key 1: M0200
- Key 1: COMMUNICTR
- Key 2: Secondary DN
- Key 3: Not Ready (NRD)
- Key 4: ACD Not Ready (ACDNR)
- Key 5: Fast Transfer (FXR)

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The following example shows how to datafill the ACD agents using SERVORD. The configuration requires up to 32 LENs and 64 DNs. ACD Incalls and Key 2 use a secondary DN.

Figure 18
QLEN example

```
LEN:    IPE1  00 0 00 00
TYPE: SINGLE PARTY LINE
SNPA: 214
DIRECTORY NUMBER:    9971401          (NON-UNIQUE)
LINE CLASS CODE:  M2616 WITH DISPLAY AND HANDSFREE
CUSTGRP:        BNRRCH  SUBGRP: 0  NCOS: 0  RING: Y
ACDKEY: INCALLS    MICB1    1    N
CARDCODE:  5D51AB   GND: N  PADGRP: NPDGP  BNV: NL MNO:Y
PM NODE NUMBER    :   50
PM TERMINAL NUMBER :   1
DNGRPS OPTIONS:
OPTIONS:
COMMUNICTR
MSB
ACDNR
KEY      DN
---      --
1     ACD         9971401   INCALLS   MICBPRIM1   1   N
2     DN          9971501
KEY    FEATURE
---    -------
3 ACDNR
4 MSB $
5 FXR
16 HANDSFREE
```

Note: When adding the display feature to the M2616 set, use OPTKEY1, Option M0200.

Define Agent IDs as consecutive numbers within the lower and upper limit (see “Step 1 - Basic Card Settings” (page 74)).

8 In table OFCENG, set configure ALL_ACD_LOGIN_IDS_VALID **Y**.

Figure 19
OFCENG example

```
PARMNAME                          PARMVAL
ALLOW_RINGING_ON_TIP_SIDE         N
ALL_ACD_LOGIN_IDS_VALID           Y
```

--End--

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Dual-card configuration

The dual-card configuration enables a single conference to occur on two cards and have up to 62 participants depending on access type. In the dual-card configuration, one card is the primary card, and the other is the secondary card. Each card can host single-card conferences of three to 32 participants, or a dual-card conference, which occupies ports on both cards.

Note: There is no need for ICB cards in a dual-card configuration to reside next to each other in an IPE shelf. Software establishes the audio connections between the two cards. There is no hardware connection between the two cards.

Datafill the following tables and command interfaces for dual-card configuration:

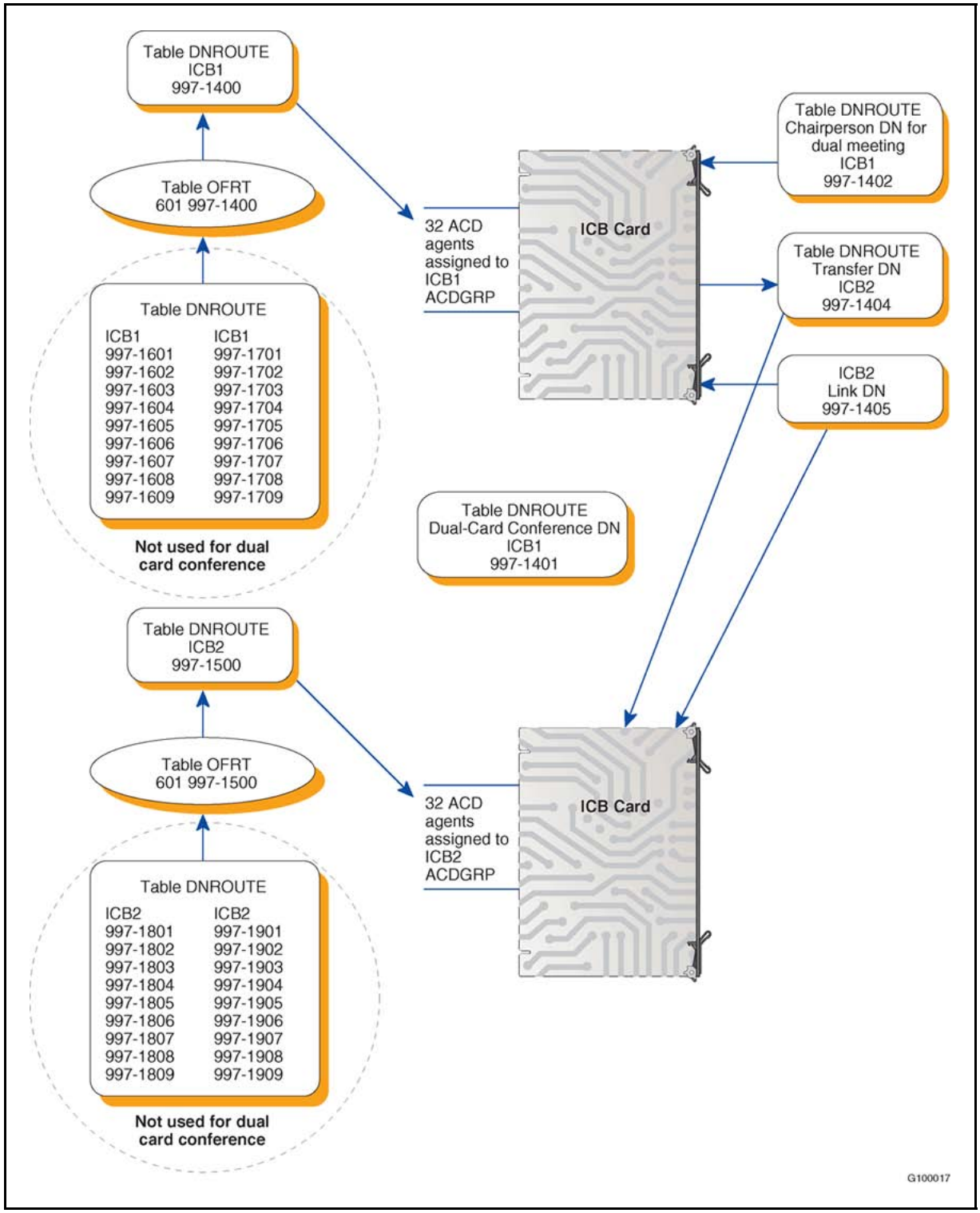
- table LNINV
- table ACDGRP
- table ACDSGRP
- table ACDRTE (requires a new entry)
- table ACDLOGIN
- table DNROUTE
- table OFRT

Figure 20 "Dual-card conference, 1 conference, 62 ports" (page 61) provides an example of the datafill for dual-card setup.

Note: If single-number access is being used, DN pairs are not required. Instead configure two single-number access DNs: one for callers to use to access simple conferences on the primary card and one for callers to use to access simple conferences on the secondary card.

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Figure 20
Dual-card conference, 1 conference, 62 ports



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Service Orders

Add an additional ACD group for the second card.

Figure 21
ACDGRP example

```
ACDNAME CUSTGRP ACDRNGTH THROUTE NSROUTE PRIOPRO DBG
MAXCQSIZ MAXWAIT ACDMIS MSQS DISTRING OBSWTONE FRCNGTSV
OPTIONS
---------------------------------------------------------------------------
MICB2 BNRRCH 12 OFRT 601 OFRT 601 0 Y 2 0 N N NONE N N (ACDDISP 4)
(NONIMCUT ) $
```

Add additional ACD subgroup information for the second card.

Figure 22
ACDSGRP example

```
ACDGROUP SUBGROUP RECORDER
-----------------------------------------------------------
MICB2 1 NONE
```

Add additional login IDs for the second card agent logins. These login IDs must be in sequential order.

Figure 23
ACDLOGIN example

```
LOGINID   CUSTGRP   PSWD          OPTIONS
1234      BNRRCH     N      N       $
```

Add table DNROUTE to provide DNs for the following:

- second ICB card (for single-card conference and chairperson)
- transfer DN (to transfer conference calls from ICB card 1 to ICB card 2)
- link DN (provides speech path between the two cards)
- 62-port Main conference DN
- chairperson DN for ICB card 1

Note: From all of these DNs, part are for the primary card and the rest are for the secondary card. However, when configuring these DNs in the ICB BUI, all dual-card DNs are configured on the primary card.

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Figure 24
DNROUTE example

```
AREACODE OFCCODE STNCODE DNRESULT
-------------------------------------------------------------------
214 997 1600 FEAT ACD MICB2 PRIM 0 0
214 997 1401 FEAT ACD MICB1 SUPP 0 (Used for Dual Card MAIN Conference)
214 997 1402 FEAT ACD MICB1 SUPP 0 (Used for Dual Card Card 1 chairperson)
214 997 1403 FEAT ACD MICB2 SUPP 0 (Used for Dual Card Card 2 chairperson)
214 997 1404 FEAT ACD MICB2 SUPP 0 (Used for Dual Card Transfer DN)
214 997 1405 FEAT ACD MICB2 SUPP 0 (Used for Dual Card Link DN)
214 997 1802 FEAT ACD MICB2 SUPP 0 (Used for single card conferences)
214 997 1803 FEAT ACD MICB2 SUPP 0 (Used for single card conferences)
.....cont until # of ports needed are configured
```

Note: The DNs in bold are only required when using single access DNs.

Use table ACDRTE to allow a dual-card conference to overflow from ICB card 1 to ICB card 2 when there are no more available ports on card 1.

Figure 25
ACDRTE example

```
ACDGRP          OPTNAME              OPTION
MICB1           OVFL    OVFL         (MICB 2)
```

Use table OFRT to add the DN routing for the second ICB card.

Figure 26
OFRT example

```
RTE RTELIST
-------------------
601 (RT 214 NP LCL 9971600 Y N $) $
```

Configuration procedure

To set up a dual-card configuration using direct meeting access, follow the steps in Procedure 3 “Configure a dual-card conference” (page 64).

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Procedure 3
Configure a dual-card conference

Step	Action
1	Install the two cards and their Ethernet adapters identical to single-card installation. See Procedure 4 “Install the Ethernet Adapter card” (page 65). ***Note:*** There is no need for the two cards to be next to each other in the shelf or cabinet.
2	Busy and Return to Service (RTS) the two cards in the IPE PM level of the MAP terminal.
3	For each card, connect a VT100 terminal to the card and enter the keycode information, including the appropriate number of ports. Wait for each card to verify the keycode information.
4	For each card, log into the card through the CLI (default login: admin). Enter the System Attributes Editor, enter **`sa`** then **`sy`**, and modify the following information: **The subnet mask, the gateway address, and the IP address** ***Note:*** After entering the Ethernet information, the CLI asks if you want to restart the cards. Select **YES** at this point.
5	From a PC, ping each ICB card to make sure that they have a correct connection to the LAN. To ping an IP card, perform the following: **a** Click on the **Start** button and select **Run** from the Start Menu. **b** In the Open: field, enter **`ping <IP address>`** where <IP address> is the IP address of one of the ICB cards. **c** Click the **OK** button, and observe the DOS window that opens. If you receive the message: "Reply from <IP address>...", you have set up the LAN connection correctly and you can continue. If you receive the message: "Request timed out", there is a problem with the LAN connection.
6	Configure the DNs for the dual-card configuration.
7	Configure each port on the two new cards as an M2616 set. See Procedure 2 “Configure a single-card conference” (page 56). Refer to SERVORD information in Figure 18 "QLEN example" (page 59).
8	Open up the web browser on your PC. In the URL field of the browser, enter the following: **`<IP address>`** where < IP address> is the ICB IP address.

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9 Log into the BUI (defaults: admin and 000000) and select the ICB Installation Wizard (see "ICB Installation Wizard" (page 73)").

--End--

ICB installation and configuration procedures

Once the site is prepared for installation and the Meridian system software is configured, use the steps in Table 11 "ICB installation summary" (page 65) to complete the ICB installation.

Table 11
ICB installation summary

Step	Description
1	Install a serial Maintenance terminal for preliminary card setup using the following procedures: • Procedure 4 "Install the Ethernet Adapter card" (page 65) Use one of the following three procedures to connect the serial Maintenance terminal to the ICB as follows: • Procedure 5 "Access the ICB directly" (page 67) • Procedure 6 "Access the ICB remotely using a modem" (page 68) • Procedure 7 "Access the ICB remotely using a LAN hub" (page 68) If your system is an CS 1000 or Option 11C, use one of the following three procedures to connect the serial Maintenance terminal to the ICB as follows: • Procedure 8 "Access the ICB directly - Option 11C or CS 1000" (page 69) • Procedure 9 "Access the ICB remotely using a modem - Option 11C or CS 1000" (page 70) • Procedure 10 "Access the ICB remotely using a LAN hub - Option 11C or CS 1000" (page 71)
2	Install the ICB card(s) using the following: • Procedure 11 "Install ICB cards" (page 71)
3	Configure the Maintenance terminal for command line interface (CLI) access as follows: • Procedure 12 "Set up CLI access from the maintenance terminal" (page 72) Define the ICB Ethernet parameters using the CLI System Attributes Editor as follows: • Procedure 13 "Configure initial card parameters using the CLI" (page 72)
5	Complete the installation using the ICB BUI Install Wizard as follows: • Procedure 14 "Access the administration BUI" (page 73) • See "ICB Installation Wizard" (page 73) for a description of how to configure the ICB card(s) using the Install Wizard.

Procedure 4
Install the Ethernet Adapter card

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Step	Action
1	Remove the cover plate from the I/O panel at the rear of the IPE module.
2	Remove the I/O panel retaining screws and lift the I/O panel from the module.
3	Set up the I/O panel filter connector for the card slot you have assigned for the ICB card installation.
4	Your next step depends on the configuration of that filter connector. **a** If this connector has a permanent connection to the backplane cable, remove the filter connector from the I/O panel. **b** If a 50-pin connector joins the filter connector and the backplane cable, disconnect the 50-pin connector from the I/O panel filter connector. Then, being careful to save the retaining screws, remove the filter connector from the I/O panel.
5	Install the NT5D52AC Ethernet Adapter card into the selected I/O panel connector cutout using the saved retaining screws.
6	Fasten the I/O panel to the module using the retaining screws.
7	Replace the module cover plate.
	--End--

Table 12 "Maintenance cable" (page 66) lists the pin number assignments for the Maintenance terminal cable that connects the IPE module I/O panel that the following procedures use. The cable connects to the nullmodem for direct terminal connection or to a modem for a remote maintenance terminal.

Table 12
Maintenance cable

J2 DB-25 pin	J1 50-pin	Description	J2 DB-25 pin	J1 50-pin	Description
1	25	Reserved	14	48	LAN_Rx-
2	22	RS-232 Tx	15	13	Reserved
3	20	RS-232 Rx	16	14	Reserved
4	18	Reserved	17	15	Reserved
5	10	Reserved	18	36	Reserved
6	16	Reserved	19	37	Reserved
7	21	GND	20	19	Reserved

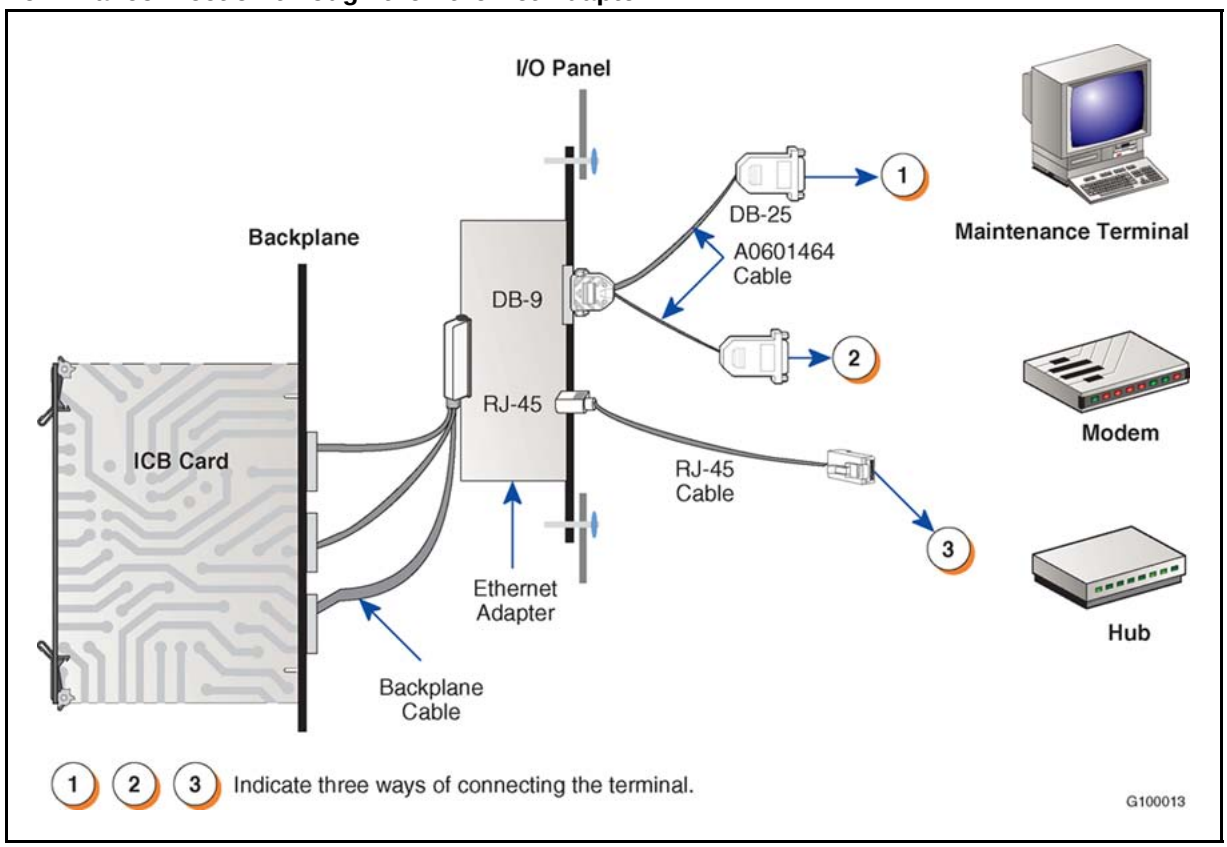
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Table 12
Maintenance cable (cont'd.)

J2 DB-25 pin	J1 50-pin	Description	J2 DB-25 pin	J1 50-pin	Description
8	17	Reserved	21	38	Reserved
9	11	Reserved	22	39	Reserved
10	24	LAN_Tx+	23	40	Reserved
11	49	LAN_Tx-	24	41	Reserved
12	12	Reserved	25	N.C.	Not Connected
13	23	LAN_Rx+			

Refer to Figure 27 "Terminal connection through the Ethernet Adapter" (page 67) when connecting the Maintenance terminal (that is, VT100) in the following procedures.

Figure 27
Terminal connection through the Ethernet Adapter



Procedure 5
Access the ICB directly

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Step	Action
1	Position the Maintenance terminal on a desk near the system.
2	Verify that the Ethernet Adapter card is on the I/O panel as described in Procedure 4 “Install the Ethernet Adapter card” (page 65).
3	Plug the terminal cable DB-9 female connector into the DB-9 male connector on the Ethernet Adapter card on the I/O panel.
4	Plug the DB-25 male connector at the other end of the terminal cable into the RS-232 connector on the terminal. A nullmodem is not required. If a gender changer is required, purchase one from a local electronics store.

--End--

Procedure 6
Access the ICB remotely using a modem

Step	Action
1	Verify that the Ethernet Adapter card is on the I/O panel as described in Procedure 4 “Install the Ethernet Adapter card” (page 65).
2	Plug the terminal cable DB-9 female connector into the DB-9 male connector on the Ethernet Adapter card on the I/O panel.
3	Plug the DB-25 male connector at the other end of the terminal cable into the DB-25 female connector of a DB-25F/DB-25M nullmodem adapter. If a female-to-female nullmodem is required, use a customer-supplied nullmodem.
4	Plug the DB-25 male connector of the nullmodem adapter DB-25F/DB-25M into the DB-25 female connector on the modem. If a female-to-female nullmodem is required, use a customer-supplied nullmodem.
5	Plug the modular modem cable RJ11 plug into the RJ11 jack on the modem.
6	Plug the other end of the modular modem cable RJ11 plug into the RJ11 jack on the wall.

--End--

Procedure 7
Access the ICB remotely using a LAN hub

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Step	Action
1	Verify that the Ethernet Adapter card is on the I/O panel as described in Procedure 4 “Install the Ethernet Adapter card” (page 65).
2	Plug the modular cable RJ-45 plug into the RJ-45 jack on the NT5D52AC Ethernet Adapter card.
3	Plug the RJ-45 plug at the other end of the modular cable into the Ethernet LAN hub.
4	Make the remaining Ethernet connections as required using standard Ethernet connection rules.

Note: For local testing purposes, or direct connection from the Ethernet port to a PC, use an Ethernet cross-over cable purchased at a local computer store.

--End--

If installing the ICB card in an Option 11C or CS 1000, use the following procedures to connect the Maintenance terminal.

Note: These procedures do not apply to the Meridian 1 Options 51C, 61C or 81C or the CS 2100/Meridian SL-100.

In the procedures that follow, the connections are the same for the Option 11C and the CS 1000, the only difference is that the connectors are on the back of the Call Server and Media Gateway for the CS 1000, whereas they are on the bottom of the Option 11C cabinet.

Table 13 "DB-9 RS-232 port pin out" (page 69) describes the DB-9 pin assignment that the next two procedures use.

Table 13
DB-9 RS-232 port pin out

9-pin (male) serial connector pin #	Signal Description
2	RS-232 TX (transmit)
3	RS-232 RX (receive)
5	GND

Procedure 8
Access the ICB directly - Option 11C or CS 1000

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Step	Action
1	Position the Maintenance terminal on a desk near the system.
2	If the system is an Option 11C perform the following: **a** Verify that the Ethernet Adapter is installed in the Option 11C. **b** Plug the terminal cable DB-9 female connector into the DB-9 male connector on the Ethernet Adapter on the I/O panel. **c** Plug the DB-25 male connector at the other end of the terminal cable into the RS-232 connector on the terminal. If the connection requires a gender changer, obtain one at a local electronics store.
3	If your system is a CS 1000, connect the NTBK48 three-port SDI cable to the 9-pin SDI connection (COM RS-232) at the back of the Call Server and Media Gateway.

--End--

Procedure 9
Access the ICB remotely using a modem - Option 11C or CS 1000

Step	Action
1	Verify that the Ethernet Adapter/Medium Access Unit (MAU) is installed in the Option 11C or CS 1000. Insert the industry-standard MAU into the Ethernet Connection on the back of the Call Server and Media Gateway. ***Note:*** The Ethernet MAU comes with the cable kits for the Call Server and Media Gateway.
2	Plug the terminal cable DB-9 female connector into the DB-9 male connector on the Ethernet Adapter/MAU on the I/O panel.
3	Plug the DB-25 male connector at the other end of the terminal cable into the DB-25 female connector of the customer-supplied DB-25F/DB-25M nullmodem adapter.
4	Plug the DB-25 male connector of the DB-25F/DB-25M nullmodem adapter into the DB-25 female connector on the modem.
5	Insert the modular RJ11 plug into the RJ11 jack on the modem.
6	Insert the other end of the RJ11 plug into the RJ11 jack on the wall.

--End--

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Procedure 10
Access the ICB remotely using a LAN hub - Option 11C or CS 1000

Step	Action
1	Verify that the Ethernet Adapter/MAU is installed in the Option 11C or CS 1000. Insert the industry-standard MAU into the Ethernet Connection on the back of the Call Server and Media Gateway. ***Note:*** The MAU comes with the cable kits for the Call Server and Media Gateway.
2	Insert the modular cable RJ-45 plug into the RJ-45 jack on the Ethernet Adapter/MAU.
3	Insert the RJ-45 plug at the other end of the modular cable into the LAN hub.
4	Make the rest of the Ethernet connections as required using standard Ethernet connection rules.

--End--

Procedure 11
Install ICB cards

Step	Action
1	Identify the card slots selected for ICB card(s). Refer to Table 4 "ICB installation into card slots" (page 46).
2	Make sure to properly place the PCMCIA hard drive card in the lower faceplate PCMCIA slot.
3	Pull the top and bottom extractors away from the ICB faceplate.
4	Insert the ICB card into the card guides and carefully push it until it makes contact with the backplane connector.
5	Push the top and the bottom extractors towards the faceplate to insert the ICB card into the faceplate connector and to lock it in place.
6	Observe the red LED at the top of the faceplate (the card LED). *This LED blinks three times after the self-test successfully completes. When the ICB software loads, the LED blinks three more times and then remains lit. This takes approximately 45 seconds.*
7	Repeat Steps 1 through 6 for each additional ICB card.

--End--

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Procedure 12
Set up CLI access from the maintenance terminal

Step	Action
1	Specify the VT-100 type terminal interface characteristics to make sure they are compatible with the ICB RS-232 interface.
2	Set the interface parameters as follows: • Transmission speed: 9600 bps • Data bits: 8 • Stop bit: 1 • Parity: No • Flow control: none ***Note:*** Do not use XON/XFF flow control.

--End--

The next step is to define IP parameters using the CLI.

Procedure 13
Configure initial card parameters using the CLI

Step	Action
1	Enter the key-code.
2	Enter the card feature (Basic or Advanced).
3	From the VT-100 type terminal press the **Enter** key. *The logon window appears.*
4	At the login prompt, enter the following: `admin` Where "admin" is the default administrator password.
5	Access the System Administration menu. Enter: `SA` *The System Administration menu opens.*
6	Access the System Attributes Editor. Enter: `SY` *The System Attributes Editor opens.*
7	Enter the following IP attributes for the ICB card:

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- IP address - The internet protocol address which has the same format as the gateway address.
- Subnet mask - The part of the IP address which represents a subnetwork within a network. The subnet mask has a format of XXX.XXX.XXX. XXX, where XXX is in the range 0-255. Subnet mask in binary presentation of 32 bits has at least the first eight digits "1" and the last digit is "0".
- Gateway address - Is in the XXX.XXX.XXX.XXX format, where every token is in the range 0-255.

8 Enter `s` to save the parameters.

9 Exit the CLI and proceed to Procedure 14 “Access the administration BUI” (page 73). All other card configuration is performed from the BUI.

--End--

Procedure 14
Access the administration BUI

Step	Action
1	Check the installation by doing the following: **a** Run a browser, either Netscape or Microsoft Internet Explorer. **b** In the location field, enter: `http://<ICB IP address>` **c** Login as an administrator. The default ID and password are admin and carriage return (enter key). **d** Proceed with the installation using the Installation Wizard (see below).

Note: If changes to IP addresses are to be completed to previously installed ICB4 cards that are currently configured for Dual Card Conferences, the card must be changed to Single Card Mode via the BUI prior to making changes to the IP addresses of the cards.Refer to Figure 28 "Installation Wizard: Step 1 - Basic Card Settings window" (page 75)

ICB Installation Wizard

Overview

The ICB Installation Wizard provides an easy method for configuring new systems. Only a user who logs in as an administrator can use the Installation Wizard. An administrator accesses the Installation Wizard by

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clicking on the Install Wizard link on the BUI's ICB Dashboard. For more information about accessing this tool, see, "Administration BUI" (page 107).

After completing a Wizard session, the administrator can try operating the card (that is, schedule a conference and place a call), so long as the Meridian system setup is complete. An administrator can return to the Wizard at any time to change system definitions.

The Installation Wizard consists of four steps, each of which appears on a separate window. For a new installation, follow the Wizard step-by-step. For already installed systems, go directly to a specific window to modify one or more fields. The windows are as follows:

1. **Basic Card Settings** - use this window when getting started. **The Administrator must enter the time zone of the ICB card.**
2. **Access Numbers** - select the dialing method (that is, direct meeting or single-number) and enter the DNs according to Meridian system configuration.
3. **Define First User** - define at least one user in order to perform sanity tests, such as scheduling conferences and placing calls. This step eliminates the need to go to a separate window to define a user after finishing using the Wizard, just to perform some testing.

   Because this step is required only during initial installation, the BUI excludes it (that is, grays it out) after a successful installation. Normal user administration is performed from a separate window in the Administration BUI.
4. **Dual Card Meetings** - define the parameters for dual-card meetings. This step appears only in the primary card of a dual-card ICB configuration.

Conventions

All Installation Wizard windows list the steps on the left of the window. During installation advance step-by-step by clicking on the **Submit & Continue** button. After installation is complete, access a specific step directly by clicking on its name in the list.

Step 1 - Basic Card Settings

Figure 28 "Installation Wizard: Step 1 - Basic Card Settings window" (page 75) shows the Basic Card Settings window. Click on the **Install Wizard** link on the ICB Dashboard to access this window.

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Figure 28
Installation Wizard: Step 1 - Basic Card Settings window

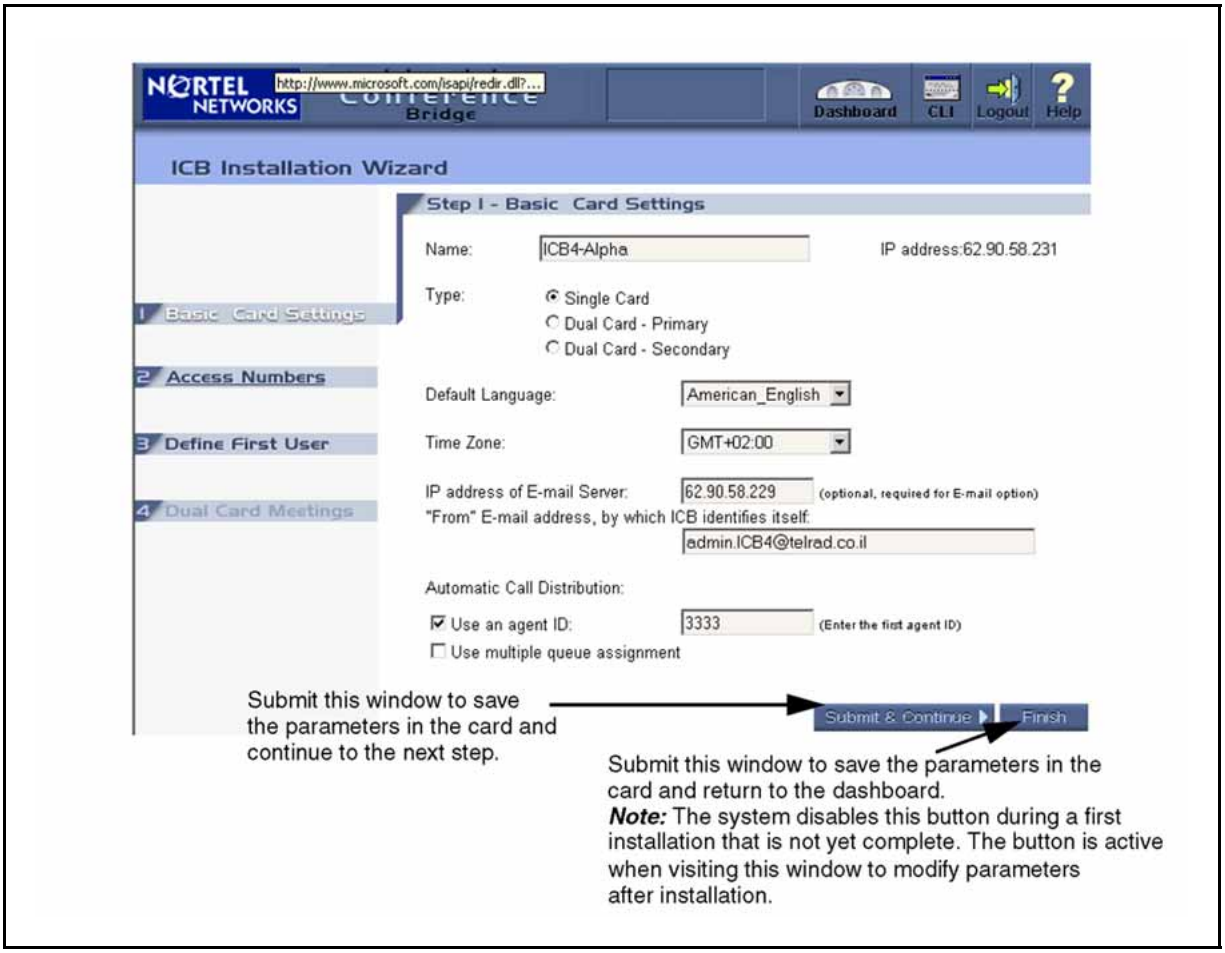


Table 14 "Basic Card Settings parameters" (page 75) describes the parameters, from top to bottom, of the Basic Card Settings window.

Table 14
Basic Card Settings parameters

Item	Description
Name	Enter the card's name. *Range:* Free text up to 20 characters.
IP Address	Shows the IP address of the card, which appears as view only. ***Note:*** Define the card address using the CLI.

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Table 14
Basic Card Settings parameters (cont'd.)

Item	Description
Type	Define the card's configuration type as follows: • Single card (stand-alone). • Primary card in a dual-card pair. • Secondary card in a dual-card pair. ***Note 1:*** Dual-card meeting configuration in Step 4 uses this information. If information is changed here, a window opens reminding you to change the settings of a dual-card meeting. ***Note 2:*** When an ICB card of type "single" already configured with 10 DNs pairs is changed to "primary" or "secondary", one of the DN pairs must be deleted. This is because in a dual-card set one DN pair is reserved for the dual meeting configured in Step 4. The ICB attempts to find a free DN pair (that is, with no conferences scheduled on it) and deletes it. If no such DN is found, the ICB deletes the DN pair with the fewest conferences. In this case, a confirmation box appears that allows the administrator to confirm or cancel the whole operation. ***Note 3:*** When a "primary" or "secondary" card is changed to be "single", all dual meetings are changed to simple meetings and their port size is reduced to the capacity of this card.
Default Conference Language	Determine the default voice-prompt language for conferences and the TUI. When scheduling a conference, users can select a language from the available set, but if the user does not specify a language this parameter applies. *Default:* American English.
Time Zone	Select the appropriate time zone for the ICB card. If this field is not entered, conferences will not be scheduled at the proper times.
IP address of E-mail Server	Enter the IP address of the server that the ICB uses to send scheduling confirmation and administration E-mail messages. If this field is left empty, or an incorrect address is specified, the ICB will not send E-mail messages. However, the rest of the system will operate properly. ***Note:*** The E-mail server must support the Simple Mail Transfer Protocol (SMTP).
"From" E-mail address, by which the ICB identifies itself	Enter the E-mail address which the ICB uses to identify itself when sending E-mails. This item appears in the "From:" field of sent E-mails. ***Note 1:*** Some E-mail servers require this information as a mandatory field. It cannot be empty, but it can be a non-existent address. Some servers will not deliver the E-mail if it is not correct.

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Table 14
Basic Card Settings parameters (cont'd.)

Item	Description
	Note 2: ICB never receives E-mails, so it does not require an address. However, the "from" address is used when returned mail occurs (for example, someone replies to the ICB's E-mail or the network returns an undeliverable E-mail). If the address is unreal, the returned mail is not delivered. If the "from" address is someone's real address, they will receive the ICB's returned mail.
Automatic Call Distribution	Define the ACD setup according to the Meridian system ACD configuration. **Use an agent ID** - Indicate whether ACD is configured with the agent ID option. If yes, enter the four-digit agent ID of the first ICB port in the adjacent text box. The other ports use the succeeding agent IDs. **Use multiple queue assignment** - Indicate if ACD is configured with the multiple-queue option. An entry is required, because this option affects the agent login process which the system applies to the ports.

Step 2 - Access Numbers

Use this step to define the access method, direct meeting or single-number, and the DNs according to Meridian system configuration. Figure 29 "Installation Wizard: Step 2 - Access Numbers window" (page 78) shows the Access Numbers window.

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Figure 29
Installation Wizard: Step 2 - Access Numbers window

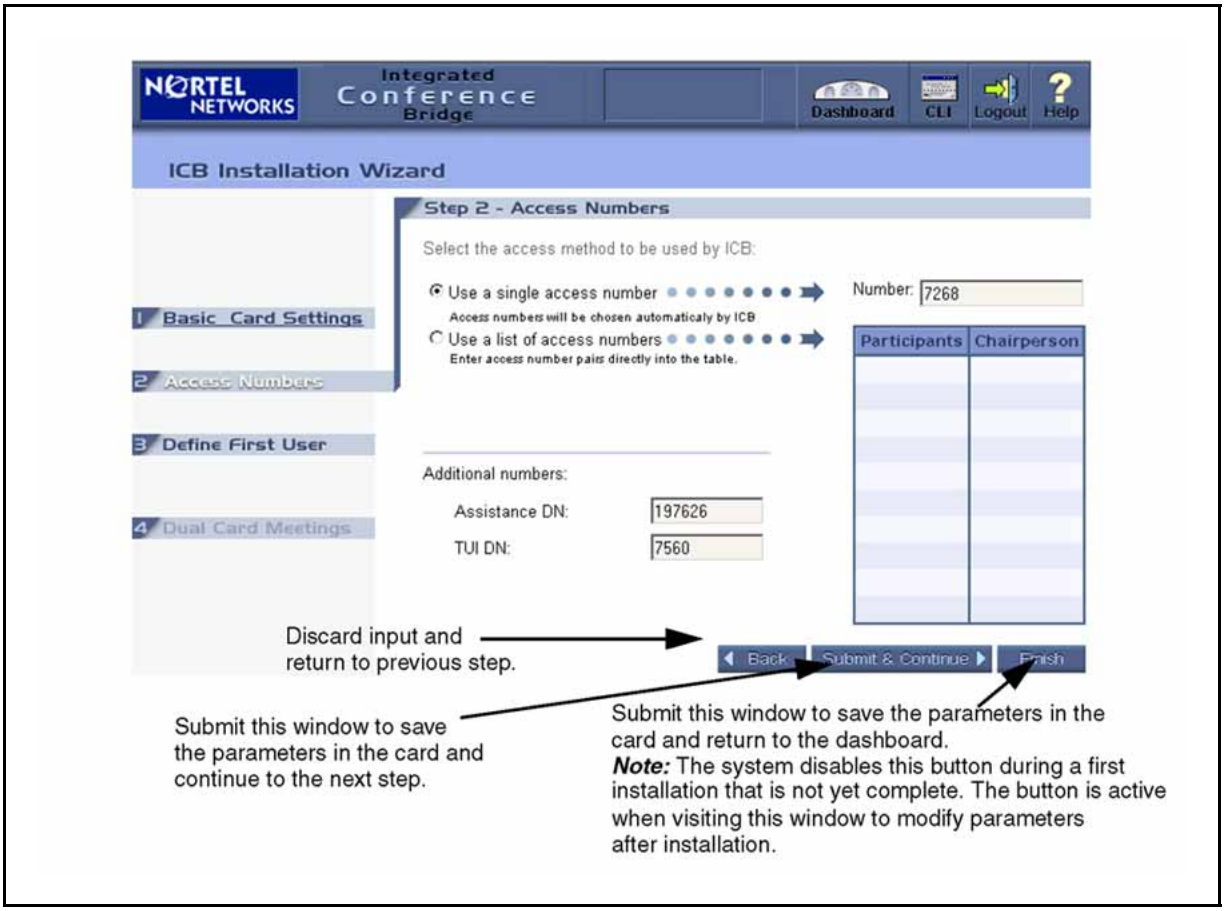


Table 15 "Access Numbers parameters" (page 78) describes the parameters, from top to bottom, of the Access Numbers window. Configure all the DNs in this window according to Meridian system configuration.

Table 15
Access Numbers parameters

Item	Description
Use a single access number	Enter the single DN to use for accessing all conferences.

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Table 15
Access Numbers parameters (cont'd.)

Item	Description
Use a list of access numbers	This field requires a list of DN pairs, because with direct meeting access users dial the conference DN and then the chairperson DN to enter the meeting. The number of DNs defined equals the maximum number of simultaneous conferences allowed. Configure up to 10 DN pairs. ***Note:*** Define only nine DN pairs for primary or secondary cards in a dual-card set. One DN must be reserved pair for dual-card meetings (see "Step 4 - Dual Card Meetings" (page 79)). Delete DNs by clicking on a table cell and pressing the **Delete** key, which leaves the cell empty. DNs that are in use by a future or current conference cannot be deleted; an error message appears when submitting the form. When upgrading from MICB Release 2, the system uses the same table. The old DN pairs appear in the table.
Assistance DN	Enter the DN of an operator or attendant. The system dials this DN when the chairperson in an active conference selects "call assistant" from the TUI or BUI.
TUI DN	Enter the DN to access TUI services.

Step 3 - Define First User

This step appears only during a new installation. Use this window to define a new user for testing the ICB after completing installation. The user defined here can be deleted, or modified, from the regular User Administration window.

This window is identical to the "new user" window (see Figure 61 "ICB Dashboard - Users New User window" (page 123)), except it includes the Wizard step titles at the top of the window. The action buttons are the same as in Step 2, except that the Finish button only appears in the case of a single-card ICB.

Step 4 - Dual Card Meetings

Configure the parameters for a dual-card meeting in this window. This step appears only when the card is a member of a dual-card set (that is, the configuration type selected in Step 1 is either "Dual Card - Primary" or "Dual Card - Secondary"). Inputting data in this window is allowed only on the primary card; on the secondary card this window appears as view only.

Note: The secondary ICB card must be installed and configured first. Dual-card meeting parameters and DNs are defined in the primary ICB only. The primary ICB sends the relevant information to the secondary ICB. Therefore, the secondary ICB must be connected to the LAN and operational when the primary is being configured.

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All DNs must be configured in the Meridian system.

Note: If changes to IP addresses are to be completed to previously installed ICB4 cards that are currently configured for Dual Card Conferences, the card must be changed to Single Card Mode via the BUI prior to making changes to the IP addresses of the cards.Refer to Figure 28 "Installation Wizard: Step 1 - Basic Card Settings window" (page 75)

Table 16 "Dual Card Meetings parameters" (page 80) describes the parameters, from top to bottom, of the Dual Card Meetings window.

Table 16
Dual Card Meetings parameters

Item	Description
IP address of secondary card	Enter the IP address of the secondary card.
Conference access number	Enter the DN of the dual-card meeting. Callers will dial this number to access the dual-card meeting.
Chairperson number in primary card	Enter the chairperson DN for the dual-card meeting. The chairperson uses this number to access the dual-card meeting.
Transfer number	Enter the DN that the ICB uses to transfer calls from the primary card to the secondary card. The system hides this number from end users.
Link number	Enter the DN that the ICB uses to create a voice path between both cards. The system hides this number from end users.
Chairperson control of dual meeting	For more information see, “Dual-card meeting” (page 106). **Full control including secondary card** - If this is clicked, the chairperson commands apply to both cards. In this case, the maximum conference size in a 64-port card pair is 60 ports. **Control of secondary card is limited** - If this is clicked, some chairperson commands are limited to the primary card (for example, TUI roll call command and dial out). The maximum conference size in a 64-port card pair is 62 ports.

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Browser user interface

Purpose

This chapter describes how to use the browser user interface (BUI), a web-based application, for conference scheduling, chairperson operations, and system administration.

The chapter contains the following sections:

- "Overview" (page 81) - introduces the browser user interface and its system requirements.
- "Scheduling BUI" (page 88) - describes the interface that users and super-users can use to schedule conferences.
- "Chairperson operations" (page 100) - describes the interface that a chairperson can use to control an active conference.
- "Administration BUI" (page 107) - describes the interface that an administrator uses for ICB configuration and administration.

Overview

The HTML/HTTP based BUI provides a fast response time and supports 20 active BUI users in a direct LAN connection. The BUI supports open access from anywhere in the Internet, even behind gateways and firewalls. Access the ICB web server over an Ethernet connection. To access the ICB server, use the following internet browsers:

- Microsoft Internet Explorer, version 4.01 or higher.
- Netscape Communicator, version 4.5 or higher.

Note: The system does not support browsers running on MacIntosh computers.

The ICB web server runs on the ICB card. The ICB card acts as a stand-alone system. Users navigate their browser directly to the card's IP address.

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User types

When logging in to the ICB BUI, your login ID connects you to the server as a distinct user type. The administrator determines the user type for each user. Table 17 "BUI user types" (page 82) shows the user types and their functionality.

Table 17
BUI user types

User type	Description
User	A user can reserve meetings under their account, and modify and delete these meetings. Users can see only the meetings that they schedule.
Super-user	In addition to normal user functions, a super-user can reserve meetings under other users' accounts. A super-user can modify and delete the meetings of other users. Super-users can see all meetings.
Administrator	The administrator manages ICB system parameters and resources such as user IDs and group-call tables.
Executive User	In addition to normal user functions, an executive user can view, but not change, all meetings of other users.

Log into the BUI

Figure 30 "ICB home page layout" (page 83) shows the first window that appears when reaching the BUI.

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Figure 30
ICB home page layout



The only possible action from this window is to click on the **LOGIN** button.

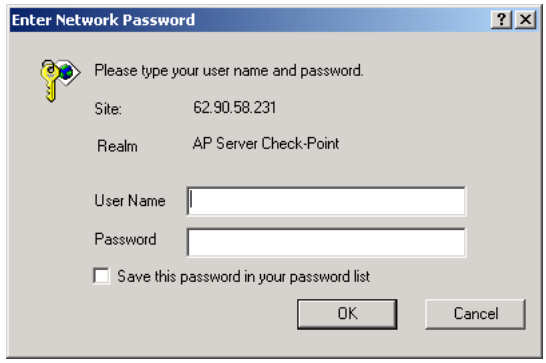
Follow the steps in Procedure 15 “Login to the BUI” (page 83) to login.

Procedure 15
Login to the BUI

Step	Action
1	Click on the **LOGIN** button. *The window in* Figure 31 "Login dialog box (Internet Explorer)" (page 84) appears.

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Figure 31
Login dialog box (Internet Explorer)



2 Enter your login ID in the "User name" field. To log into the administrator BUI, enter an administrator ID.

3 Enter your password in the "Password" field. When logging in the first time, enter six zeroes (000000). To log into the administrator BUI, enter an administrator password.

4 Click on the **OK** button.

If your login is unsuccessful, the system re-displays the dialog box. After a pre-defined number of unsuccessful logins, the system blocks the user.

> ***Note:*** To find a missing password, see “Password security” (page 231).

5 The main window opens. See Figure 32 "Main ICB screen" (page 85) for a depiction.

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Figure 32
Main ICB screen



--End--

Depending on the login ID type, Table 18 "Login entry point" (page 85) shows the windows that open when entering the BUI.

Table 18
Login entry point

Login entry	BUI Application
Regular, super-user, or executive user ID	Scheduling BUI. Schedule meetings from this window.
Administrator user ID	ICB Dashboard. This window opens the administration dashboard, from which the administration of system resources and options, such as users, permanent conferences, conference access numbers etc., can be performed.
Meeting chairperson number and password	Meeting Control window. This window allows a chairperson to control an active meeting.

Login password change

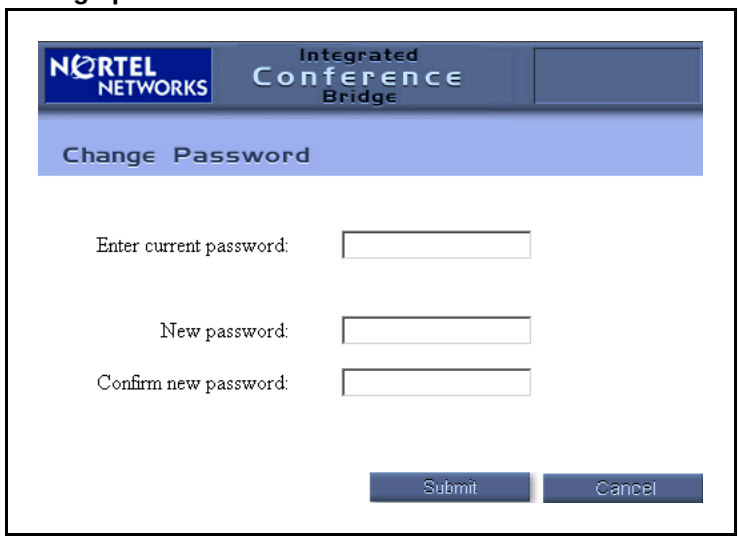
Follow the steps in Procedure 16 “Change your login password” (page 86) to change passwords after logging in.

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Procedure 16
Change your login password

Step	Action
1	Click on the change **Change Password** button on the first window that opens after logging in (see Figure 32 "Main ICB screen" (page 85)). ***Note:*** Change Password is a link on the Dashboard. *The window in* Figure 33 "Change password window" (page 86) opens.

Figure 33
Change password window



2	Enter the current password for authentication, then the new password. Enter the new password a second time for confirmation. *The passwords do not appear when entered (asterisks appear).*
3	Click on the **Submit** button to apply the changes. Click on the **Cancel** button to abort the changes. *In both cases, the system returns to the previous window.*

--End--

Customize the BUI home page and title bar

Initially, the ICB home page comes with a set format. The Customized BUI Home Page and Title Bar feature enables administrators to add a customer-designed image to the home page and a company logo to the title bar. The title bar is fixed through the entire BUI session.

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The following are the prerequisites for using this feature:

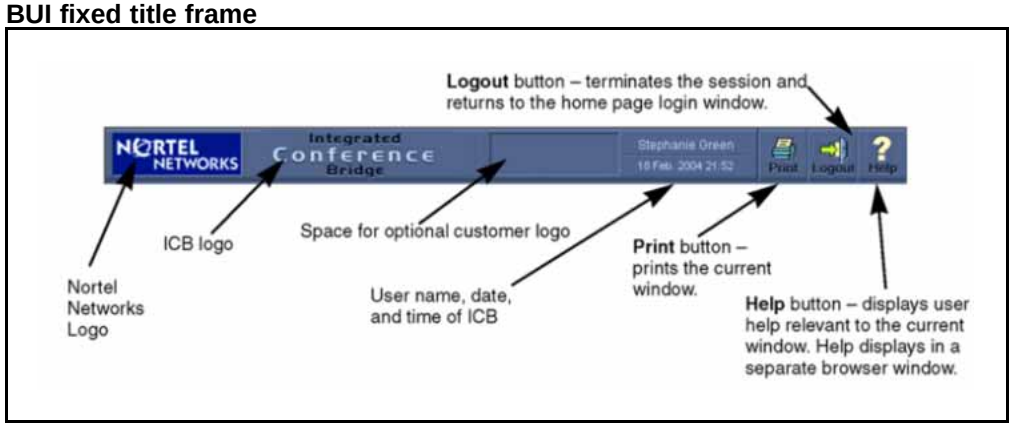
- The image must fit reasonably in the browser window. Nortel Networks recommends that the image be no larger than 690 pixels wide and 420 pixels high.
- The logo must be no larger than 124 pixels wide and 40 pixels high.
- The image must be in GIF format.

The ICB Dashboard provides a tool for uploading and installing the customer's images (see "Company images upload" (page 118)).

Fixed title frame

Figure 34 "BUI fixed title frame" (page 87) shows the fixed title frame that appears on top of all conferences. Subsequent screen captures do not show this frame.

Figure 34
BUI fixed title frame



Help window

Clicking on the **Help** button on the title frame opens a separate browser window in which it displays the Help window. This enables users to continue with BUI operations while the on-line help is open. The following three different help files exist, according to user type and role:

- User, Super-User, and Executive help (scheduling windows)
- Chairperson control help (chairperson control window)
- Administrator help (only an administrator can view this help)

The Help window has two frames; topic links appear on the left and help text appears on the right. Click on an item in the left frame help topics to access information about the required topic.

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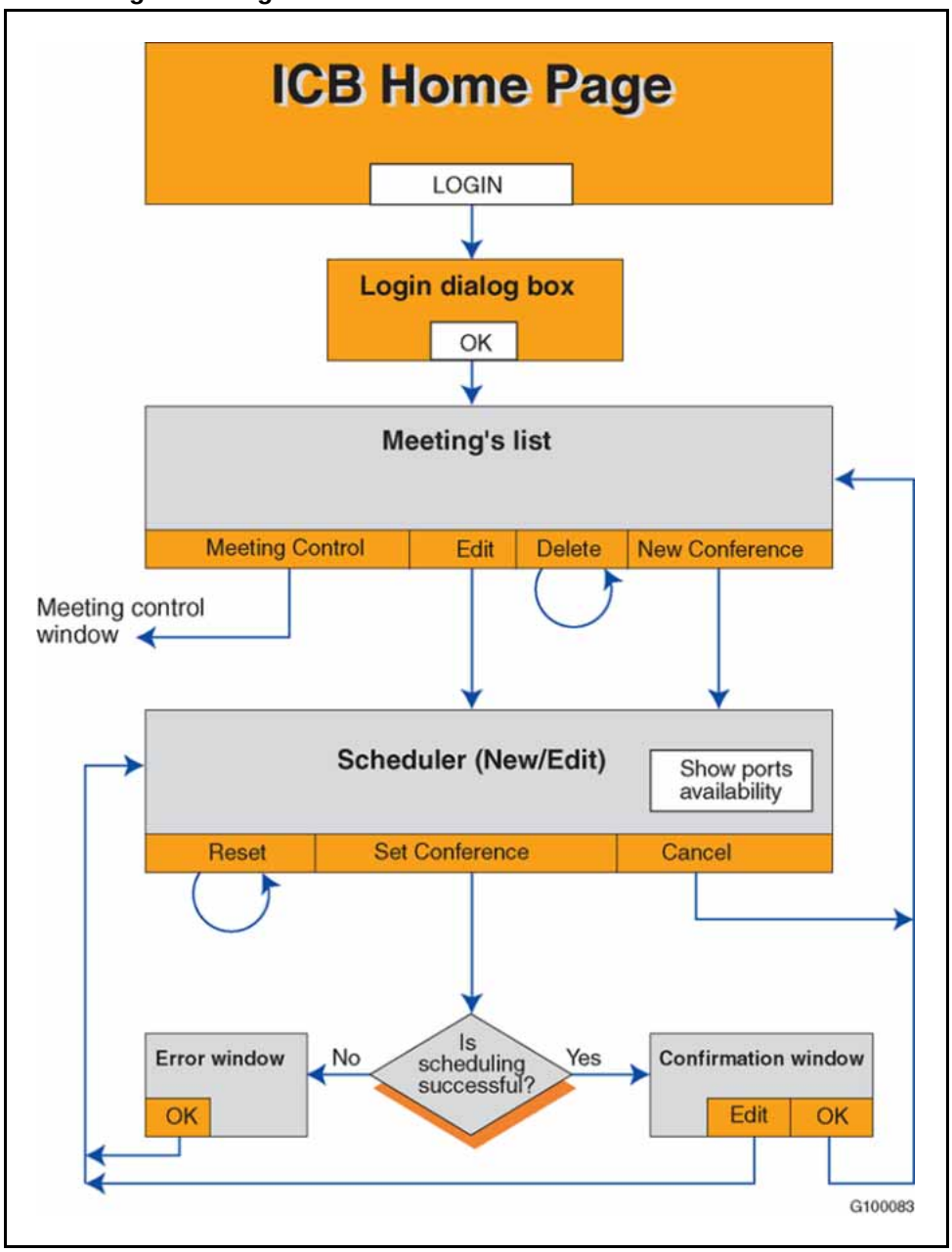
Click on the **Close window** link to close the Help window.

Note: To view help text, Adobe Acrobat must be installed on the computer.

Scheduling BUI

Figure 35 "Scheduling BUI navigation flowchart" (page 88) shows the navigation between the Scheduling BUI windows.

Figure 35
Scheduling BUI navigation flowchart

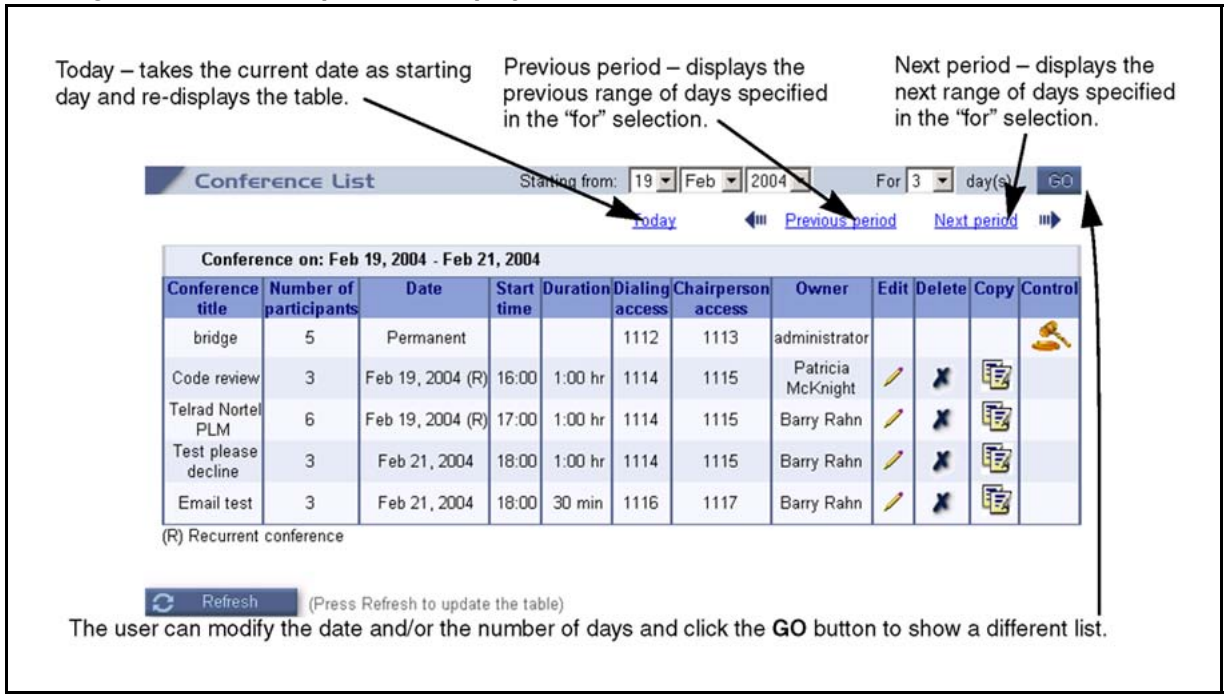


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Meetings List window

Figure 36 "Meetings List window super-user display" (page 89) shows the Meeting List window that appears directly after user login. This window displays a table of the user's meetings and provides access to scheduling operations.

Figure 36
Meetings List window super-user display



If this window is accessed by a user, the window displays the conferences scheduled by that user only. If this window is accessed by a super-user, the window displays all scheduled conferences. The system sorts the list by time. The list includes conferences that begin on the previous day, but finish on the specified date. In this case, the system displays the conference on the top of the list.

The maximum number of conferences per page is 10. When the list of conferences is longer than one page, click on the "Next 10" or "Previous 10" links to view additional conferences.

For each conference, click on the corresponding icon next to the conference to perform the following:

- **Pencil icon** - edit the conference (or just view all details).
- **X icon** - delete the conference (the BUI automatically updates the display).

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- **Copy icon** - conference details are copied from the existing conference.
- **Gavel icon** - jump to the "Meeting Control" window for an active conference (the icon appears only for active conferences).

The BUI can display past conferences, up to the "aging" factor that an administrator defines (see Figure 53 "ICB Dashboard - General Settings window" (page 110)). When a conference reaches the aging factor, the conference is deleted from the list.

A super-user and executive-user can view permanent conferences, but cannot edit or delete them. Therefore, the system does not display the Edit and Delete icons next to permanent conferences that are not accessed by an administrator.

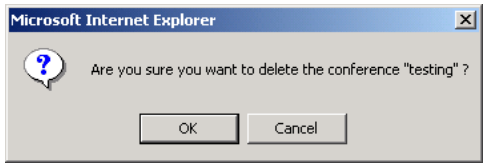
Table 19 "Meeting List window fields" (page 90) describes the columns in the Meeting List window.

Table 19
Meeting List window fields

Field	Description
Conference title	Shows the subject text that appears when scheduling a meeting. It can be empty.
Number of participants	Shows the number of ports reserved for this meeting.
Date	Shows the conference date. For permanent conferences, the date shows "Permanent". For recurrent conferences, the letter "R" follows the date.
Start time	Shows the conference start time. For permanent conferences, this fields is empty.
Duration	Shows the conference duration. For permanent conferences, this fields is empty.
Dialing access	Shows the conference access number (DN).
Chairperson access	Shows the chairperson access number.
Owner	Shows the name of the person who scheduled the conference. This column appears only for super-users, because they can view all meetings. When a super-user schedules a conference and assigns another user in the "owner" field, that user becomes owner of the conference and their name appears here.
Edit 	Click on the Edit icon to open a window for editing this conference. The window opens with the selected item’s parameters

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Table 19
Meeting List window fields (cont'd.)

Field	Description
Delete 	Click on the Delete icon to delete this conference. When the Delete icon is clicked, the following confirmation dialog box appears:  If the conference is active, the following additional line appears before this question: "Warning! this conference is active."
Copy 	Click on the Copy icon to open a window for copying values from this conference. The window opens with the selected item's parameters. The copy icon is not displayed for Permanent or Ad-hoc conferences.
Control 	The Control icon applies to active conferences only. Click on the gavel icon to open the Meeting Control window for this conference.

To schedule a new conference, click on the **New Conference** button on the top left-hand corner of the window. A new window appears (see Figure 37 "Scheduling window - Schedule a New Conference" (page 92)).

Scheduling window

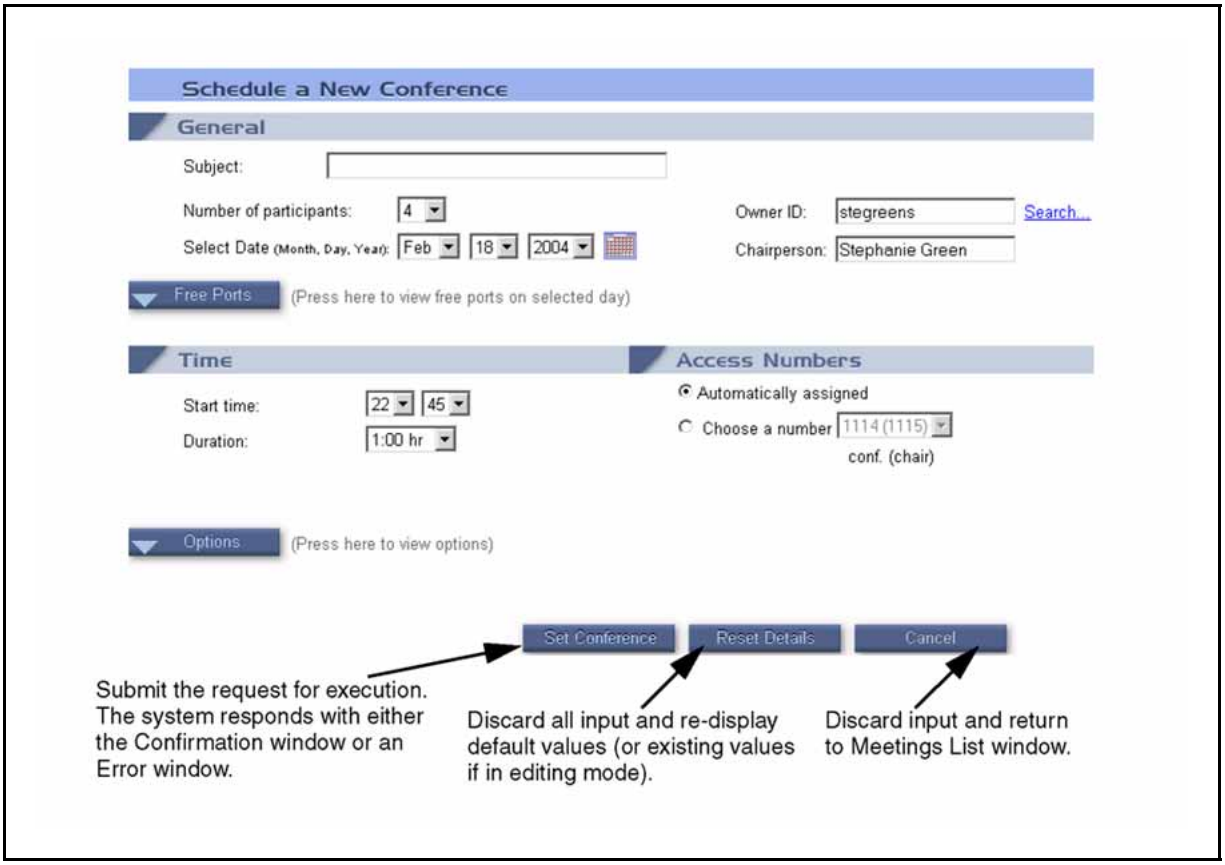
Click on the **New Conference** button, or click on the edit icon (a pencil), in the row of an already scheduled conference to open the Scheduling window.

General section

Figure 37 "Scheduling window - Schedule a New Conference" (page 92) shows the scheduling window when it first opens.

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Figure 37
Scheduling window - Schedule a New Conference



All fields have defaults, but users typically select the date and time, and number of participants. The system provides defaults for the other parameters or generates the values automatically.

After scheduling a conference, view the Scheduling Confirmation window to verify the entries. See Figure 42 "Scheduling Confirmation window" (page 99) for an example.

Table 20 "Scheduling window fields" (page 92) describes the fields in the Scheduling window, by section.

Table 20
Scheduling window fields

Field	Description
General section	
Subject	Enter text that describes the purpose of the conference. *Range:* Enter up to 20 characters or leave this field empty. *Default:* Empty.

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Table 20
Scheduling window fields (cont'd.)

Field	Description
Number of participants	Enter the number of ports to reserve for this conference, including the chairperson ports. The application makes sure that the total number of reserved ports for this time period does not exceed system capacity. The system performs validation after submission. Preview port availability by opening the "Free Ports" expanded window. *Range:* 3 to 32. *Default:* 4
Dual meeting link(not shown in Figure 37 "Scheduling window - Schedule a New Conference" (page 92))	Click here if a dual-card meeting is required. A similar window with the following dual-card meeting attributes opens: • Up to 60 or 62 ports are available, depending on the configuration parameter "full chairperson control". • The "Access Numbers" section displays a fixed dual-card meeting DN, which cannot be changed. • Search for User ID. ***Note:*** This link appears only on the primary ICB card in a dual-card set.
Select date	Select the date the conference starts from the pull-down menus or calendar icon (left of the pull-down menus). See Figure 38 "Calendar icon" (page 94) for a depiction of this icon. *Range*: Current day to one year ahead of current day. *Default:* Current day. ***Note:*** This field cannot be modified when editing an existing conference.
Owner ID	Enter the user ID of the user who scheduled the conference and has permission to delete or edit it. When the BUI displays this field to a regular user or an executive user, it shows that user's ID is not editable. When the BUI displays this field to a super-user, the super-user can edit it.
Chairperson	Enter the name of the chairperson for the user's reference. *Range:* Text up to 20 characters. *Default:* Empty.
Free Ports section - see "Free Ports section" (page 95).	
Time section	
Start time	Enter the time that the conference starts. The minutes box shows 15-minute increments (that is, 0, 15, 30, and 45). *Range:* Hours/15-minute increments. *Default:* Current time. The default value of the time field is rounded to the nearest 15 minutes according to the following rule:

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Table 20
Scheduling window fields (cont'd.)

Field	Description
	• In the first 10 minutes of the interval, the system rounds the time off to the past. For example, if the time is 8:23, the box shows the time as 8:15. The system interprets this as an immediate conference. • In the last five minutes of the interval, the system rounds it to the future 15-minute value. For example, 8:26 appears as 8:30.
Duration	Enter the duration of the conference. *Range:* Up to 12 hours in 15-minute increments (the selection box shows all possible values). *Default:* 1 hour.
Access Numbers section	
DN pair usage option	Select the access DN pair to use as follows: • Automatically assigned (the default) - the ICB selects the DN pair; no user action is required. • Choose a number - select a number from the list. The list shows pairs of numbers in the format: [conference (chairperson)]. The system checks the availability of the number when the form is submitted for execution. If the numbers are not available, the scheduling fails.
Options section - see "Options section" (page 96).	

When the calendar icon is clicked (located next to the drop-down menu for the date), the calendar window opens as depicted in Figure 38 "Calendar icon" (page 94). The meeting date can be selected by clicking the appropriate date on the calendar.

Figure 38
Calendar icon



When in edit mode, the title of this window is: "Edit Conference". The following fields cannot be modified when editing an inactive conference:

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- date
- dual-card meeting option (that is, users cannot make a single-card conference dual and vice versa)
- recurrent option

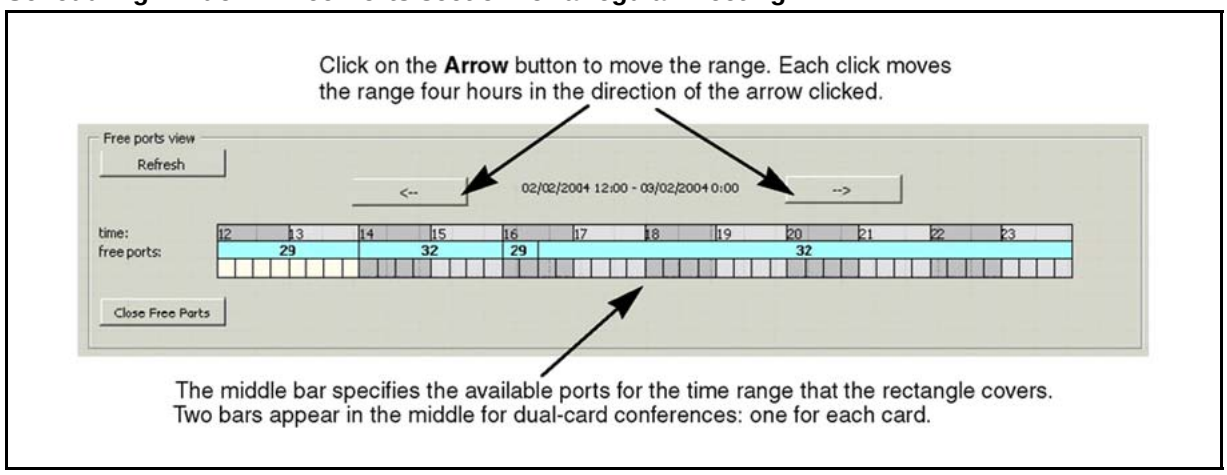
Only the following fields can be edited during an active conference:

- number of participants
- duration
- add ports as needed (under the Options section)

Free Ports section

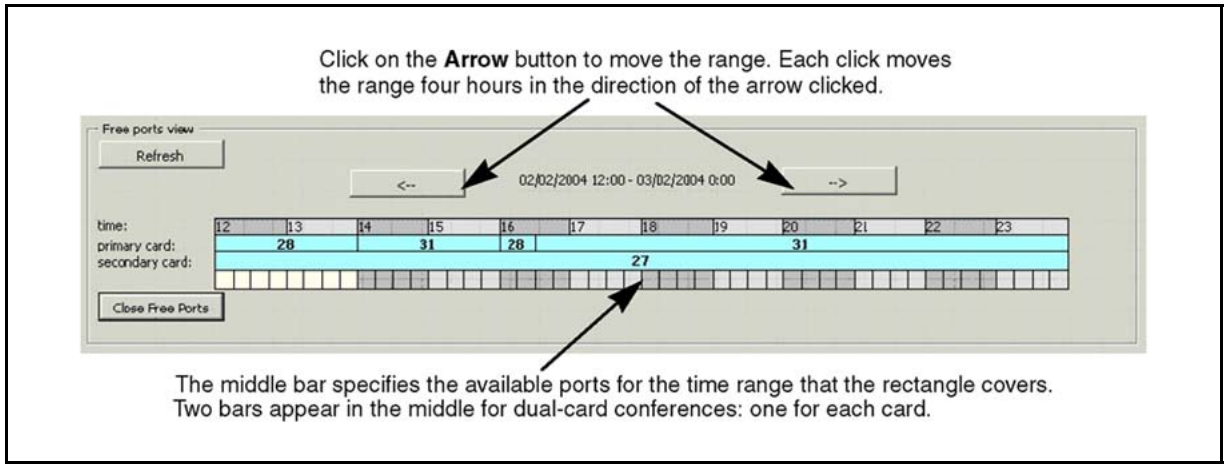
Figure 77 "ICB tab window - Free Ports view" (page 165) shows the how the scheduling window is expanded after clicking on the **Free Ports** button for a regular meeting. The information in this window refers to the date set above it in the Scheduling window. The time scale covers 12 hours in 15-minute increments. Figure 40 "Scheduling window - Free Ports section for a dual card meeting" (page 96) shows how the scheduling window is expanded after clicking on the **Free Ports** button for a dual-card meeting.

Figure 39
Scheduling window - Free Ports section for a regular meeting



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Figure 40
Scheduling window - Free Ports section for a dual card meeting



Options section

Figure 78 "ICB tab window - Options section" (page 166) shows how the scheduling window is expanded after clicking on the **Options** button.

Figure 41
Scheduling window - Options section

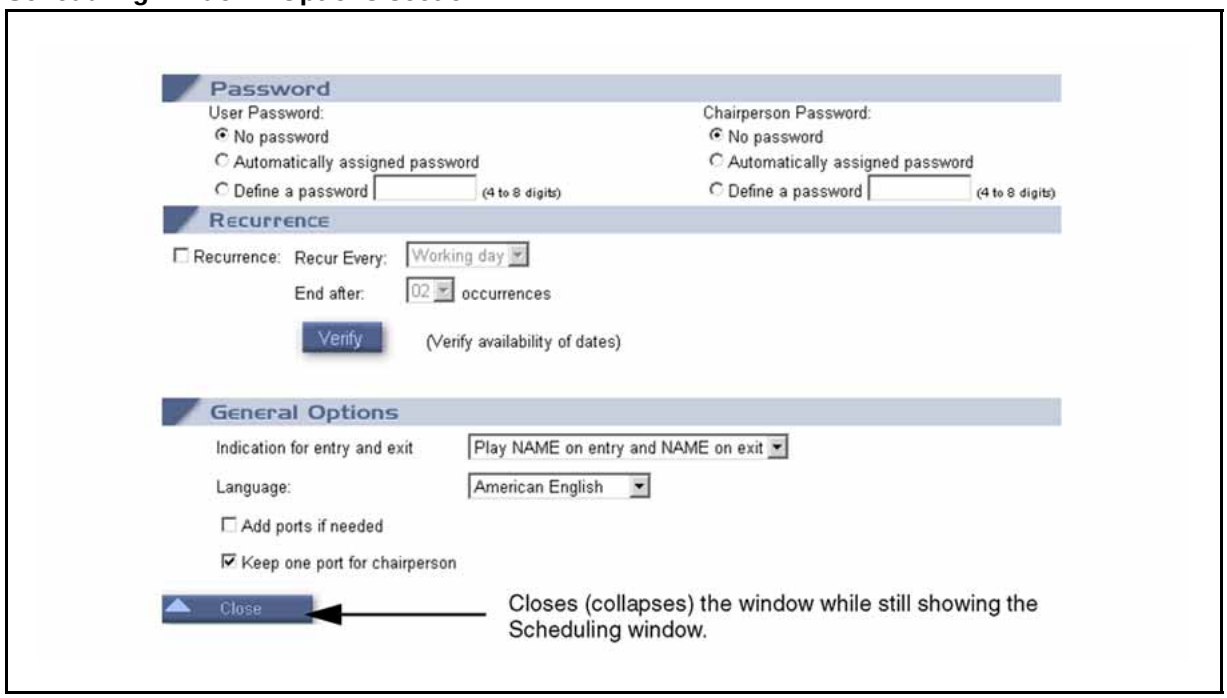


Table 39 "ICB tab window - Options section fields" (page 166) describes the fields in the Options section.

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Table 21
Scheduling window - Options section fields

Field	Description
Password section	
User Password	Enter an optional password for the conference. If configured, callers must enter this password to join the conference. Available options are as follows: • No password - no optional password. • Automatically assigned - The system automatically generates the password. The administrator sets the password length from 4 to 8 digits. • Choose a password - The user defines the password. The range is 4 to 8 digits. The window shows the password as it is entered. The system does not check the password for uniqueness. Different conferences can use the same password. ***Note:*** The default setting is determined by the Administrator's default conference setting.
Chairperson Password	Enter a password for chairperson authentication. This field has the same options as the user password. ***Note:*** The default setting is determined by the Administrator's default conference setting.
Recurrence section (Does not appear for dual-card conferences, because they do not support the recurrence option).	
Recurrence	Use this checkbox to activate or de-activate the recurrence feature. The adjacent criteria applies when this box is checked. ***Note:*** The recurrence option is only available when a specific DN pair in the Basic window is selected. If a DN pair is not selected, a pop-up message instructs you to select the DN pair first.
Recur Every	Enter the recurrence interval. *Available values:* Day, workday, week, two-weeks, and month. ***Note:*** If the first conference is not a workday, the workday option is not available.
End After	Define the number of conference occurrences. Up to 52 occurrences can be defined, but they cannot be more than a year in advance.
Verify button	When this button is clicked, the system verifies port availability without actually setting them up. The system displays a result page that shows if there are resources available for each occurrence (see "Recurrent Meeting Verify Result window" (page 99)).
General Options section	

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Table 21
Scheduling window - Options section fields (cont'd.)

Field	Description
Indication for entry and exit	Define how the system announces when people enter or exit a conference. The following options are available from the pull-down menu: • Play name on entry and name on exit. • Play name on entry and tone on exit. • Play tone on entry and tone on exit. • Silence (no indication for entry or exit). ***Note:*** The default setting is determined by the Administrator's default conference setting.
Language	Select the language the system uses for voice prompts during the conference. The pull-down menu offers the set of languages available in the system. The default is the ICB card's default language that an administrator selects using the Installation Wizard (see "Step 1 - Basic Card Settings" (page 74)). When using single-number access, the preferred language takes affect after the caller enters the conference ID and password. Before that the system uses the default language.
Add ports if needed	When this box is checked, the system allows the meeting to expand beyond the number of reserved ports if more than the anticipated number of participants show up. The system adds ports only if there are enough ports available (that is, they are not reserved for another meeting). ***Note:*** The default setting is determined by the Administrator's default conference setting.
Keep one port for chairperson	Click on this box to reserve a port for the chairperson. When all but one of the ports are occupied, and the chairperson has not yet dialed in, the remaining port is not available for a participant. If this box is not checked, the system uses the ports on a first-come, first-serve basis. In this case, if all the ports are taken up by participants, the system does not allow the chairperson to enter the conference. ***Note:*** The default setting is determined by the Administrator's default conference setting.

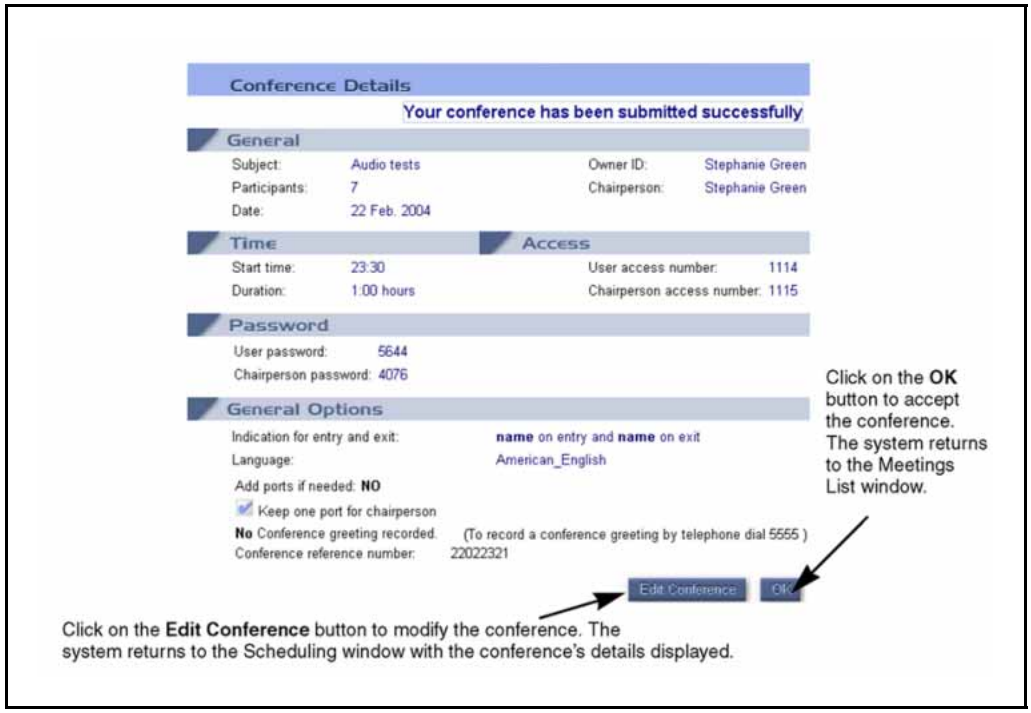
Scheduling Confirmation

Figure 42 "Scheduling Confirmation window" (page 99) shows the window that appears after successfully scheduling a new, or modifying an existing, meeting. The system displays the window after it stores the conference in the database.

The BUI displays the conference details and selected options in the same layout as the Scheduling window.

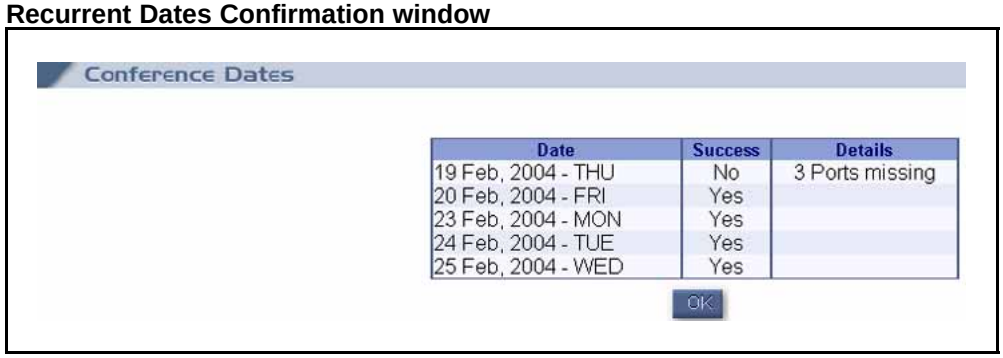
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Figure 42
Scheduling Confirmation window



In the case of a recurrent meeting, a Conference Dates section appears at the bottom of this window. The Conference Dates section lists the dates in which the conference is scheduled, including the first date specified in the meeting details (see Figure 43 "Recurrent Dates Confirmation window" (page 99)).

Figure 43
Recurrent Dates Confirmation window



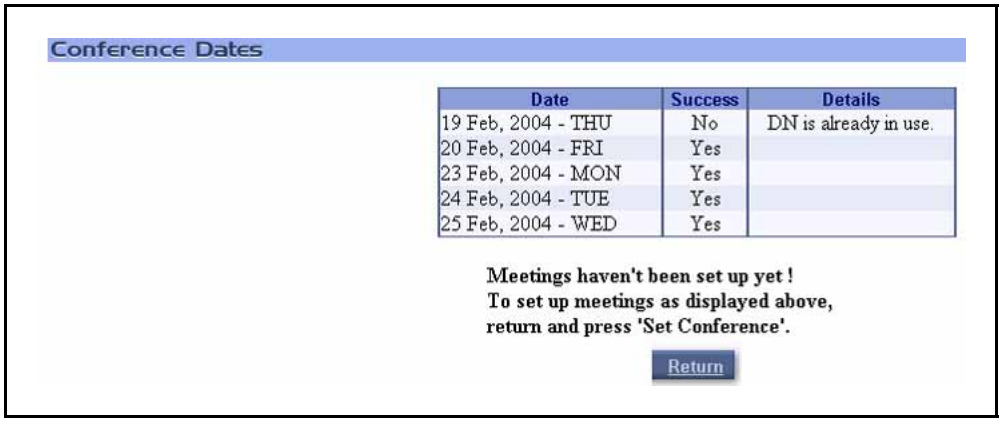
In the previous example, the system denied one date, because the ports were not available.

Recurrent Meeting Verify Result window

Figure 44 "Recurrent Conference Verify Result window" (page 100) shows the window that the system displays when the Verify button is clicked when setting up a recurrent conference.

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Figure 44
Recurrent Conference Verify Result window



The window displays the success result for each date specified in the recurrence criteria. In the case of a failure, the system indicates the reason (for example, not enough ports or DN is already in use).

Note: Editing the details of a recurrent conference only changes the conference for the selected day. All other occurrences of the recurrent conference are not changed.

Chairperson operations

Meeting Control window

The Meeting Control window is available to the chairperson only. The chairperson can access it in the following ways:

- From the LOGIN window, enter the chairperson access number and chairperson password of the active meeting.
- From the Meetings List window, in the Control column click on the gavel icon next to an active meeting in the list.

A window opens showing details of the specific meeting. Users cannot select another conference to control when this window is open.

The BUI allows only one active window per meeting. The associated voice port is the one identified as chairperson by access number. Figure 45 "Meeting Control window - Active chairperson" (page 101) shows the window when a chairperson is on the call. There is a different window when there is no chairperson present (see Figure 49 "Meeting Control window - Chairperson not present" (page 106)).

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Figure 45
Meeting Control window - Active chairperson

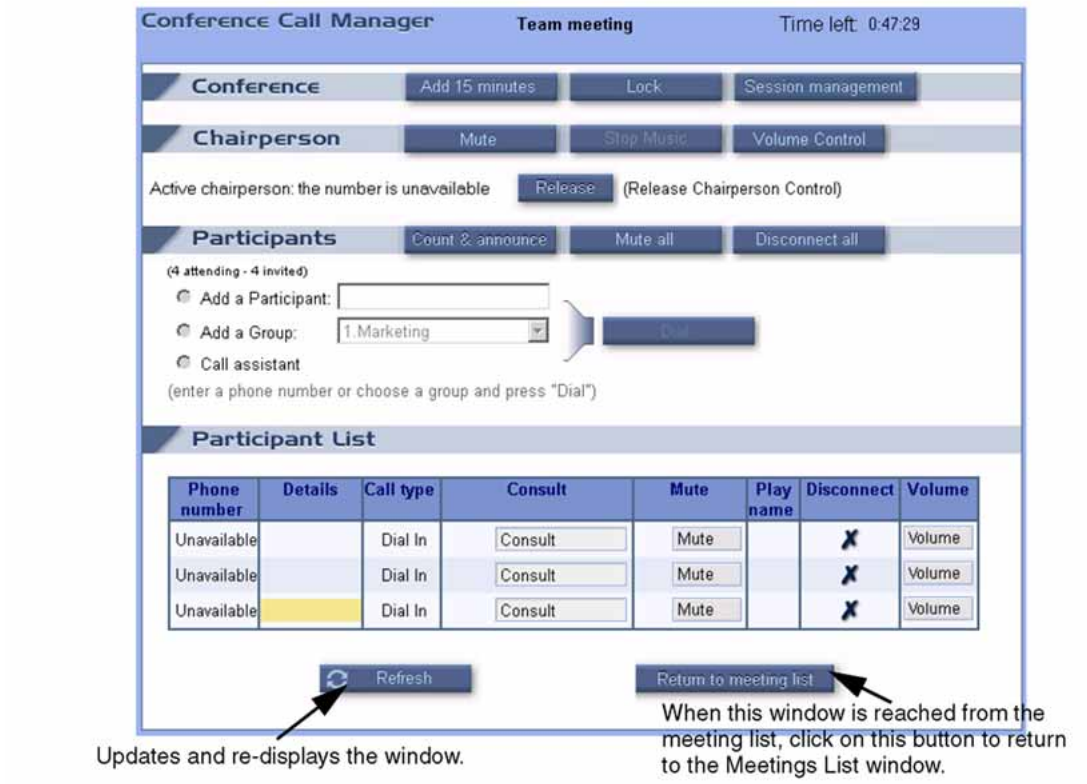


Table 22 "Meeting Control window fields" (page 101) describes the options available in the Meeting Control window.

Table 22
Meeting Control window fields

Field	Description
Conference section	
Add 15 minutes button	Click on this button to add 15 minutes to the conference duration. The chairperson can invoke this command any time during the meeting. If successful, the system updates the "Time Left" indication.
Lock/Unlock button	Click on this button to toggle from being locked to unlocked (or vice versa).
Session Management button	Click on this button to open the session management window (see Figure 46 "Session Management Control Panel" (page 103)). Use this window to set up voting and a question and answer session.
Chairperson section	

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Table 22
Meeting Control window fields (cont'd.)

Field	Description
Active chairperson	If the chairperson joins the conference by dialing in, this field shows the CLID of the call, if available. If not available, the window displays "the number is unavailable". If the chairperson joins the call by outdialing, this field shows the called number. This is part of the Acquire Chairperson Control feature.
Mute/Unmute button	Click on this button to toggle between muting and unmuting the chairperson's voice port only. When muted, this button appears as "Unmute".
Stop Music button	Click on this button to toggle between stopping and resuming music when alone in the meeting. When stopped, this button appears as "Resume Music".
Volume Control button	Click on this button to open a volume control panel (see Figure 48 "Chairperson Volume Control Panel" (page 105)). Use this panel to increase or decrease the volume in hear and talk directions.
Participants section	
Count & announce button	Click on this button to announce to the conference the total number of participants, followed by participants' names as recorded in the name entry.
Mute all button	Click on this button to mute all participants, except the chairperson. When muted, the button becomes "Unmute all".
Disconnect all button	Click on this button to disconnect all participants, except the chairperson. When clicked, the BUI opens a dialog box (OK/CANCEL) to confirm this operation.
Dial-out control	1. Provides a radio button list to select the following type of dial-out: Add participant; Add a group (that is, Group Call); Assistant call. 2. The Dial button starts call origination. After call origination, the system connects the chairperson to a private call with the called party. The window changes to two buttons relevant to this state: "Return with called party"; "Return without called party." In addition, the following chairperson call-related buttons are disabled: Self Mute; Stop Music; Volume Control; Count & Announce, and Mute All.
Participant's List section (Shows a table of details and chairperson controls for each participant, excluding the chairperson.)	
Phone number	CLID or called number.
Details	The chairperson can enter text in this field for personal reference (for example, the participant's name). This information is added only to the Meeting Log event when the user leaves the conference call.

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Table 22
Meeting Control window fields (cont'd.)

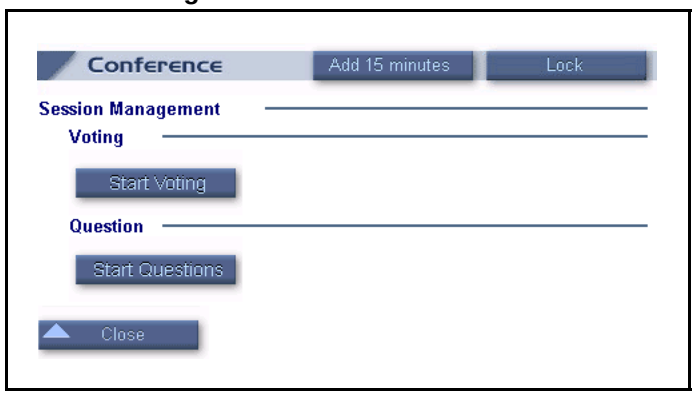
Field	Description
Call Type	Shows dial-out, dial-in, or group call.
Consult/End consultation button	Click on this button to invoke a private call with the participant. When in a private call, an icon appears indicating this status. During a consultation, an icon appears beside "End consultation".
Mute/Unmute button	Mute or unmute an individual participant. When muted, an icon appears beside Unmute.
Play name	Click on the icon to play the participant's name as recorded by the name entry feature. The system plays the name on the chairperson's desktop, not their telephone.
Disconnect	Click this icon to disconnect the participant. Before disconnecting, the system displays a dialog box. The window shows: "Disconnect this participant?" with **OK** and **Cancel** buttons to click on.
Volume	Click on this button to open a volume control panel (see Figure 50 "Participant Volume Control Panel" (page 107)). Use this panel to increase or decrease the volume in hear and talk directions.

The system updates the window automatically every two minutes.

Session Management

The chairperson can request a voting session or questions to be answered by the participants on the call. See Figure 46 "Session Management Control Panel" (page 103) for a depiction of the Session Management area.

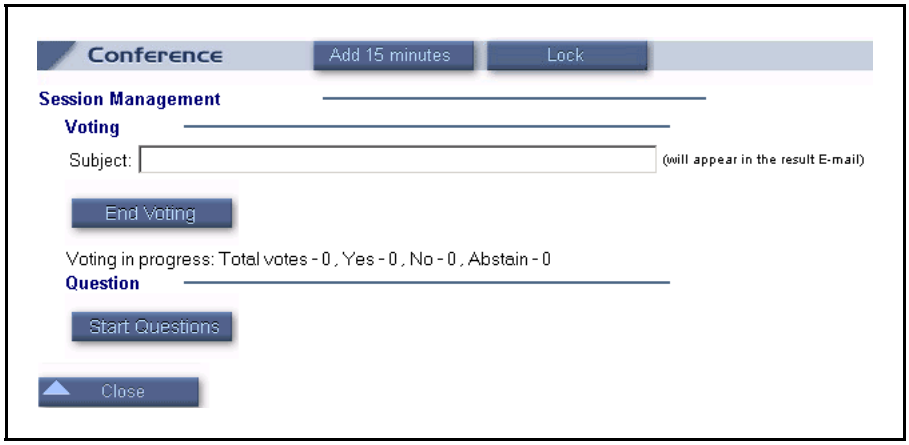
Figure 46
Session Management Control Panel



The chairperson can start a voting session by selecting the **Start Voting** button. See Figure 47 "Voting Session Control Panel" (page 104) for a depiction. Once voting is enabled, the button becomes **End Voting** to end the voting session.

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Figure 47
Voting Session Control Panel



Once voting is enabled, participants can vote using the DTMF commands. The chairperson enters the subject of the voting in the Subject box. For example, "Do we require a follow-up conference?" The subject area is free text and up to 100 characters can be entered.

After the voting is ended, the chairperson is sent an e-mail. The e-mail contains the following information:

- Meeting title
- Meeting date
- Meeting time
- Meeting duration
- Ending time of the voting
- Voting subject
- Voting results: number of Yes responses, number of No responses, and number who abstained

The chairperson selects the **Start Questions** button to activate the question session with the participants. Once enabled, the button becomes **End Questions**. Also, the area is expanded to include:

- Total of questions **Requested**
- Number of participants that have had their questions **Answered**
- Number of participants **Waiting** to ask their questions

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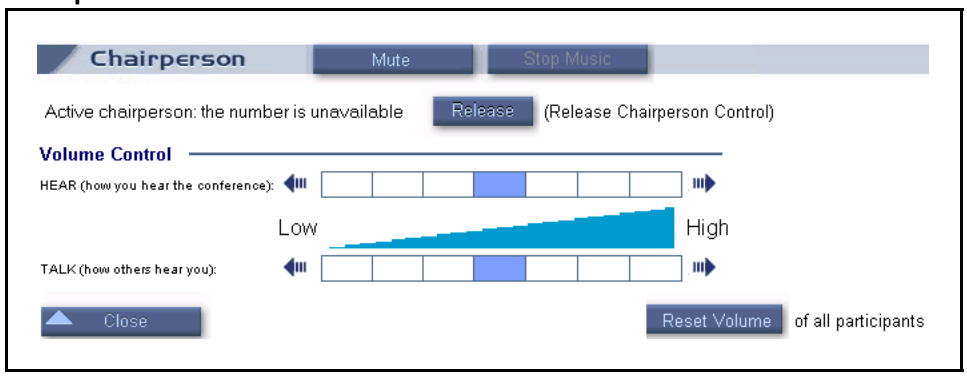
Requests for questions (*85 DTMF command) appear as blinking question marks beside the participant's name in the Participant List. The chairperson can un-mute the participant by pressing the un-mute button or the blinking question mark. The chosen participant receives the voice prompt "Please ask you question after the tone".

The chairperson can sort the participant list by question mark by pressing the "?" on the top left of the table. This sorts the list of participants by placing the participants waiting to ask questions first.

Chairperson Volume Control

The chairperson can change the hearing and listening volume for the chairperson by selecting the **Volume Control** button. See Figure 48 "Chairperson Volume Control Panel" (page 105) for a depiction.

Figure 48
Chairperson Volume Control Panel



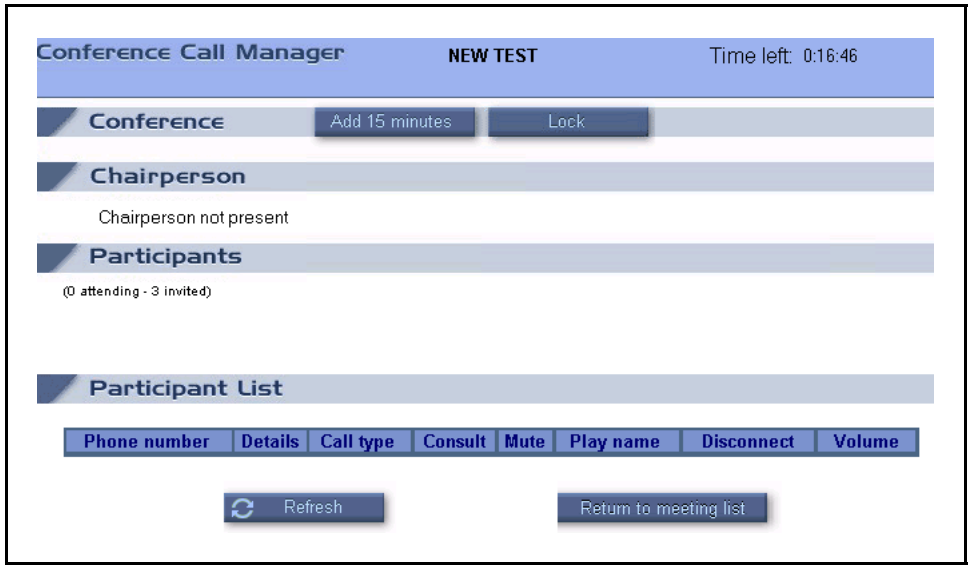
The two scales in the middle of this window show the current increase/decrease level for hear and talk directions. The middle of the scale is zero, which signifies no volume change. Click on one of the arrows to increase or decrease the volume. The colored rectangle in the scale advances one step for each arrow click.

Click on the **Reset Volume of all participants** button to restore the initial volume level of all participants. The initial volume level is determined by the Administrator's default conference settings.

When no chairperson is present in the conference, the system disables call-related buttons (see Figure 49 "Meeting Control window - Chairperson not present" (page 106)).

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Figure 49
Meeting Control window - Chairperson not present



The following features are unavailable in this mode:

- Self mute/unmute
- Stop/play music
- Volume control
- Dial out
- Consult with participant

After the chairperson joins the conference the window changes to the one that Figure 45 "Meeting Control window - Active chairperson" (page 101) shows.

Dual-card meeting

Commands that a chairperson operates from the BUI in a dual-card meeting apply to participants in both cards. The feature operates as follows in a dual-card conference:

- **Dial-out to a specified number** - dial-out works only with the "full chairperson control" configuration option. If limited control is selected, these commands work on the primary card only.
- **Consult with participant** - consultation works only with the "full chairperson control" configuration option. If limited control is selected, these commands work on the primary card only.
- **Play name** - this feature works with participants on both cards. The system plays the name on the chairperson’s desktop, not the telephone.

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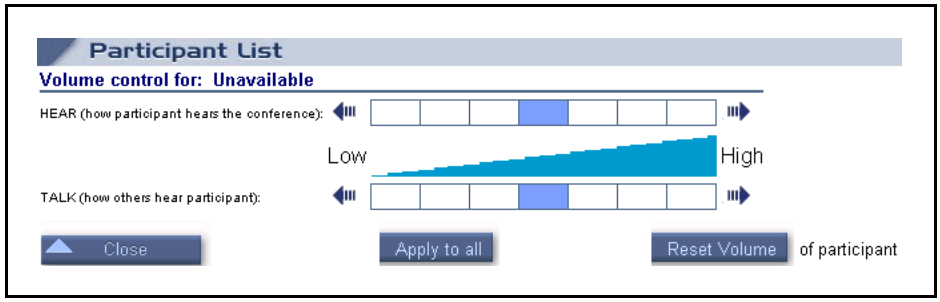
Release chairperson control

The Meeting Control window contains a **Release** button to release chairperson control. This button releases both TUI and BUI control. When the Release button is pressed, the voice prompt "you are a regular conferee" is played. Clicking the button allows someone else to acquire chairperson control and enter the BUI control window of the meeting.

Participant list volume control

The chairperson can change the hearing and speaking volume for each participant by selecting the **Volume** button for that participant. See Figure 50 "Participant Volume Control Panel" (page 107) for a depiction.

Figure 50
Participant Volume Control Panel



The two scales in the middle of this window show the current increase/decrease level for hear and talk directions. The middle of the scale is zero, which signifies no volume change. Click on one of the arrows to increase or decrease the volume. The colored rectangle in the scale advances one step for each arrow click.

Click on the **Reset Volume of participant** button to restore the initial volume level of the participant. Click on the **Apply to all** button to set this modified setting to all participants. The initial volume level is determined by the Administrator's default conference setting.

Administration BUI

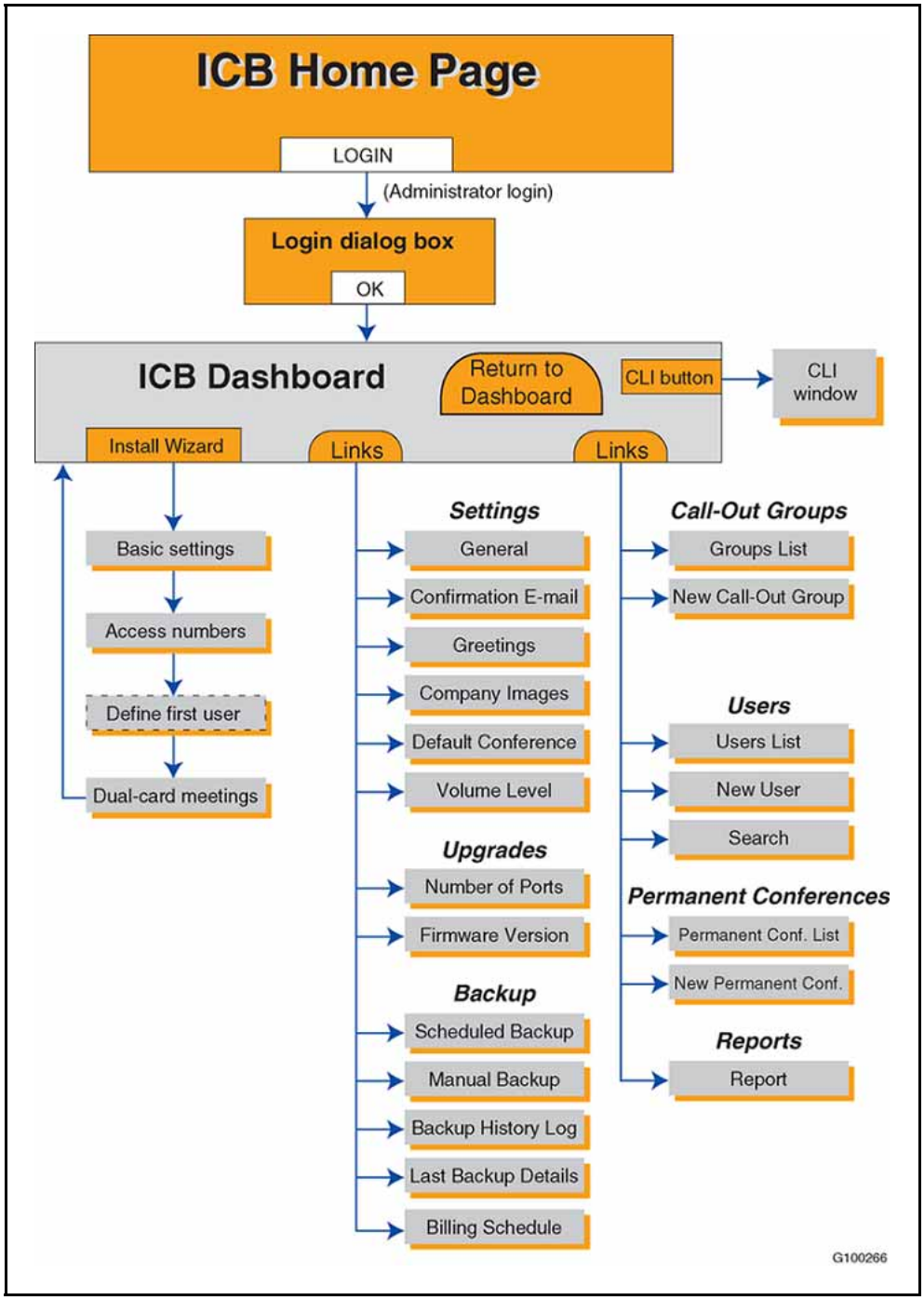
Introduction

This section applies to administrators only. The main administration window is the ICB Dashboard, which appears directly after an administrator logs in. The dashboard provides access to the relevant window to perform the required task (see Figure 51 "Administration BUI navigation flowchart" (page 108)).

A special function is the Installation Wizard, which guides an administrator through a quick and easy process for configuring a new card. For more information about the Install Wizard, see "ICB Installation Wizard" (page 73).

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Figure 51
Administration BUI navigation flowchart

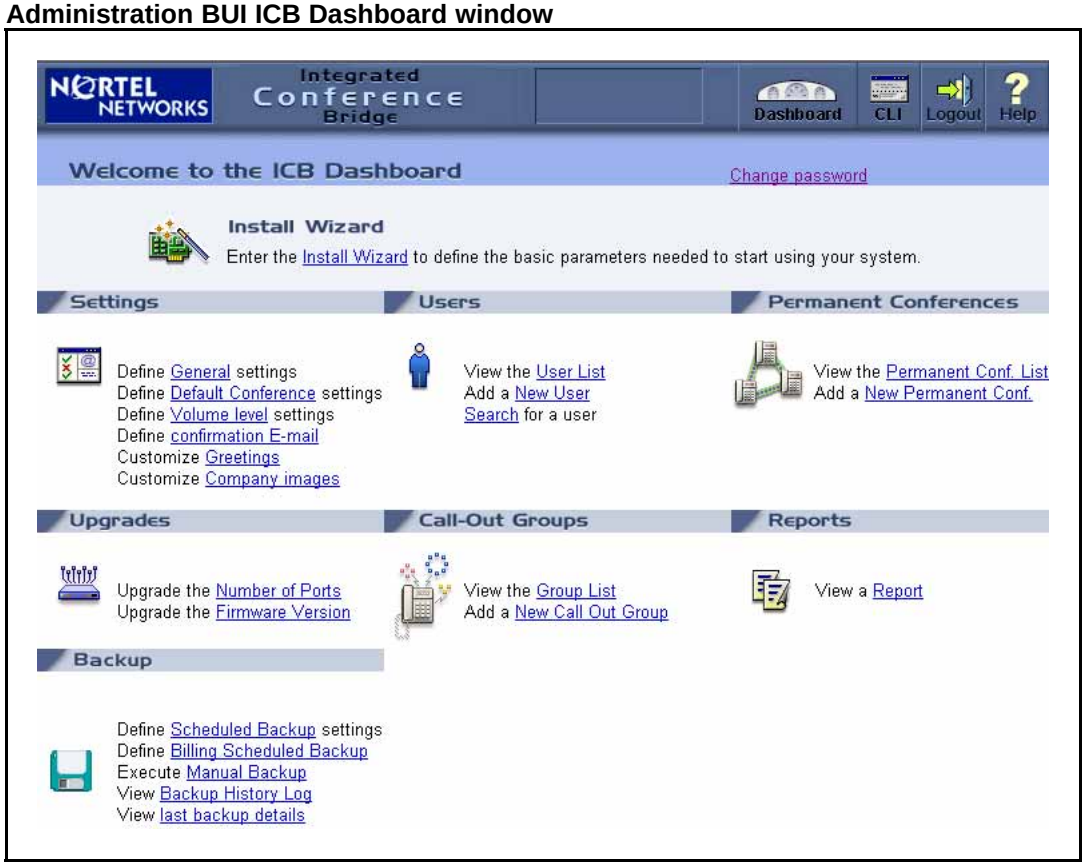


ICB Dashboard

The ICB organizes the Dashboard as an internet portal. The Dashboard groups links by subject (see Figure 52 "Administration BUI ICB Dashboard window" (page 109))

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Figure 52
Administration BUI ICB Dashboard window



The title frame on top, which is present for all administration windows, contains the following buttons:

- **Dashboard** - click here to return to the dashboard, while discarding the input in the current window.
- **CLI** - opens an additional window for input and output of CLI commands (from more information, see “CLI command summary” (page 180)).

From the Dashboard, the "Change Password" link opens the Change Password window shown in “Login password change” (page 85). Access the Change Password window from the Dashboard to change the current administrator password.

The ICB Dashboard has the following sections:

- “ICB Installation Wizard” (page 73)
- “Settings” (page 110)
- “Users” (page 120)
- “Permanent Conferences” (page 132)

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- “Upgrades” (page 120)
- “Call-out Groups” (page 125)
- “Reports” (page 136)
- “Backup” (page 136)

Settings

This subject groups several parameters and definitions. Links to sub-subjects appear on the Dashboard.

General Settings window

Figure 53 "ICB Dashboard - General Settings window" (page 110) shows the General Settings window

Figure 53
ICB Dashboard - General Settings window

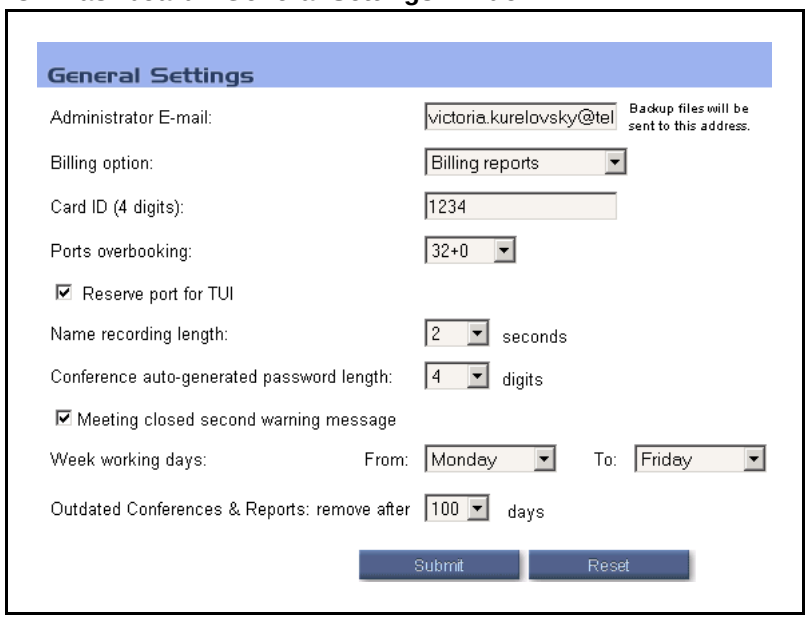


Table 23 "General Settings window fields" (page 110) describes the options available in the General Settings window.

Table 23
General Settings window fields

Field	Description
Administration E-mail	Enter the E-mail address to which the ICB sends administration material, including backup files.

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Table 23
General Settings window fields (cont'd.)

Field	Description
Billing option	Select a billing option for this card from the pull-down menu. The options are as follows: • **No billing** - The ICB does not issue a billing report. • **Billing reports** - The ICB issues a billing report (see "Billing Report" (page 206)). • **Billing reports & CDR** - The ICB issues a billing report and a CDR record (see "CS 1000 Call Detail Recording" (page 212)). ***Note:*** The Billing reports & CDR record option is not available on the Meridian SL-100.
Card ID (4 digits)	Enter the card ID that the system uses for billing purposes. *Range*: A four-digit decimal.
Ports overbooking	Enter the number of ports the Overbooking feature adds. The available values are shown in the form of 32 + N, where 32 is the physical capacity and N is the addition for overbooking. *Range*: From 32 + 0 (no overbooking) to 32 + 8 for cards with 32 ports. In cards with less than 32 ports, the maximum N is the proportional fraction of 8 (for example, 16 + 4 for a card with 16 ports). *Default*: N = 0 (no overbooking).
Reserve port for TUI	Click in the box to dedicate one of the card's ports for TUI access, which is not available for meetings. When this box is not checked, the system does not reserve a port for the TUI; when all ports on the ICB are busy the TUI is inaccessible.
Name recording length	Enter the duration, in seconds, of the spoken name in the name-entry option. When the system prompts the callers for their name, recording after the beep takes place for the specified duration. *Range*: 2-10 seconds. *Default*: 2 seconds.
Conference auto-generated password length	Enter the number of digits for the conference or chairperson password, when a user selects the password to be automatically generated by the ICB.
Meeting closed second warning message	Click the box to have hear the second warning message 2 minutes before ending the meeting.

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Table 23
General Settings window fields (cont'd.)

Field	Description
Week working days	Select the range of working days from the pull-down menu. The ICB uses this information when creating recurrent conferences with the option "Workday". *Range*: Any day of the week. *Default*: Monday to Friday.
Outdated Conferences & Reports: remove after	From the pull-down menu, select the number of days these files are kept before the system deletes them (also referred to as the "aging factor"). For scheduling data, this field applies to conferences that have already taken place. The system keeps future conferences as long as required.

Default conference

Figure 56 "ICB Dashboard - Confirmation E-mail Settings" (page 114) shows the window in which an administrator can set as the default conference settings.

Figure 54
ICB Dashboard - Default Conference Settings

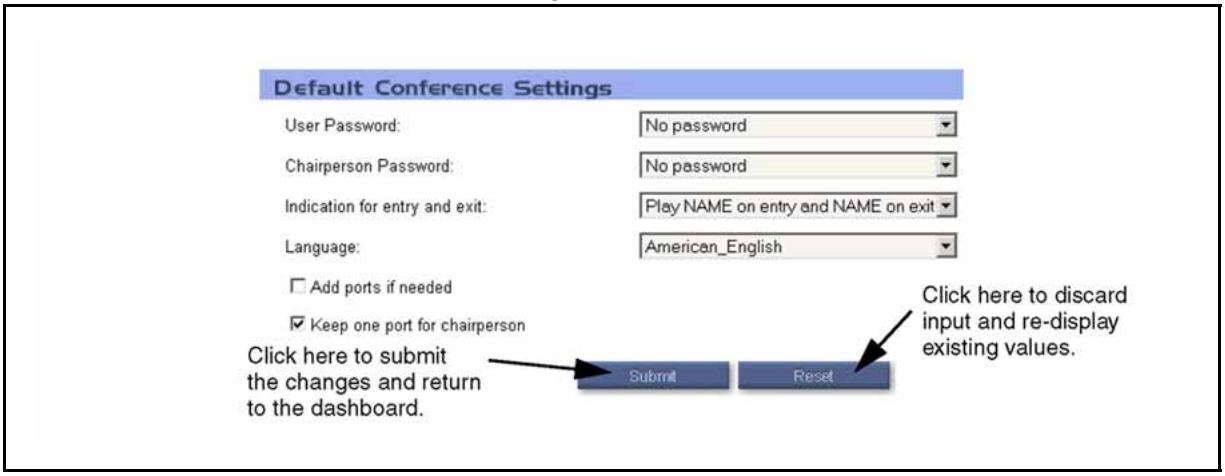


Table 26 "Confirmation E-mail Settings fields" (page 115) describes the options available in the Default Conference Settings window.

Table 24
Default Conference Settings fields

Field	Description
User Password	Set the default setting for User Password as No password or Automatically assigned password. The factory default setting is automatically assigned password.

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Table 24
Default Conference Settings fields (cont'd.)

Field	Description
Chairperson Password	Set the default setting for Chairperson Password as No password or Automatically assigned password. The factory default setting is automatically assigned password.
Indication for entry and exit	Set the default setting for Indication for entry and exit as: Play name on entry and name on exit, Play name on entry and tone on exit, Play tone on entry and tone on exit, or Silence. The factory default setting is play name on entry and play name on exit.
Language	Set the default setting for language. The factory default setting is North American English.
Add ports if needed	Check this box if the administrator wants the default setting to be add ports if needed. The factory default setting is not checked.
Keep one port for Chairperson	Check this box if the administrator wants the default setting to keep one port for the Chairperson. The factory default setting is checked.

Volume Level

Figure 56 "ICB Dashboard - Confirmation E-mail Settings" (page 114) shows the window in which an administrator can customize the volume level settings.

Figure 55
ICB Dashboard - Volume Level Settings



Table 26 "Confirmation E-mail Settings fields" (page 115) describes the options available in the Volume Level Settings window.

Table 25
Volume Level Settings fields

Field	Description
Voice Prompt: Playing	Enter the default setting for the volume level of the voice prompt when playing.
Recording:	Enter the default setting for the volume level of when recording.

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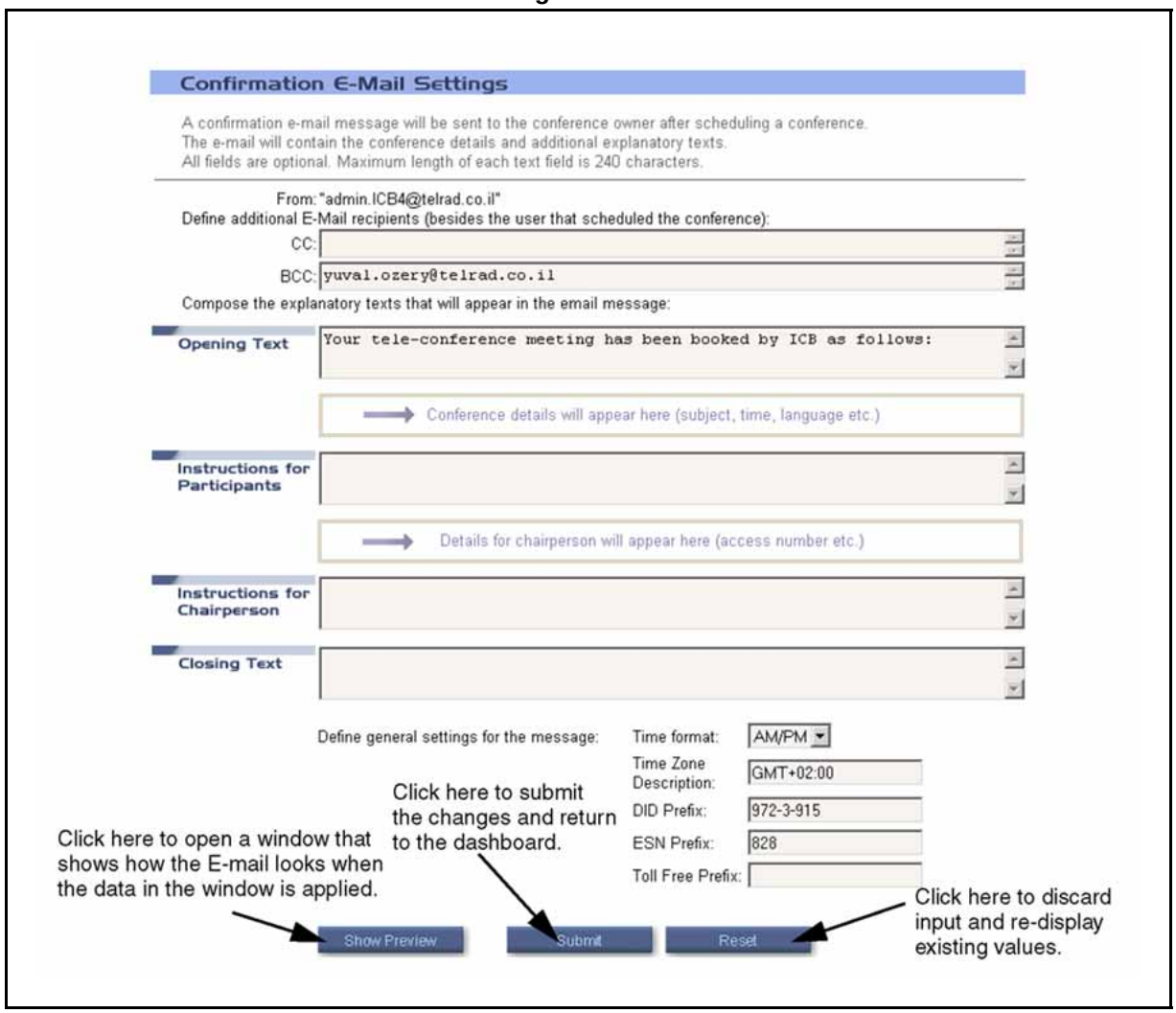
Table 25
Volume Level Settings fields (cont'd.)

Field	Description
Speak:	Enter the default setting for the speaking volume level of the conferee in an audio conference.
Listen:	Enter the default setting for the listening volume level of the conferee in an audio conference.

E-mail template

Figure 56 "ICB Dashboard - Confirmation E-mail Settings" (page 114) shows the window in which an administrator can customize the scheduling confirmation E-mail.

Figure 56
ICB Dashboard - Confirmation E-mail Settings



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The window shows the layout of the E-mail. The customizable text fields are editable. Additional parameters to define appear at the bottom of the window.

Table 26 "Confirmation E-mail Settings fields" (page 115) describes the options available in the Confirmation E-mail Settings window.

Table 26
Confirmation E-mail Settings fields

Field	Description
From	The sender's address defined in the first step of the Install Wizard. This field is view only.
CC:	Enter the E-mail address, or list of addresses, which will receive a carbon copy (CC) of all confirmation E-mails that the ICB sends. Separate the addresses by a space.
BCC:	Enter the E-mail address, or list of addresses, which will receive a blank carbon copy (BCC) of all confirmation E-mails that the ICB sends. The system hides these addresses; they do not appear on the E-mails.
Opening text	Enter the header that appears before the fixed part of the E-mail (that is, the meeting details). *Example*: company name or slogan.
Instructions for Participants	Enter the information that appears after the meeting details. *Example*: dialing instructions and list of TUI commands.
Instructions for Chairperson	Enter information for the chairperson in this field. *Example*: chairperson TUI commands and other tips for the chairperson.
Closing text	Enter the information that appears as a footer at the bottom of the E-mail body.
Time format	From the pull-down menu, select the time format that the E-mail uses (that is, 24-hour or AM/PM).
Time Zone	Enter the time zone of the ICB in free text. The ICB does not check the syntax. *Example*: GMT-5 (EST), Eastern Standard Time, or New York (GMT-5).
DID Prefix	Enter the DID prefix that callers use to access the card from the public network. Enter this value as free text. *Example*: (613) 961.
ESN Prefix	Enter the prefix that callers use when accessing the card by Electronic Switched Network (ESN). *Example*: 846.
Toll Free Access	Enter the toll free access number that callers use to access the card. *Example*: (800) 961.

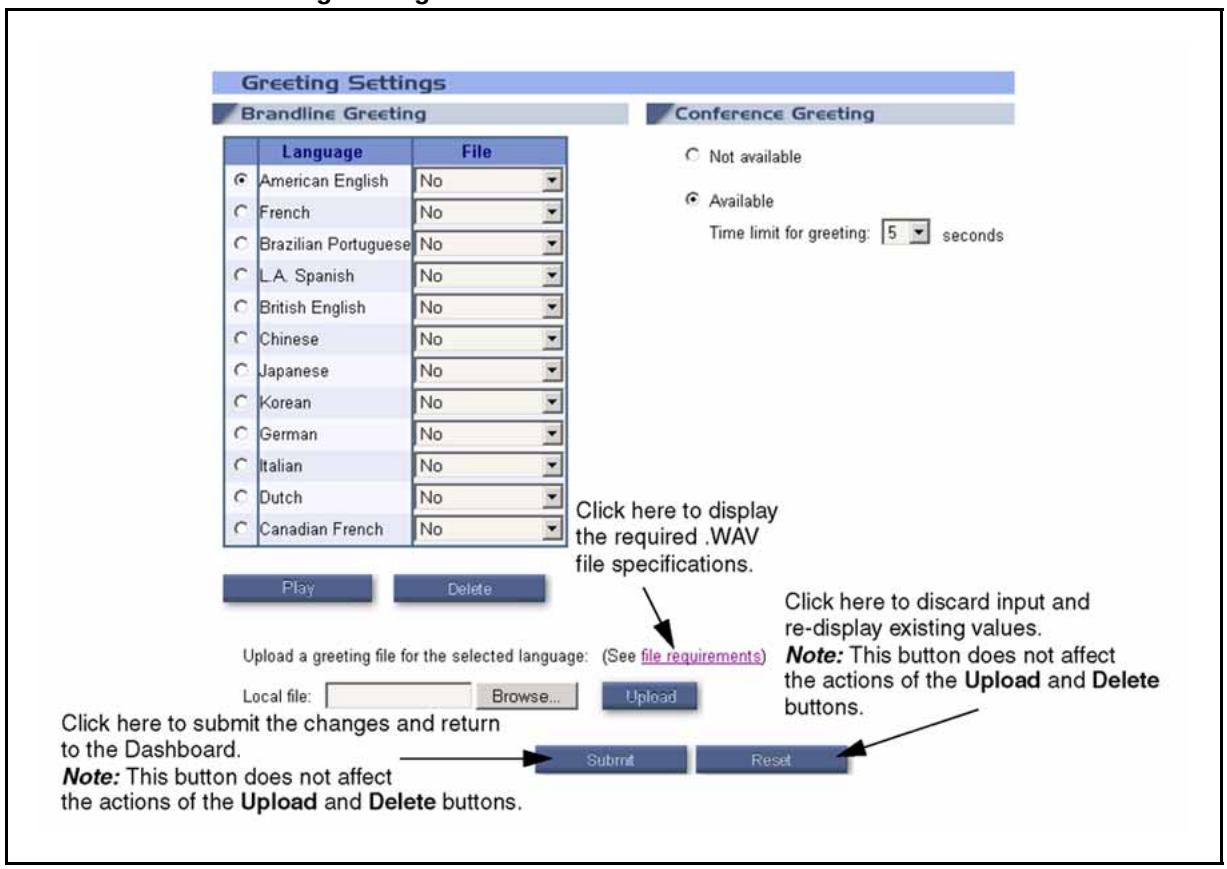
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Customize greetings

Figure 57 "ICB Dashboard - Greeting Settings window" (page 116) shows the window used to customize the following greetings:

- Brandline greeting
- Per-conference user's greeting

Figure 57
ICB Dashboard - Greeting Settings window



The table in this window lists the available languages. For each language, the factory-made greetings can be replaced with a customized greeting in the form of a .WAV file.

Brandline greeting

Follow the steps in Procedure 17 "Replace the brandline greeting" (page 117) to replace the brandline greeting for a given language.

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Procedure 17
Replace the brandline greeting

Step	Action
1	Upload the .WAV file from your computer to the ICB using your computer's operating system.

a Click on the **Browse** button.

A Choose dialog box opens on your computer.

b Scroll through the dialog box to select the location of the .WAV file and click on the **Open** button.

The system closes this dialog box and the selected file's name appears in the read-only Local file: text box.

c Click on the **Upload** button.

The ICB loads the file into the card and adds the file name to the combo-box next to the selected language.

Note: The upload action is immediate. There is no need to submit and save it. It cannot be cancelled by clicking on the **Reset** button.

2	Click on the radio button next to the language in the table to select the language.
3	Select the desired .WAV file you uploaded in the File column for that language.
4	Click on the **Submit** button to save the change.

--End--

There are two additional action buttons as follows:

- **Play** - Click on this button to play the selected greeting. The system plays the file of the selected language on your computer.
- **Delete** - Click on this button to delete the selected greeting from the card. The system removes the file's name from the combo-box. Before deleting the file, the BUI opens a dialog box that asks: "Are you sure you want to delete greeting file xxxx.WAV?"

  After the system deletes the file, it removes the file from the combo-box that contained it. The selection returns to the "factory default" greeting.

  Note: The delete action is immediate. There is no need to submit and save it. It cannot be cancelled by clicking on the **Reset** button.

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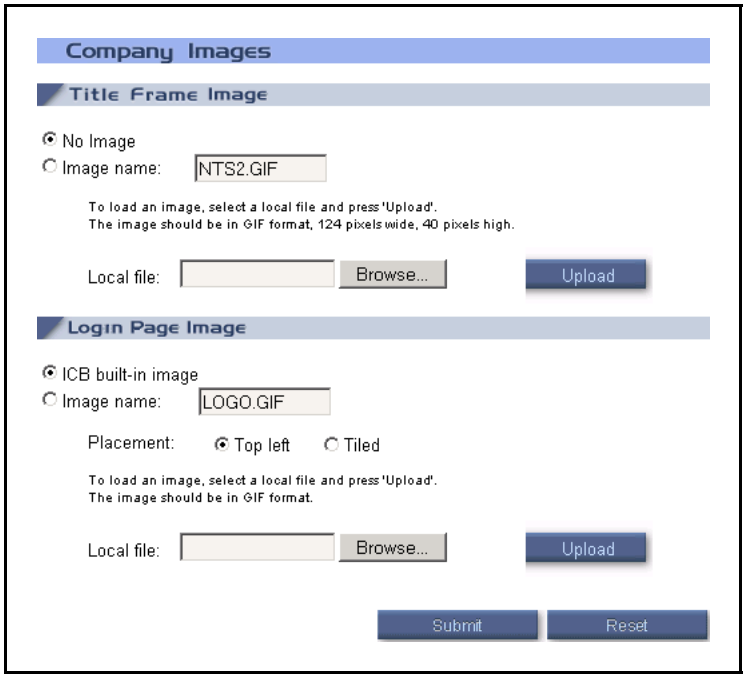
Conference-specific greeting

Use these fields in the Greeting Settings window to enable or disable the Conference-specific Greeting feature. Click on the **Available** radio button to enable the conference-specific greeting. When selected, the administrator can define the maximum length of the greeting. The range is from two to 10 seconds; the default is five seconds.

Company images upload

Figure 58 "ICB Dashboard - Company Images window" (page 118) shows the window that an administrator can use to customize the ICB home page image and the customer's logo on the title frame. Images must be in GIF format.

Figure 58
ICB Dashboard - Company Images window



Title Frame Image

"No image" is the default. Follow the steps in Procedure 18 "Use a customized image" (page 118) to use a customized image.

Procedure 18
Use a customized image

Step	Action
1	Click on the **Browse** button.

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A choose local file dialog box provided by your computer's operating system opens. This window allows an administrator to select a file in their computer.

2 Navigate to the folder that contains the file to upload, select the file and click on the **Open** button.

The system closes the dialog box and the selected file's name appears in the read-only Local file: text box.

3 Click on the **Upload** button.

*The system uploads the file into the ICB card and the file name appears in the box adjacent to the **Image name:** radio button*.

4 To activate the image, click on the **Submit** button.

The new image becomes the customer logo and the system discards the previous image.

> ***Note:*** If the **Reset** button is clicked, instead of the **Submit** button, the system discards the image.

--End--

The maximum image size is 124 pixels wide by 40 pixels high. The system does not allows a larger image, as this distorts the frame. If a customer image is not supplied, the customer's logo on the home page remains an empty rectangle.

> ***Note:*** The ICB does not check the image size; the administrator is responsible for verifying the correct size.

Login Page Image

Upload this image in the same way as in Procedure 18 "Use a customized image" (page 118). The image should fit reasonably in a browser window. For example, the ICB default image is 690 pixels wide by 420 pixels high. The system accepts a smaller image.

The additional placement parameter allows the image to be placed on the login window as follows:

- **Top left**- the system places the image on the top-left corner of the window and leaves the background empty (that is, the browser's background color). This is the default.
- **Tiled** - the system duplicates the image as many times as needed to cover the window's space.

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Upgrades

See “Upgrade procedures” (page 221) for more information about how to use the Dashboard to perform card and firmware upgrades.

Users

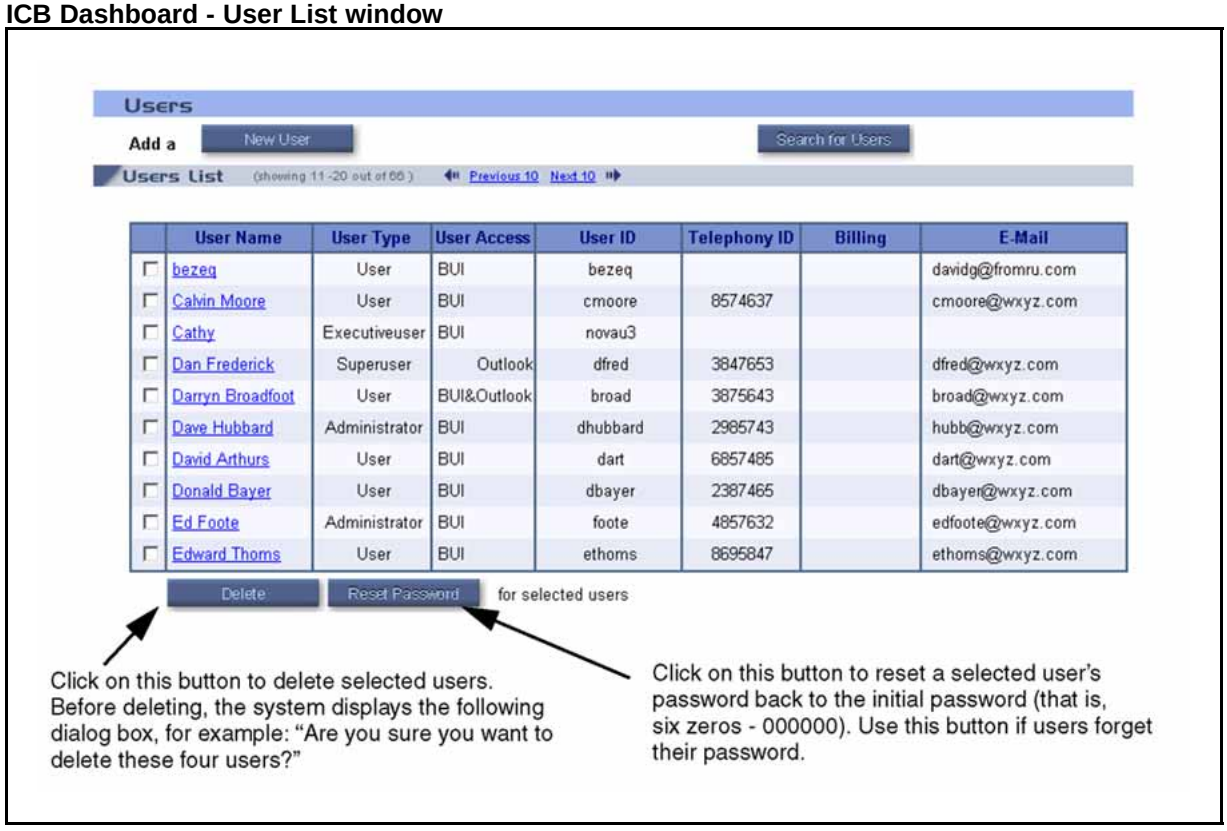
This section enables an administrator to go directly to the following windows:

- Users List
- New User
- Search

Users List

Figure 59 "ICB Dashboard - User List window" (page 120) shows the User List window which is the main window for users administration.

Figure 59
ICB Dashboard - User List window



The buttons on top of the window are for additional administrator actions; the sections that follow describe these actions.

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The window displays a list of users in the form of a table that the systems sorts alphabetically by name. The table shows 10 users, with each user in a separate row. Click on the "Next 10" or "Previous 10" links to view additional users. Find a specific user by clicking on the **Search for Users** button (see “Search for a user” (page 123)).

Table 27 "User List table columns" (page 121) describes the columns in the Users List table.

Table 27
User List table columns

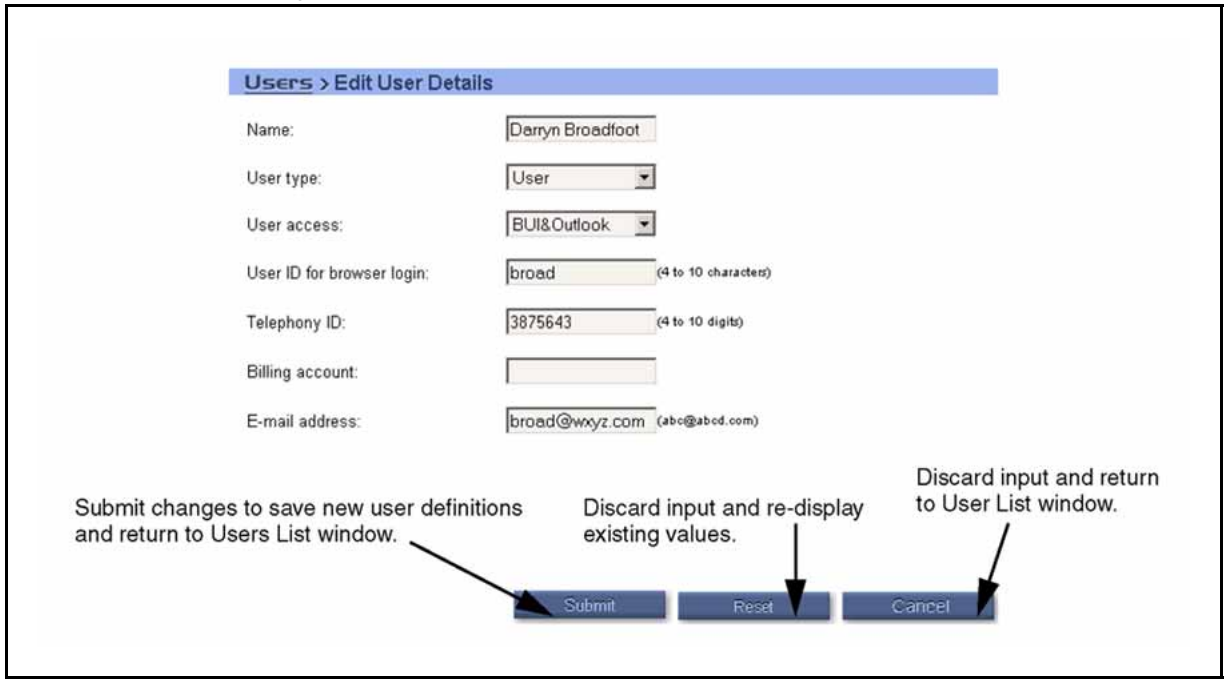
Column	Description
User name	Free text up to 20 characters. The BUI treats the whole name as one string; there is no distinction of first and last name. The name is a link. Click on the name to open the Edit User window for this user.
User type	The user type: user; super-user, executive user, or administrator.
User Access	The access for the user: BUI, Outlook, or BUI and Outlook.
User ID	The login ID for the BUI, up to 10 characters.
Telephony ID	The TUI Login ID, up to 10 digits.
Billing	An account number for the user, which the system uses for billing purposes. This number appears in billing reports. The field can be empty, if the billing feature is not being used.
E-mail	The user’s E-mail address for receiving scheduling confirmation by E-mail. It can be empty, in which case the user does not receive scheduling confirmation E-mails.
Checkboxes	Click on a checkbox to select the corresponding user. The buttons below the table perform actions on selected users.

Edit a user

When an administrator clicks on a name in the Users List window, the Edit User Details window opens (see Figure 60 "ICB Dashboard - Users, Edit User Details window" (page 122)). Use the Edit User Details window to modify the properties of an existing user. The window shows all the properties of the selected user. The properties in this window can be modified. The fields are the same as those in Table 27 "User List table columns" (page 121).

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Figure 60
ICB Dashboard - Users, Edit User Details window

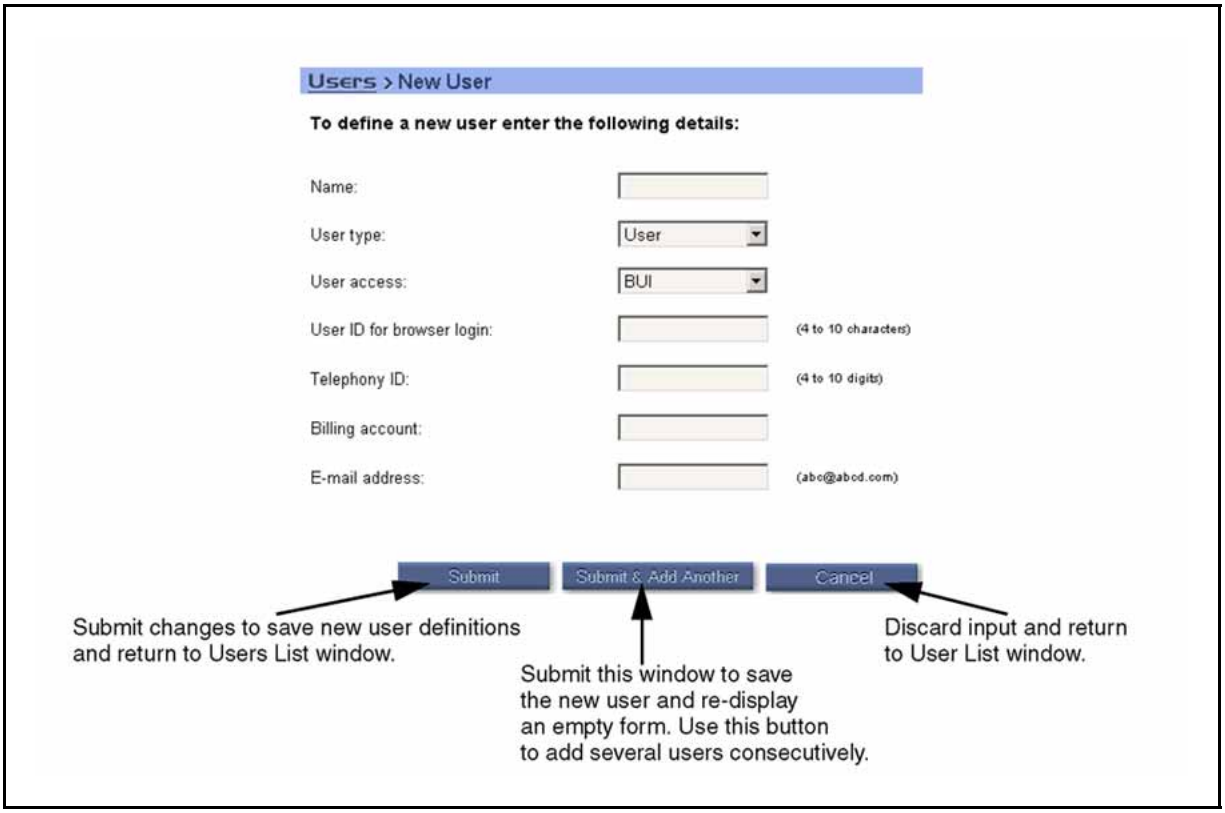


Add new user

Click on the **New User** button in the User List window to access the New User window. Use the New User window to add new users (see Figure 61 "ICB Dashboard - Users New User window" (page 123)).

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Figure 61
ICB Dashboard - Users New User window

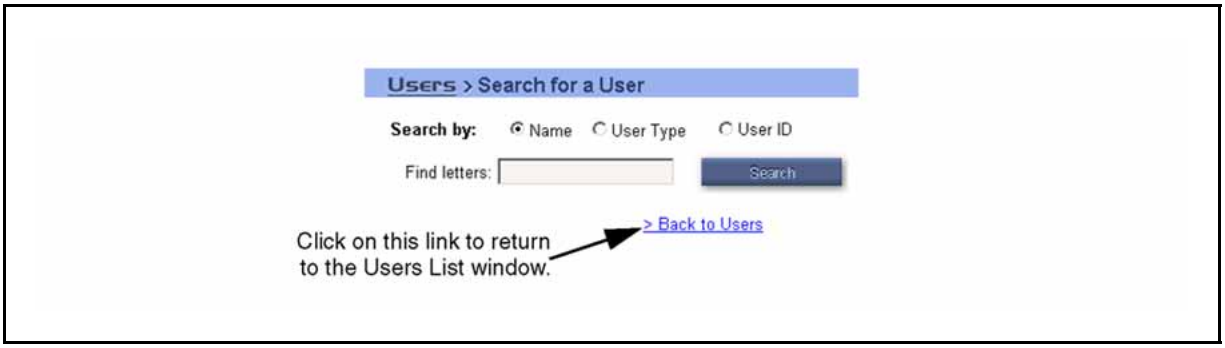


Note: The password for a new user is initially 000000 (that is, six zeros). Nortel Networks recommends that the user change it during the first login session.

Search for a user

When the Search for User **button** in the Users List window is clicked, the Search for a User window opens. Use the Search for a User window to view a subset of users depending on the criteria entered (see Figure 62 "ICB Dashboard - Users, Search for a User window" (page 123)).

Figure 62
ICB Dashboard - Users, Search for a User window



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Click on one of the **Search by**: radio buttons to specify the field to search.The following options are available:

- Name (the system treats the whole name as one string and makes no distinction between first and last name)
- User Type
- User ID

The system searches the string depending on the entry in the Find letters: field. All values that begin with this string match the criterion. The search is not case-sensitive. In the above example, the field to search is by name and the letters to find are "a". The system displays all names that begin with "a" in a table similar to that in the User List table (see Table 27 "User List table columns" (page 121)).

Import users

Use the **Import User** button in the User List window to import the user list from the mate ICB card in a dual-card pair. This button only appears in a primary or secondary ICB card; it does not appear in stand-alone ICB configurations. Use this window to define the same users on both cards, instead of re-entering all user data a second time. The user list can be imported after entering it on the first card.

Before importing, the Dual Meeting parameters must be defined (see “Step 4 - Dual Card Meetings” (page 79)). If the second card’s IP address is not configured, an error message appears.

After clicking on the **Import User** button, the confirmation dialog box in Figure 63 "ICB Dashboard - Import Users Confirmation box" (page 124) appears.

Figure 63
ICB Dashboard - Import Users Confirmation box

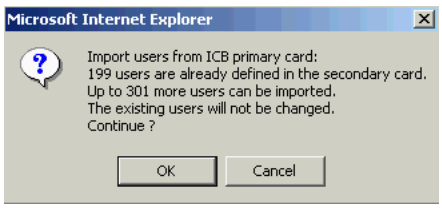


Table 28 "Import Users Confirmation box text" (page 125) describes the information that this message displays.

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Table 28
Import Users Confirmation box text

Text line	Description
First	Indicates from which card the users will be imported. If the card is the primary card it shows the IP address of the secondary card and vice versa.
Second	Shows how many users are already defined in this card.
Third	Shows how many users can be imported. An ICB card can have up to 500 users. When the number of users reaches 500, the system terminates the import process.
Fourth	Informs the administrator that existing users will not be changed (that is, the system does not import a user ID if an identical user ID already exists on the card).
Fifth	Asks for confirmation, or cancellation, of the import.

Click on the **OK** button to start the import process. When the system completes the import, it updates the User List window to include imported users. At this point, the user can be deleted or modified as per normal operation.

Call-out Groups

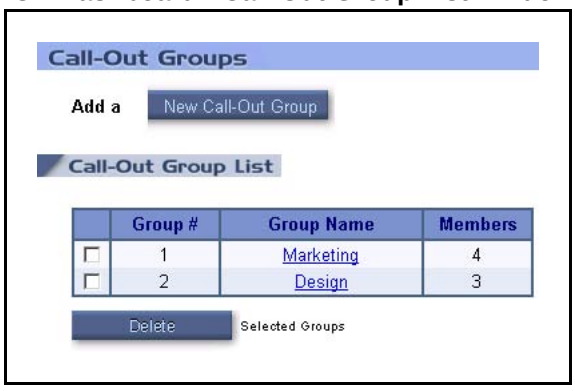
This section enables an administrator to go directly the following windows:

- Call-Out Group List
- Add New Call-out Group

Call-Out Group List

Figure 64 "ICB Dashboard - Call-Out Group List window" (page 125) shows the Call-Out Group List window which is the main window for group list administration.

Figure 64
ICB Dashboard - Call-Out Group List window



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The window displays a list of groups in the form of a table, sorted by group number. The table is read-only. Table 29 "Call-Out Group List table columns" (page 126) describes the information that appears in the table's columns.

Table 29
Call-Out Group List table columns

Column	Description
Group #	The number that identifies the group. The chairperson uses this number when calling a group from the TUI. *Range*: 1 to 64
Group Name	Free text, up to 20 characters, that describes this group. The name displayed is a link. Click on the name to open the Group Details window for this group.
Members	Shows the number of members in the group.
Checkboxes	Click in a checkbox to select the group. The **Delete** button at the bottom of the window can then be used to delete the group. Before deleting the group, the system displays the following dialog box, for example: "Are you sure you want to delete these three groups?"

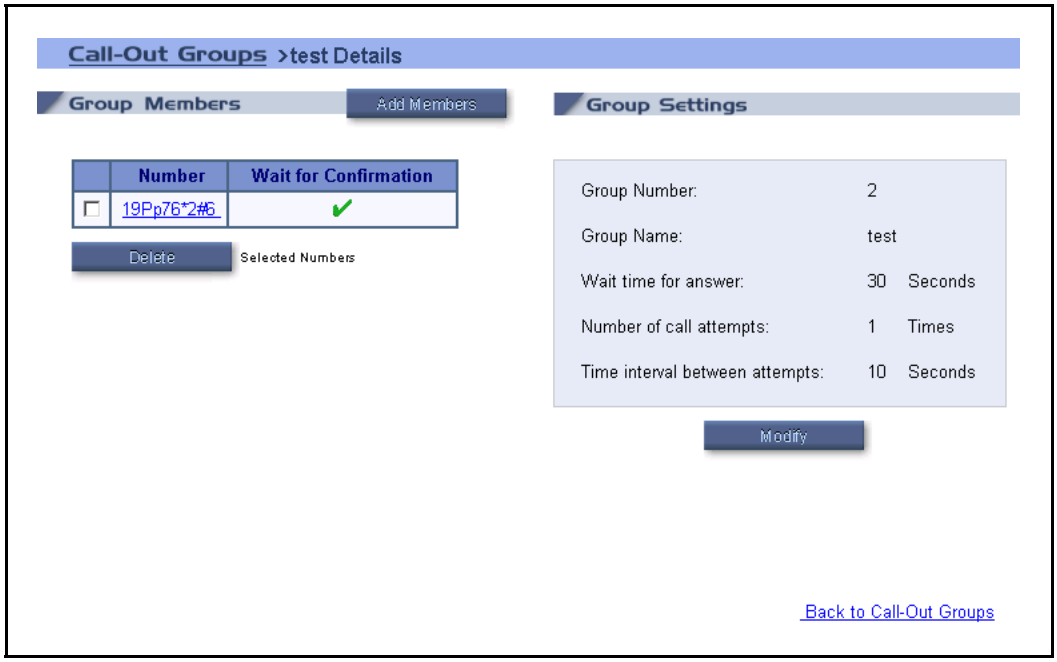
Click on the **New Call-Out Group** button to open a window for adding new groups (see page Figure 69 "ICB Dashboard - Call-Out Groups, New Group, Details window" (page 132)).

Group details

Click on the group's name in the table in the Call-Out Group List window to open the Call-Out Groups Details window (see Figure 65 "ICB Dashboard - Call-Out Groups test Details window" (page 127)). Use the Call-Out Groups Details window to view and modify an existing group.

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Figure 65
ICB Dashboard - Call-Out Groups test Details window



The window shows the members and properties of the selected group. The members appear in a table, with one member per row. Click on the "Next 10" or "Previous 10" link to view additional group members. Table 30 "Group Members table columns" (page 127) describes the columns in the Group Members table.

Table 30
Group Members table columns

Column	Description
Number	The telephone number of this member. The system dials this number when a chairperson calls this group. Maximum number length is 31 digits. The number displayed is also a link. Click on the number to open the Edit Member window in which the group member can be edited.
Wait for Confirmation	Activate, or de-activate, the answer confirmation for this member as follows: • **Activated** (checkmark) - The default value for new members. When the system calls this number due to group call-out activation, the ICB waits for a "human" answer confirmation. The system prompts the called party to enter an asterisk (*) from their DTMF keypad. If the system does not receive this confirmation, the ICB retries the call as defined in the

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Table 30
Group Members table columns (cont'd.)

Column	Description
	group's properties. The system does not connect the called party to the conference, until it receives the answer confirmation. • **Not activated** (X) - The ICB does not wait for confirmation. Upon call origination, the system connects the call to the conference.
Checkboxes	Click on a check box to select a member of the group. The **Delete** button at the bottom of the window can then be used to delete the group member. Before deleting the group, the system displays the following dialog box, for example: "Are you sure you want to delete these five members?"

Use the **Add Members** button at the top of the Group Members table to add a member to the group (see Figure 66 "ICB Dashboard - Call-Out Groups, Details, Add Members window" (page 129)).

The right side of the window displays the group's properties for outcalling retries. These settings apply only to members with the option "Wait for Confirmation" activated. Table 31 "Group Settings Retry parameters" (page 128) describes these parameters which are view only. Click on the **Modify** button to open a window in which these settings can be changed (see Figure 68 "ICB Dashboard - Call-Out Groups, Details, Modify Group Settings window" (page 131)).

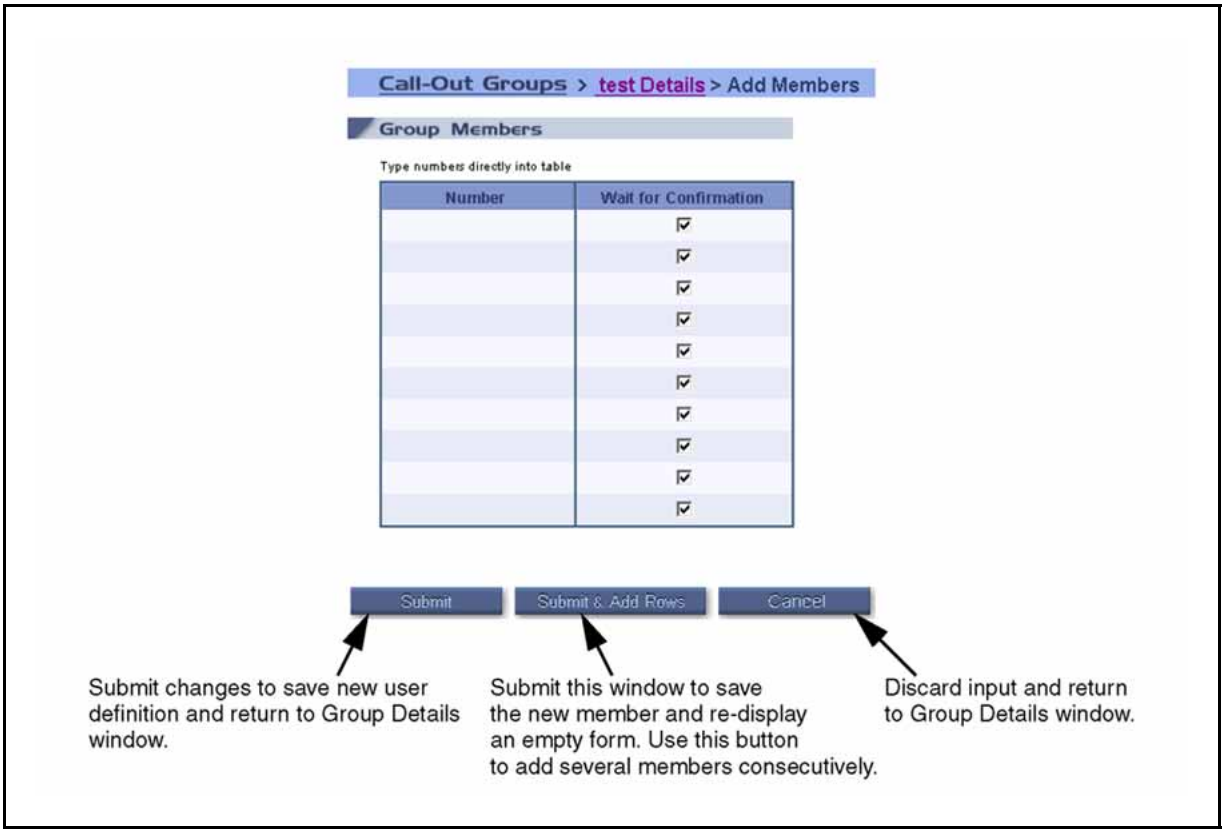
Table 31
Group Settings Retry parameters

Field	Description
Wait time for answer	The number of seconds to wait for the called party to answer when calling numbers in this group.Time is measured from call origination, so it includes the dialing and ringing stages. An answer here, refers to the DTMF * keypad press. *Range*: 15-90 seconds. *Default*: 30 seconds.
Number of call attempts	The number of times to try each number in case of failure. Value 1 means only 1 attempt, no retries. *Range*: 1-3. *Default*: 1.
Time interval between attempts	The number of seconds the system waits, before retrying the same number. *Range*: 5-30 seconds. *Default*: 10.

Add Members - Click on the **Add Members** button in the Call-Out Groups Details window to open the Add Members window. Use the Add Members window to add one or more members to an existing group (see Figure 66 "ICB Dashboard - Call-Out Groups, Details, Add Members window" (page 129)).

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Figure 66
ICB Dashboard - Call-Out Groups, Details, Add Members window

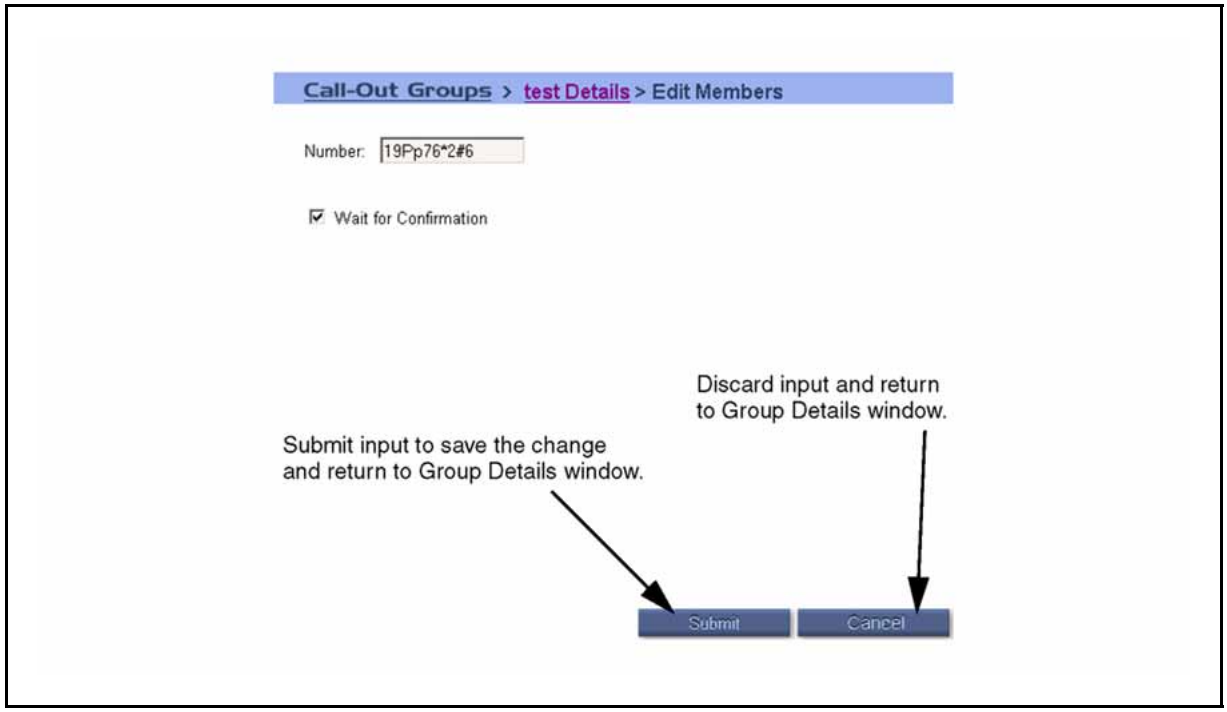


Add members by entering the phone number directly in the table. The default "Wait for Confirmation" option setting is active (that is, checked in the corresponding checkbox). Uncheck the checkbox if you need to change the default setting. The table contains 10 rows.

Edit Member - Click on a specific number in the Call-Out Groups Details window to open the Edit Members window. Use the Edit Members window to modify a member's number or confirmation option (see Figure 67 "ICB Dashboard - Call-Out Groups, Details, Edit Members window" (page 130)).

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Figure 67
ICB Dashboard - Call-Out Groups, Details, Edit Members window

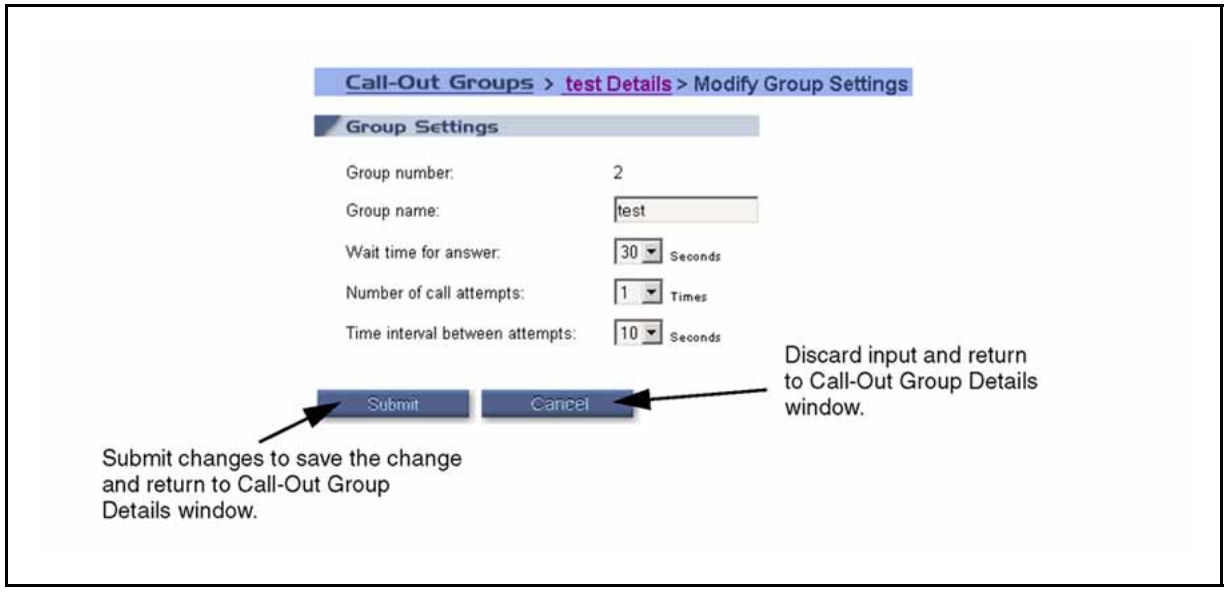


Edit the number directly in the text box. Change the "Wait for Confirmation" option by clicking in the in Wait for Confirmation box.

Edit Group Properties - Click on the **Modify** button in the Call-Out Groups Details window (below the Group Settings table) to open the Modify Group Settings window. Use the Modify Group Settings window to modify the call-out retry parameters of the group (see Figure 68 "ICB Dashboard - Call-Out Groups, Details, Modify Group Settings window" (page 131)).

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Figure 68
ICB Dashboard - Call-Out Groups, Details, Modify Group Settings window



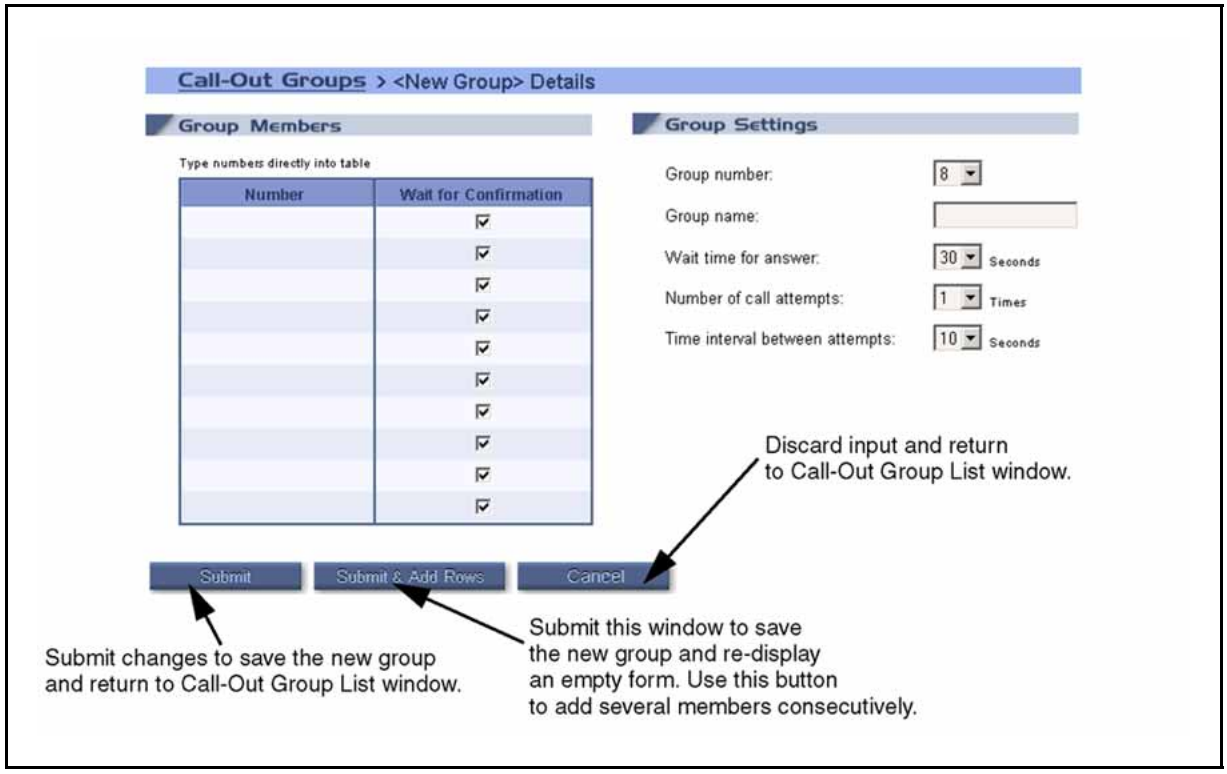
The Group number is view only. The name and parameters can be modified as described in Table 31 "Group Settings Retry parameters" (page 128).

Add a New Group

Click on the **New Call-Out Group** button in the Call-Out Group List window to open the <New Group> Details window. Use the <New Group> Details window to add a new call-out group. Use this window to fill in the new group's members and set the retry parameters (see Figure 69 "ICB Dashboard - Call-Out Groups, New Group, Details window" (page 132)).

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Figure 69
ICB Dashboard - Call-Out Groups, New Group, Details window



This window has the same layout as the Call-Out Group Details window (see Figure 65 "ICB Dashboard - Call-Out Groups test Details window" (page 127)), except here all fields are editable. The Group number pull-down menu shows only available numbers (that is, numbers not used by other groups).

Permanent Conferences

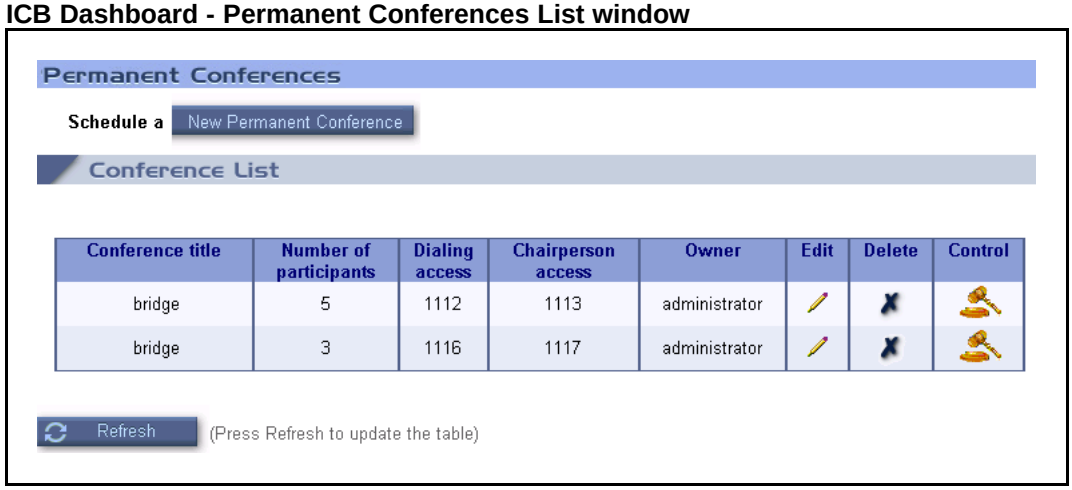
Under this subject an administrator can access the Permanent Conferences List window or go directly to the New Permanent Conference window.

Permanent Conferences List

Figure 70 "ICB Dashboard - Permanent Conferences List window" (page 133) shows the Permanent Conferences List window.

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Figure 70
ICB Dashboard - Permanent Conferences List window



The Conference List table shows a list of permanent conferences in the card. This table is similar to the regular conference table (see Figure 36 "Meetings List window super-user display" (page 89)), except that the time-related fields (that is, start and duration) do not exist. Start and duration are irrelevant in permanent conferences. All other fields are the same.

Note: Because a permanent conference is always active, the control icon exists for all conferences in the table.

New/Edit Permanent Conference

Use the Permanent Conferences List window to perform the following:

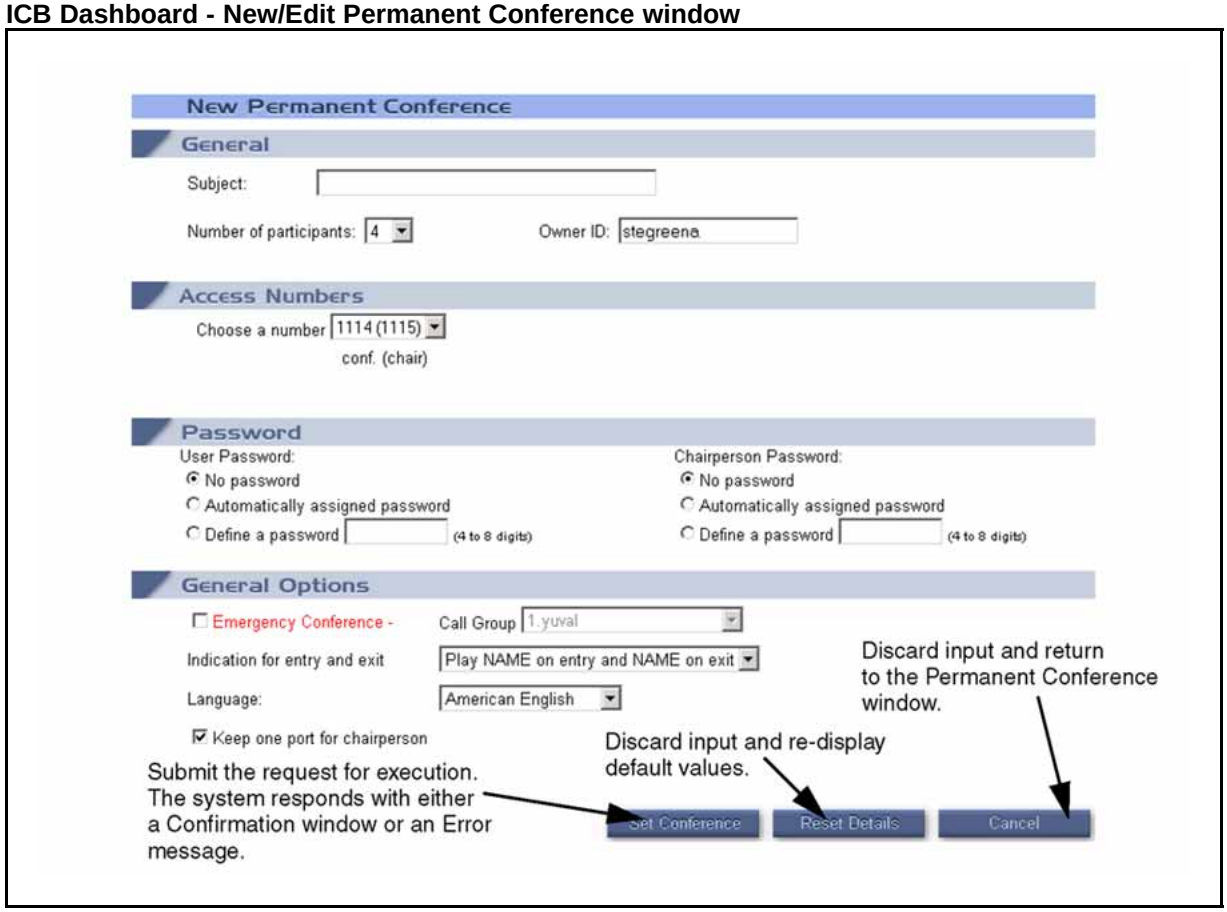
- Define a new permanent conference. Click on the **New Permanent Conference** button to open the New Permanent Conference window.
- Edit an existing conference. Click on the edit icon in the conference row of the Conference List table to open the Edit Permanent Conference window.

  Note: These two windows are identical, except during the edit operation the window's title shows "Edit Permanent Conference".

Figure 71 "ICB Dashboard - New/Edit Permanent Conference window" (page 134) shows the New/Edit Permanent Conference window.

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Figure 71
ICB Dashboard - New/Edit Permanent Conference window



This window is similar to the regular conference scheduling window (see "Scheduling window" (page 91)), except that all time-related fields are not applicable. The start time and duration do not appear in this window. In addition, there is no dual-card meeting link, because a permanent conference cannot be a dual-card meeting.

The option "add port if needed" is always no for permanent conferences, so it does not appear in this window.

Unlike the regular scheduling window that has pop-up sections, all fields and options appear on the basic window.

Table 32
Permanent Conference New/Edit parameters

Field	Description
General section	

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Table 32
Permanent Conference New/Edit parameters (cont'd.)

Field	Description
Subject	Enter text that describes the purpose of the conference. *Range*: Enter up to 20 characters, or leave this field empty. *Default*: Empty.
Number of participants	Enter the number of ports to reserve for this conference, including the chairperson ports. The application makes sure that the total number of reserved ports for this time period does not exceed system capacity. The system performs validation after submission. *Range*: 3 to 32. *Default*: 4
Owner ID	Enter the user ID that will appear for this conference in billing reports and logs. Any user in the card can be assigned as the owner. However, since this is a permanent conference, the owner cannot modify or delete the conference, unless they are an administrator. Thus, this field is only for billing and logging reference. *Default*: The administrator that defines the conference.
Chairperson	Enter the name of the chairperson for user's reference. *Range*: Text up to 20 characters. *Default*: Empty.
Access Numbers section	
DN pair usage option	The administrator must select a DN pair from the list. The list shows pairs of numbers in the format: [conference (chairperson)]. The system checks the availability of the number when the form is submitted for execution. If the number is not available, the operation fails.
Password section	
User Password	Enter an optional password for the conference. If configured, callers must enter this password to join the conference. Available options are as follows: • None - no password. • Automatically assigned - The system automatically generates the password. The administrator sets the password length from 4 to 8 digits. • Define a password - The user defines the password. The range is 4 to 8 digits. The window shows the password as it is entered. The system does not check the password for uniqueness. Different conferences can use the same password. ***Note:*** The default setting is determined by the Administrator's default conference setting.
Chairperson Password	Enter a password for chairperson authentication. This field has the same options as the user password. ***Note:*** The default setting is determined by the Administrator's default conference setting.
General Options section	

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Table 32
Permanent Conference New/Edit parameters (cont'd.)

Field	Description
Emergency conference	Click in this box to define an emergency conference with an associated call group. The system automatically calls the specified group's members from the conference when the chairperson dials the conference. The selection box lists existing groups in the card. This type of conference is for invoking emergency personnel (for example, firemen).
Indication for entry and exit	Define how the system announces when people enter or exit a conference. The following options are available from the pull-down menu: • Play name on entry and name on exit (the default). • Play name on entry and tone on exit. • Play tone on entry and tone on exit. • Silence (no indication for entry or exit). ***Note:*** The default setting is determined by the Administrator's default conference setting.
Language	Select the language the system uses for voice prompts during the conference. The pull-down menu offers the set of languages available in the system. The default is the ICB card's default language. When using single-number access, the preferred language takes affect after the caller enters the conference ID and password. Before that the system uses the default language.
Keep one port for chairperson	Click on this box to reserve a port for the chairperson. When all the ports are occupied but one, and the chairperson has not yet dialed in, the remaining port is not available for a participant. If this box is not checked, the system uses the ports on a first-come first-serve basis. In this case, if all the ports are taken up by participants, the system will not allow the chairperson to enter the conference. *Default*: the option is checked (on).

Backup

For more information about how to use the ICB Dashboard to backup files, see "Backup and restore procedures" (page 190).

Reports

For more information about how to use the ICB Dashboard to generate and view reports, see "Reports" (page 199).

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Telephone user interface

Purpose

This chapter describes how to use the telephone user interface (TUI) to:

- invoke commands during an active conference
- schedule conferences and record greetings

The chapter contains the following sections:

- “Overview” (page 137) - introduces the telephone user interface.
- “TUI operation during an active conference” (page 138) - provides procedures for using TUI features from a dual tone multi-frequency (DTMF) telephone while in an active conference.
- “TUI services” (page 148) - describes TUI services available when there is no active conference, such as scheduling.

Overview

Active conference

The ICB provides a DTMF, menu-driven telephone user interface. The TUI enables the chairperson, and conferees, to invoke commands from their telephone during an active conference, such as mute or unmute. This functionality is provided during a meeting with no additional provisioning required.

Scheduling and recording features

To access the TUI for scheduling and recording, dial the TUI DN. The system prompts the user to enter their TUI ID and password.The system responds depending on the user ID as identified by the TUI ID as follows:

- Regular user - the TUI responds with a voice menu with the following two items:

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— schedule a conference

— record a conference-specific greeting

Note: If the second feature is disable by the administrator (see Figure 57 "ICB Dashboard - Greeting Settings window" (page 116)), the system skips this item and the user directly enters the scheduling menu.

- Administrator - An administrator does not schedule a conference. The TUI responds with a voice menu with the following two items:

  — record a conference-specific greeting

  — record a system brandline greeting

  Note: If the first feature is disabled by the administrator (see Figure 57 "ICB Dashboard - Greeting Settings window" (page 116)), the system skips this item and the administrator directly enters the brandline greeting menu.

Scheduling and recording greetings requires a system TUI DN and TUI ID for each user. For more information about defining a new DN, see "Installation and configuration" (page 45). For more information about defining a DN for the TUI, see "Step 2 - Access Numbers" (page 77). The BUI must be used to define a TUI user ID for each user (see "Users List" (page 120)).

If a second user dials the TUI DN when the TUI is in use, the ICB plays a voice message announcing that the port is in use.

TUI operation during an active conference

This section describes how the TUI can be used while in an active conference.

Chairperson features

Dial-out

The chairperson can dial out and call a new party outside of the conference. They can talk with the party or bring the party into the conference. As a chairperson, dial **0<DN>#* (# is a digit entered by the chairperson after the DN) to dial a party outside the conference or **0* to access the operator.

Bring the party into the conference by dialing **2* or disconnect the call by dialing **3*. If the chairperson dials the wrong number, dial **3* and re-dial. To redial the last number dialed, dial **#*.

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The ICB card selects the port for dialing out. The port is available if the number of ports reserved for the conference is greater than the number of conferees that have joined the conference. When all reserved ports are taken, the port can be available, if there are un-reserved ports on the ICB card and the port expansion feature is enabled for that conference. If all reserved ports are taken and there are no unscheduled ports available, the system cannot complete the call.

Note: When the chairperson dials out to another ICB conference, two ports are seized, the dial-out port of the local ICB and the dial-in port of the remote ICB. This connection can be terminated only if the chairperson drops the dial-out port of the local ICB. However, normally the dial-out call is a telephone, so the system only seizes one port.

Dial-out Authorization

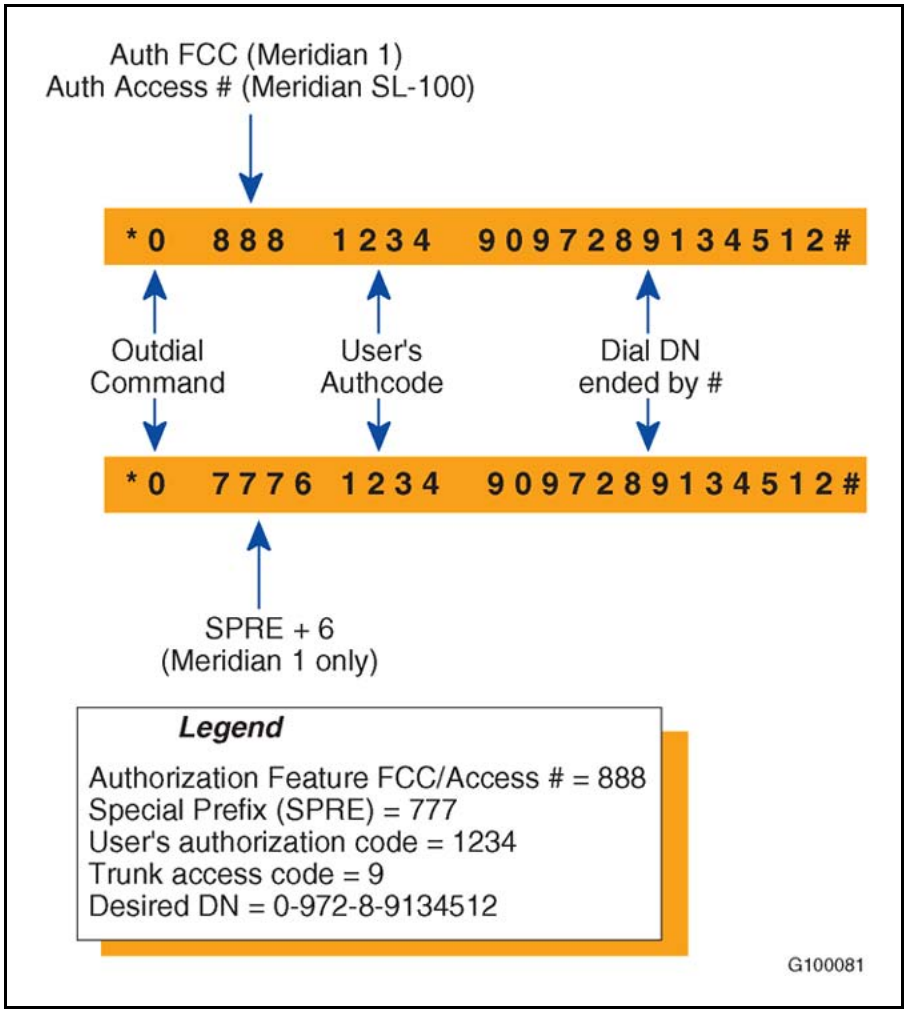
The Dial-out Authorization feature enables the chairperson to connect external parties to the conference when the desired destination number is restricted.

This feature uses the Meridian Authorization feature. As such, the chairperson must be aware of outdialing restrictions and know the authorization access code (Flexible Feature Code - FFC or Special Prefix - SPRE on the CS 1000; Auth Access # on the CS 2100/Meridian SL-100).

The chairperson must enter the whole string of authorization numbers as the example in Figure 72 "Dial-out Authorization dialing example" (page 140) shows. There are no confirmation tones or dial tone in the middle of dialing.

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Figure 72
Dial-out Authorization dialing example



Note: In BUI, define the same sequence as above, except do not enter the command code **0*.

If using this feature and Group Call, make sure that the authorization access code precedes the restricted DNs in the group call list.

All ports mute/unmute toggle

A chairperson can place all conference participants, except the chairperson, on mute by dialing **10*. While on mute, the participants can listen to the conference. To unmute the participants, the chairperson dials **10* again. Because there is one command for mute and unmute, the system announces to the chairperson one of two possible voice messages: "All participants have been muted" or "All participants have been unmuted." Only the chairperson hears the mute/unmute announcement.

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Group call-out

Each ICB card supports up to 64 group call-out lists, each with up to 61 telephone numbers. Each telephone number can be up to 31 digits in length.

The administrator defines group call-out lists through the BUI (see "Call-out Groups" (page 125)). The system saves the information on the ICB PCMCIA disk.

The administrator must define the following options for each group list:

- number of dial-out retries allowed (range: 1-3, default: 1)
- time between each dial-out retry (range: 15-90 seconds, default: 30)

The chairperson on an active conference can call all members of a group call-out list by dialing the following: **2 <group list number># *. The ICB dials out to all the telephone numbers in the requested group call-out list simultaneously. If there are more than 31 numbers on the group call-out list, the system requires two ICB cards.

When the system uses two ICB cards in a group call-out, the primary card divides the group call-out list into two groups. The primary card dials one group of numbers and sends the second group to the secondary card over the TCP/IP LAN. The secondary card then dials the second group of numbers. The system dials out both groups of numbers simultaneously.

The ICB card dials out by allocating a free port and originating the call on it. The system does not connect the port to the meeting, until the call successfully completes. After the ICB card originates the call, it plays a specific prompt and keeps repeating the prompt for a number of seconds (determined by the administrator). The default configuration forces the called party to respond by dialing a star * during this interval. When the ICB card detects the correct response, it connects the call to the meeting. If the ICB card does not detect the correct response within the defined time and the defined number of retries, the ICB card disconnects the call.

> ***Note:*** The administrator can configure the call to complete without requiring the called party to enter a star *. This option enables the connection to paging systems and auto-attendants.

The system limits group call-outs to the number of available ports on a conference. When a chairperson uses a list containing 61 numbers, and the meeting has 20 free ports, the system dials only the first 20 telephone numbers.

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Group Call-out Smart Retry - When the chairperson makes a group call-out to the same group for the second time, the system repeats the call-out only to numbers that are not connected in the conference. The second call-out includes calls to the following:

- numbers not successfully connected in the previous group call-out
- numbers that were connected, but then disconnected

The Group Call-out Smart Retry feature minimizes port usage during group calls.

Lock or unlock the conference

The chairperson can lock the conference to prevent any new conferees from joining by dialing **4*. The chairperson can unlock the conference allowing new conferees to join by dialing **4* again. A caller trying to join a locked conference hears an announcement indicating that the conference is locked. The system then disconnects the call. The chairperson can dial-out and include a conferee when the conference is locked.

Because there is one command for lock and unlock, the system announces to the chairperson one of two possible voice messages: "Meeting is locked" or "Meeting is unlocked." Only the chairperson that activates the command hears the lock/unlock announcement.

Count conferees

The chairperson can count the number of conferees that have joined a conference by dialing **69* (for announcing to the chairperson only), or **60* (for announcing to the whole conference). The ICB card issues a string of voice prompts, one for each conferee in the conference, that only the chairperson hears. If a new conferee joins the conference after the chairperson activates the command, the ICB card does not count that new conferee. If the system drops a conferee after the "count the conferees" or "play list" command, they are counted, but not named.

When the chairperson dials **69*/**60*, the conferees hear a quiet click.

Table 35 "Chairperson commands during count command" (page 144) lists the TUI subcommands available to the chairperson when counting conferees.

Drop all conferees

The chairperson can drop all conferees from the conference, except the chairperson, by dialing **90*. The ICB does not issue an announcement to the conferees before disconnecting. After the system disconnects the conferees, the ICB card issues an announcement to the chairperson

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indicating that there are no conferees on the conference. The announcement is followed by 60 seconds of music. The conference remains active, so conferees can dial in again.

Drop last dialed conferee

The chairperson can drop the last conferee to join the conference through dial-out by dialing **91*. The chairperson can drop the last conferee to dial in by dialing **92*. These commands are not repeatable (that is, the chairperson can drop the last conferee to dial in, but not the second-to-last to dial in). If the chairperson is the last to dial into the conference, the ICB card cannot execute the **92* command.

Conference duration expansion

The chairperson can expand the duration of a conference by 15 minutes by dialing **98*. If the expansion is successful, the chairperson receives the voice message, "Your meeting duration has been expanded." If the duration expansion is not successful, because there are not enough resources, such as ports or DNs, the chairperson receives the message, "Your meeting duration has not been expanded."

The maximum conference duration, including all chairperson expansions, is 12 hours. The ICB card does not permit conference duration expansion to a conference scheduled to end within three minutes of the expansion request.

Chairperson command summary

Table 33 "Chairperson commands" (page 143) lists conference commands that the chairperson can execute on the telephone set while a conference is in progress.

Table 33
Chairperson commands

Chairperson Command	Description
*0<DN>#	Dial out to a DN (called party directory number, which is not a conference participant).
*0#	Dial out to the assistant DN.
*2<GN>#	Group call-out, where GN is the group number to call.
*4	Lock or unlock the conference.
*7	Volume control.
*10	All ports mute/unmute toggle.
*19	Self mute/unmute toggle.
*52	Release chairperson control.
*60	Count conferees and announces names to all participants.

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Table 33
Chairperson commands (cont'd.)

Chairperson Command	Description
*69	Count conferees and announces names to chairperson only. Activates a scrolling menu for the chairperson (see Table 35 "Chairperson commands during count command" (page 144)).
*81	Voting: Yes, I agree.
*82	Voting: No, I disagree.
*83	Voting: I abstain.
*90	Drop all ports, except the chairperson's port.
*91	Drop the last dialed-out port.
*92	Drop the last dialed-in port.
*98	Extend the conference by 15 minutes.
*99	Stop or start the initial conference music by the chairperson, which is possible only when the chairperson is the first person joining the conference. The first entry stops it, the second entry starts it.
*	Abort current command.
*#	Redial last dialed DN.
**	Start or stop the help menu.

Table 34 "Chairperson commands during dial-out call" (page 144) shows the commands available during a dial-out call (that is, after dialing *0<DN>#).

Table 34
Chairperson commands during dial-out call

Chairperson dials ...	In order to ...
*2	Return to the conference with dialed party.
*3	Return to the conference without dialed party.

While the system is announcing the list of conference participants after the chairperson enters *69, the chairperson can execute the commands in Table 35 "Chairperson commands during count command" (page 144).

Table 35
Chairperson commands during count command

Chairperson dials ...	In order to ...
#	Stop and start the playlist.
0	Consult privately with the conferee.
1	Mute/unmute the conferee.
2	Play the current conferee name greeting.

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Table 35
Chairperson commands during count command (cont'd.)

Chairperson dials ...	In order to ...
*3	Return to the conference.
4	Select the previous conferee and play name.
6	Select the next conferee and play name.
9	Disconnect the current conferee.
**	Start and stop the help menu.

Features available to all participants

Self mute/unmute toggle

All conference participants, including the chairperson, can put themselves on mute by dialing **19*. While on mute, the participant can listen to the conference. To unmute, the participant dials **19* again. Because there is one command for mute and unmute, the system announces to the participant one of two possible voice messages: "Muted" or "Unmuted." Only the participant that activates the command hears the mute/unmute announcement. The mute/unmute command is available to those participants who dial into the conference and who the chairperson brings into the conference using the dial-out command.

Stop or start music

This feature stops or starts the initial conference music, which is possible only when the conferee is the first person joining the conference. Dial **99*. The first entry stops it, the second entry starts it.

Adjust the audio volume of a conference

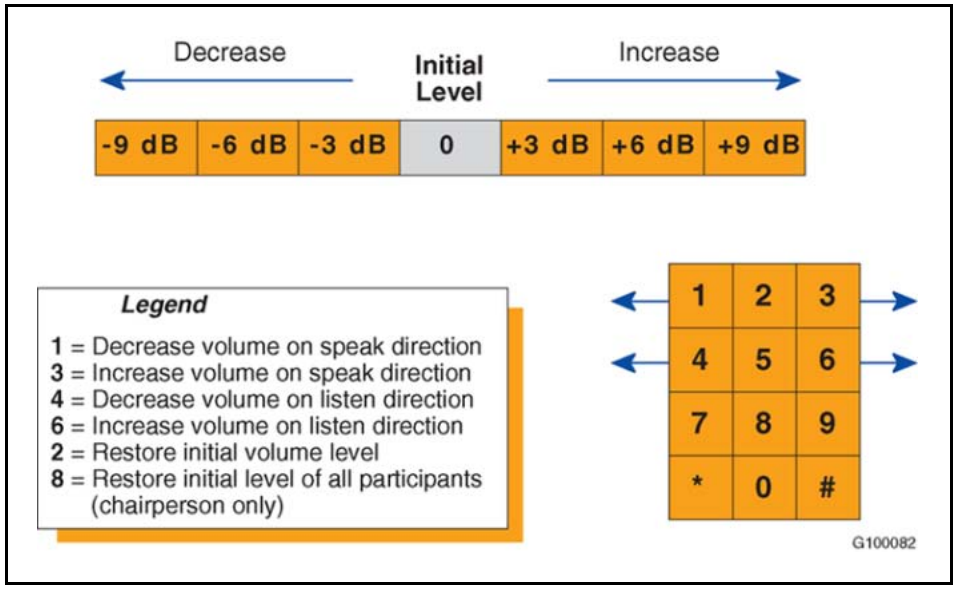
Follow the steps in Procedure 19 "Adjust the conference audio volume" (page 145) to adjust the volume of a conference.

Procedure 19
Adjust the conference audio volume

Step	Action
1	Dial **7* to adjust the volume. Figure 73 "Volume control feature operation" (page 146) shows how the keypad operates this feature.

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Figure 73
Volume control feature operation



When making a selection, the system applies the command, plays a confirmation tone, and returns the user to the conference.

2 Each invocation of the command advances one step in the required direction. To advance more than one step, the whole sequence must be repeated. For example, to reach the maximum volume in the listen direction, dial:

**76 *76 *76*

3 The menu can be interrupted, so the two-digit sequence can be entered without waiting for the menu.

--End--

Help

The chairperson can access a help menu by dialing **. The help menu is a voice recording of all chairperson command options. The chairperson can stop the help menu before it finishes by dialing ** again.

The help command is sensitive to where the chairperson is in the command structure. For example, if the conference is in the normal active state, the chairperson hears the main list of commands after dialing **. If the chairperson dials out to a person and then dials **, the chairperson hears the list of commands relevant to dialing out. If the chairperson dials **69* or **60* to count conferees, and then dials **, the chairperson hears the list of commands relevant to counting conferees.

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Conferees can dial ** to hear a list of command options available to conferees. Only the participant who dials ** hears the relevant list of commands.

Conferee features

Acquire and release chairperson control

Follow the steps in Procedure 20 “Acquire/release chairperson control” (page 147) to acquire, or release, chairperson control.

Procedure 20
Acquire/release chairperson control

Step	Action
1	To acquire chairperson control, dial **51*. The system reacts as follows: • *If another chairperson is present at the conference, the command fails. The system notifies the user and returns them to the meeting*. • *If there is no active chairperson, the system prompts the user to enter the chairperson password for the meeting. If the password is correct, the user becomes the chairperson. If the password is incorrect, the system prompts the user to retry two more times. If the password is still incorrect, the command fails and the system returns the user to the meeting*.
2	To release chairperson control, dial **52*. Only the chairperson uses this command. When activated, the chairperson becomes a regular conference participant allowing someone else to acquire chairperson control.

--End--

Conferee command summary

Table 36 "Conferee commands" (page 147) lists conference commands that a conferee can execute on the telephone set while the conference is in progress.

Table 36
Conferee commands

Conferee command	Description
*7	Volume control.
*19	Self mute/unmute toggle.
*51	Acquire chairperson control.

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Table 36
Conferee commands (cont'd.)

Conferee command	Description
*81	Voting: Yes, I agree.
*82	Voting: No, I disagree.
*83	Voting: I abstain.
*85	Question: I request a question.
*86	Question: I cancel my request for a question.
*99	Stop or start the initial conference music, which is possible only when the conferee is the first person joining the conference. The first entry stops it, the second entry starts it.
*	Aborts current command.
**	Start or stop the help menu.

TUI services

This sections describes TUI services that are used when there is no active conference.

Schedule a conference

When using the TUI scheduler, first enter the TUI user ID and password. If a port is reserved for the TUI, only 31 ports are available for conference use. After scheduling a conference using the TUI, the BUI can be used to view, modify, or delete the conference.

The conference defined from the TUI has default attributes. Define the conference parameters, through the telephone keypad, at the prompts of a guided voice menu. The ICB plays messages when an error is made.

> ***Note:*** There are up to seven minutes to schedule a conference with the TUI. After seven minutes, the ICB sends a voice message indicating that the allotted time is over. The ICB then disconnects the call.

The ICB sets up the following default attributes:

- entry and exit by name
- no custom greeting
- no conference expansion
- no name for the name of the conference
- no name for the name of the chairperson

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To schedule a conference through the TUI, follow the steps in Procedure 21 “Use the TUI to schedule a conference” (page 149).

Procedure 21
Use the TUI to schedule a conference

Step	Action
1	Dial the TUI DN.
2	At the prompt, enter your TUI user ID.
3	At the prompt, enter your password (6 digits).
4	At the prompt, enter the date and time of the conference (optional). The default is the current day and time.
5	At the prompt, enter the duration of the conference.
6	At the prompt, enter the number of ports required for the conference.
7	At the prompt, enter the Conferee DN (optional). *If a DN is not entered, the ICB card generates one. The ICB card determines the Chairperson DN automatically.*
8	At the prompt, enter the password length (optional).
9	At the prompt, enter the language (optional). *After entering all conference parameters, the ICB requests you to confirm the reservation.* ***Note:*** If configured, the web server sends a confirmation E-mail.

--End--

Record a brandline greeting

The TUI can be used to record the customized brandline greeting when an administrator TUI password is used for the login. Procedure 22 “Use a brandline greeting” (page 149) shows how to use this feature.

Note: Although the greeting can be recorded in any language, the TUI instructions are in English only.

Procedure 22
Use a brandline greeting

Step	Action
1	Dial the TUI DN. Enter your TUI administrator ID and password.

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The system responds with a menu and steps through how to operate the feature.

2 The chairperson must activate the brandline greeting from the BUI.

--End--

The maximum length of the greeting is 10 seconds. The system plays greetings to conference participants in the following order:

1. Initial greeting
   a. ICB factory greeting - "Welcome to the conference call."
   b. Brandline greeting - "Welcome to Company XYZ's conference call." This greeting replaces the factory greeting.
2. Conference-specific greeting - "This is department 201's weekly meeting."

In this example, when participants call they hear: "Welcome to Company XYZ's conference call. This is department 201's weekly meeting."

Note: Dual-card meetings use the brandline of the primary card, so that all participants hear the same greeting.

Record a conference-specific greeting

Conference-specific greeting operation is similar to brandline greetings, except that they can be recorded by users or administrators. The maximum length is configured by an administrator up to 10 seconds. The system deletes the voice file at the end of the conference and it cannot be used for other conferences. Follow the steps in Procedure 23 "Configure a conference-specific greeting" (page 150) to configure a conference-specific greeting.

Procedure 23
Configure a conference-specific greeting

Step	Action
1	Dial the TUI DN. Enter your TUI user or administrator ID and password. *The system provides a menu with various options*.
2	Operational steps are as follows: **a** When scheduling a meeting, the system provides a reference number which uniquely identifies the meeting. The system displays this reference number in the BUI and in the confirmation E-mail.

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b After scheduling the meeting, dial the TUI Services DN, enter login data, and select "Record customer greeting" from the voice menu.

The system prompts you to enter the reference number to identify the meeting.

c Enter the number received in step **a**.

The system repeats the number and prompts the user to confirm it or re-enter it.

d Confirm or re-enter the number.

The system provides a menu for recording the greeting similar to that used for the brandline greeting.

--End--

After recording the greeting, it can be later verified, re-recorded, or deleted. Meeting details displayed in the BUI indicate whether or not a greeting exists.

This feature also applies to always-on conferences. However, for always-on conferences, only the administrator can record the conference-specific greeting.

A greeting recorded for a conference that is part of a recurrent chain applies to occurrences following that conference.

In dual-card meetings, the user or administrator records the custom greeting to the primary card. The system automatically copies it to the secondary card, so that all callers hear the same greeting.

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Microsoft Outlook GUI

Purpose

This chapter describes how to use the Microsoft Outlook/Exchange GUI for audio conference scheduling.

The chapter contains the following sections:

- “Overview” (page 81) - introduces the Microsoft Outlook GUI and its system requirements.
- “Scheduling BUI” (page 88) - describes the interface that users and super-users can use to schedule conferences.
- “Setting a delegate user for Microsoft Outlook Calendar” (page 170) - describes the process that users can use to delegate a user.

Overview

Users using Microsoft Outlook can schedule and manage ICB conference information using Microsoft Outlook as an alternative to the Browser User Interface. To access the ICB server, use the following Microsoft calendar GUIs:

- Microsoft Outlook, version 2000, XP, or 2003.
- Microsoft Exchange, version 5.5, 2000, or 2003.

Since meetings automatically appear in the user’s Outlook calendar, the user does not have to book the meeting in two places: Browser User Interface and Microsoft Outlook. Microsoft Outlook sends out e-mail invitations to all invited parties. When the meeting is created, the conference DN and password are added to the e-mail invitation. The chairperson information is not added. This information can be verified by pressing the **Display** button.

ICB conferences can be scheduled up to one year in advance.

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Recurrent meetings can be created in Microsoft Outlook. Meetings can be scheduled up to one year in advance up to 52 occurrences. Since Microsoft Outlook allows for longer scheduling, meetings scheduled beyond one year are not scheduled in the ICB, but are scheduled in Microsoft Outlook. A message is displayed to the user indicating which meetings are scheduled in the ICB and which ones are not.

Meetings created in TUI or BUI will not appear in Microsoft Outlook.

The super-user functionality is not supported by Microsoft Outlook GUI. Users with the type of super-user will act as normal users when operating from the Microsoft Outlook GUI.

When modifying a conference, the play greeting functionality is not supported by the Microsoft Outlook GUI.

Only left-to-right languages are supported by the Microsoft Outlook GUI.

Daylight savings time is not supported. If either the user's clock, or the ICB's clock (but not both), is changed after a meeting is scheduled, the meeting's start time will be off schedule.

The conference control screen of an active meeting is displayed only in English.

In Microsoft Outlook 2000, ICB is not informed that a meeting was deleted before a delete event message is sent. Therefore, a meeting will still exist on the ICB. Before deleting an ICB meeting scheduled with the Microsoft Outlook GUI, remove the ICB association by un-checking the "ICB Conference" checkbox on the ICB tab.

Administrators cannot schedule permanent or emergency meetings using the Microsoft Outlook GUI.

Publishing the form in Microsoft Outlook

Before the ICB form can be published in Microsoft Outlook, the ICB Administrator must acquire the ICB form.

Follow the steps in Procedure 24 "ICB Administrator to get the ICB form" (page 155) for the ICB Administrator to get the ICB form for the first time.

Follow the steps in Procedure 34 "Upgrading the ICB form in the Organizational Forms Library" (page 174) for the ICB Administrator to upgrade the ICB form.

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Procedure 24
ICB Administrator to get the ICB form

Step	Action
1	Enter the time zone for the ICB card.
2	Define the users that will use the Microsoft Outlook GUI.
3	Go to the location of the ICB PC Card and log in using the following username and password: Username: **micb** Password: **admin**
4	Copy the icbf.oft, icbsjc.oft, and icbsk.oft files from the **OUTLOOK** directory.

--End--

ICB files must be published in Microsoft Outlook before ICB users can access and use the ICB files. Nortel Networks recommends that the Microsoft Outlook Administrator publish the ICB files in the Organizational Forms Library. Follow the steps in Procedure 25 “Microsoft Outlook Administrator to publish the ICB files to the Organizational Forms Library” (page 156).

If the ICB files are not published by the Microsoft Outlook administrator, ICB users themselves must publish the ICB files in their Personal Forms Library. Follow the steps in Procedure 26 “Publishing the ICB form in Microsoft Outlook by each Microsoft Outlook user” (page 157).

When publishing upgraded files, be sure to remove the older versions from the library. Follow the steps in Procedure 29 “Removing the ICB files from the Personal Forms Library (way 1)” (page 161) or Procedure 30 “Removing the ICB files from the Personal Forms Library (way 2)” (page 161).

Note 1: The instructions in the following two procedures are specific to Microsoft Exchange 5.5. For other systems, contact your Microsoft Outlook administrator for specific instructions on publishing form files.

Note 2: If the second procedure is used, each individual Microsoft Outlook user must follow Procedure 26 “Publishing the ICB form in Microsoft Outlook by each Microsoft Outlook user” (page 157).

The ICB form is based on the following ICB files:

- form file required for all ICB applications - icbf.oft
- language files, one or more required for each ICB application:

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— Japanese and Chinese languages - icbsjc.oft

— Korean language - icbsk.oft

— All other supported languages - icbs.oft

Procedure 25
Microsoft Outlook Administrator to publish the ICB files to the Organizational Forms Library

Step	Action
1	Open Microsoft Outlook.
2	Obtain the ICB form files from the ICB Administrator.

Note: For each language file (icbs.oft, icbsjc.oft, and icbsk.oft) you are publishing, you must complete the following steps.

a Double-click the name of the file, for example **icbs.oft**.

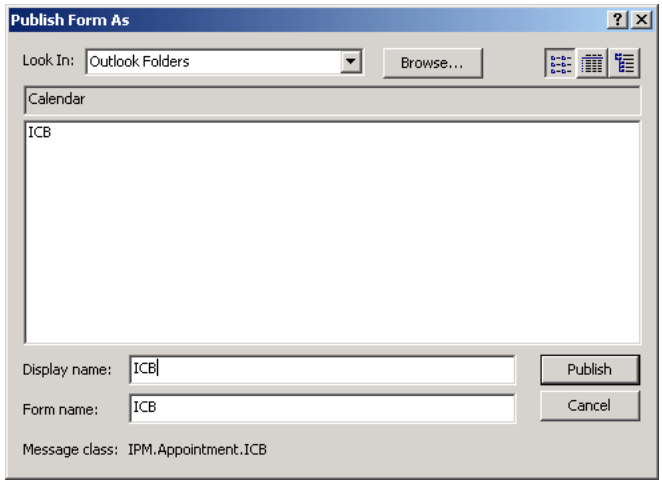
Note: Click **No** if asked to **Enable Macros**.

b Click **OK** in the **Select Folder** window. T*he Calendar window opens*.

Note: Do not select a folder from the folder list in the **Select Folder** window.

Choose **Tools > Forms > Publish Form As**. *The Publish Form As window opens*. SeeFigure 74 "Publish Form As window" (page 156).

Figure 74
Publish Form As window



c Select **Organizational Forms Library** in the **Look In** field.

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d Enter a **Display name** and **Form name** as follows:

- If you are publishing icbs.oft, enter **icbs**
- If you are publishing icbsjc.oft, enter **icbsjc**
- If you are publishing icbsk.oft, enter **icbsk**

e Click **Publish**.

Note: Click **Yes** if asked to replace an existing form.

f Close the **Calendar** window. Do not save the appointment.

3 Publish the ICB form file icbf.oft.

a Go to the folder where the ICB files are located.

b Double-click **icbf.oft**. T*he Calendar window opens*.

Note: Click **No** if asked to **Enable macros**.

c Choose **Tools > Forms > Publish Form As**. *The Publish Form As window opens*. See Figure 74 "Publish Form As window" (page 156) for a depiction.

d Select **Organizational Forms Library** in the **Look In** field.

e Enter a **Display name** and **Form name**, such as **icbf**.

f Click **Publish**.

Note: Click **Yes** if asked to replace an existing form.

g Close the **Calendar** window. Do not save the appointment.

--End--

Procedure 26
Publishing the ICB form in Microsoft Outlook by each Microsoft Outlook user

Step	Action
1	Open Microsoft Outlook. ***Note 1:*** Do not perform this procedure if the ICB files have already been published by the Microsoft Outlook administrator. ***Note 2:*** These instructions are specific to Microsoft Exchange 5.5. For other systems, contact your Microsoft Outlook administrator for specific instructions on publishing a form.
2	Obtain the ICB files (form icbf.oft and one or more language files icbs.oft, icbsjc.oft, and icbsk.oft) from the ICB Administrator.
3	Save the files in accessible location.

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4 For each language file (icbs.oft, icbsjc.oft, and icbsk.oft) you are publishing:

a Double-click the name of the file, for example **`icbs.oft`**.

Note: Click No if asked to **Enable macros**.

b Click OK in the Select Folder window. T*he Calendar window opens*.

Note: Do not select a folder from the folder list in the **Select Folder** window.

c Choose **Tools > Forms > Publish Form As**. *The Publish Form As window opens*. See Figure 74 "Publish Form As window" (page 156) for a depiction.

d Select **Personal Forms Library** in the **Look In** field.

e Enter a Display name and a Form name as follows:

- If you are publishing icbs.oft, enter **`icbs`**.
- If you are publishing icbsjc.oft, enter **`icbsjc`**.
- If you are publishing icbssk.oft, enter **`icbsk`**.

f Click **Publish**.

Note: Click **Yes** if asked to replace an existing form.

g Close the **Calendar** window. Do not save the appointment.

5 Publish the ICB form file icbf.oft.

a Go to the folder where the ICB files are located.

b Double-click **`icbf.oft`**. T*he Calendar window opens*.

Note: Click **No** if asked to **Enable macros**.

c Choose **Tools > Forms > Publish Form As**. *The Publish Form As window opens*. See Figure 74 "Publish Form As window" (page 156) for a depiction.

d Select **Personal Forms Library** in the **Look In** field.

e Enter a **`Display name`** and a **`Form name`**, such as **`icbf`**.

f Click **Publish**.

Note: Click **Yes** if asked to replace an existing form.

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g Close the **Calendar** window. Do not save the appointment.

--End--

The ICB files must be published in Microsoft Outlook before the ICB user can configure the ICB form as the default Calendar form in Microsoft Outlook. When the Microsoft Outlook Administrator has published the ICB form to the forms library, follow the steps in Procedure 27 “Select the ICB form as the default form in Microsoft Outlook” (page 159) to configure the ICB form as the default Calendar form in Microsoft Outlook.

Several languages may use the same form name. If an administrator needs to have several languages, create a file called "outlangs.tbl". This file should be placed in the Microsoft Outlook folder. This file should contain a table describing which language uses which form. See Table 37 "Language form to use" (page 159) for an example.

Table 37
Language form to use

Language	Form to use
American English	icbf.oft
French	icbf.oft
U.K. English	icbf.oft
Chinese Traditional	cnicb.oft

Procedure 27
Select the ICB form as the default form in Microsoft Outlook

Step	Action
1	Open Microsoft Outlook. ***Note:*** Before beginning this procedure, obtain the name of the published ICB form file. For example, icbf.oft.
2	Right-click **Calendar** in the **Folder List**.
3	Select **Properties**. *The Calendar Properties window opens*.
4	Select the **General** tab.
5	Select **Forms** in **When Posting to this folder**, **use**. *The Choose Form window opens*.
6	Select the library in which the files were published.

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- If you published the forms yourself, select **Personal Forms Library** in the **Look In** field.
- If the ICB administrator published the files, select **Organizational Forms Library** in the **Look In** field.

7 Select the form name, **icbf**, and click **Open**.

8 Click **OK**.

9 Verify that you are using the correct version of the ICB form.

a Double-click a timeslot in the **Calendar**.

b Choose **Help > About this Form** from the toolbar. *The form version is displayed*.

--End--

Follow the steps in Procedure 28 “Resetting the default Calendar form for Microsoft Outlook” (page 160) to change the default Calendar form back to the Microsoft Outlook Appointment form.

Procedure 28
Resetting the default Calendar form for Microsoft Outlook

Step	Action
1	Open Microsoft Outlook.
2	Right-click **Calendar** in the **Folder List**.
3	Choose **Properties**. *The Calendar Properties window opens*.
4	Select the **General** tab.
5	Select **Appointment** in **When posting to this folder, use**.
6	Click **OK**.

--End--

Removing the ICB files from the Personal Forms Library

When searching for published ICB files, Microsoft Outlook searches first in the Personal Forms Library, then in the Organizational Forms Library. If upgraded ICB files exist in the Organizational Forms Library, and older versions exist in the Personal Forms Library, the new upgraded ICB files will never be used. Follow Procedure 29 “Removing the ICB files from the Personal Forms Library (way 1)” (page 161) or Procedure 30 “Removing the ICB files from the Personal Forms Library (way 2)” (page 161) to remove previously published ICB files from the Personal Forms Library.

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Procedure 29
Removing the ICB files from the Personal Forms Library (way 1)

Step	Action
1	Open Microsoft Outlook.
2	Right-click **Calendar** in the **Folder List**.
3	Choose **Properties**. *The Calendar Properties window opens*.
4	Select the **Forms** tab.
5	Click **Manage**. *The Forms Manager window opens*.
6	Click **Set** in the left half of the window. The **Forms Manager** window has two **Set** buttons. The one on the right is inactive.
7	Select **Personal Forms** in the **Forms Library**.
8	Click **OK**.
9	Select the ICB form(s) to be deleted from the list in the panel on the left side of the window.
10	Click **Delete**.
11	Click **Yes** in the confirmation dialog box.
12	Click **Clear Cash**.
13	Click **Close** to close the **Forms Manager** window.
14	Click **OK** to close the **Calendar Properties** window.

--End--

After you remove an ICB form, the Microsoft Outlook Appointment form becomes the default Calendar form. See Procedure 27 “Select the ICB form as the default form in Microsoft Outlook” (page 159)to set another ICB form as the default Calendar form.

Procedure 30
Removing the ICB files from the Personal Forms Library (way 2)

Step	Action
1	Open Microsoft Outlook.
2	Choose **Tools. > Options** from the file menu. *The Options window opens*.
3	Select the **Other** tab.
4	Click **Advanced Options**. *The Advanced Options window opens*.

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5 Click **Custom Forms**. *The Custom Forms tab opens in the Option window*.

6 Click **Manage Forms**. *The Forms Manager window opens*.

7 Select the **ICB** forms to be deleted.

8 Click on **Clear Cash**.

9 Click **Delete**.

--End--

Login to the ICB card using Microsoft Outlook

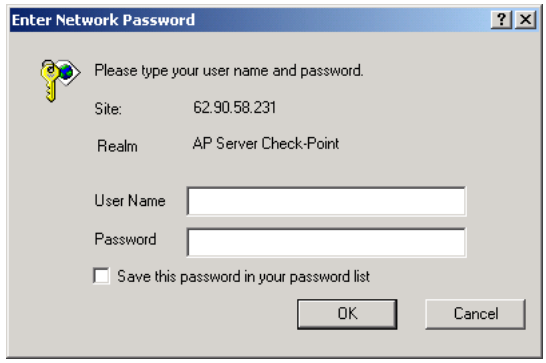
You need to log into the ICB when you are setting up or editing the ICB parameters of a conference. You will use the same ICB user ID and password for the ICB form in Microsoft Outlook that you use for the BUI. If you have access to more than one ICB card, you must have a user ID defined for each card. Follow the steps in Procedure 31 “Log into the ICB card using Microsoft Outlook” (page 162) to log into the ICB card from Microsoft Outlook.

Procedure 31
Log into the ICB card using Microsoft Outlook

Step	Action
1	If you are not already at the ICB tab, go to the ICB tab Microsoft Outlook. **a** Select **Calendar** from the **Folder List** in Microsoft Outlook. **b** Click **New**. **c** Select the **ICB** tab. **d** Select the ICB card from the **ICB Address** drop-down list. **e** Select **ICB Conference**.
2	Enter your username and password in the **Enter Network Password** window. See Figure 75 "Username and Password (Microsoft Outlook)" (page 163) for a depiction.

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Figure 75
Username and Password (Microsoft Outlook)



a Enter your user ID in the **User Name** field.

b Enter your password in the **Password** field.

c Select **Save this password in your password list** (optional).

d Click **OK**.

--End--

Scheduling a new conference

Scheduling window

Open a new appointment in Microsoft Outlook after logging into the ICB card.

Figure 76 "Microsoft Outlook ICB tab - Schedule a new conference" (page 164) shows the scheduling window when it first opens after the ICB tab has been selected.

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Figure 76
Microsoft Outlook ICB tab - Schedule a new conference

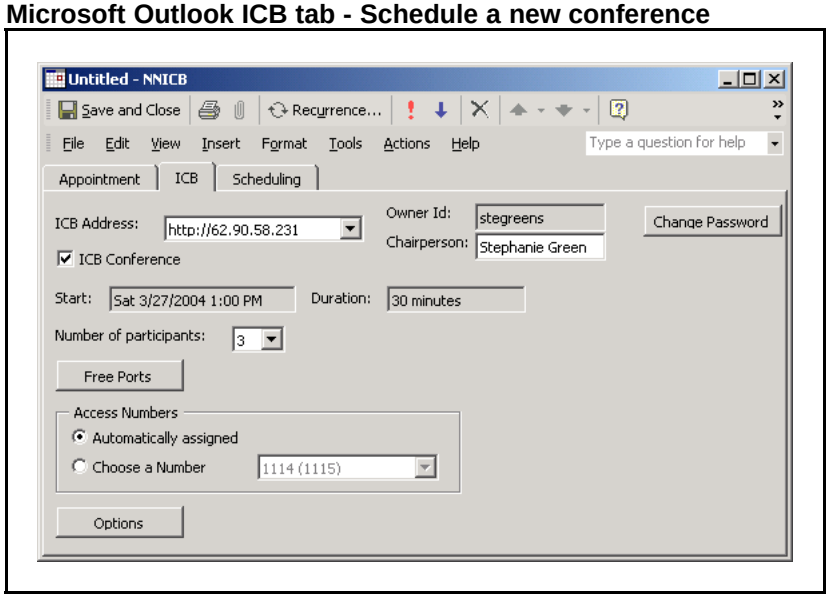


Table 38 "ICB tab window fields" (page 164) describes the fields in the Microsoft Outlook ICB tab.

Table 38
ICB tab window fields

Field	Description
ICB Address	The IP address or DNS of the ICB card.
ICB conference	When checked, schedules the conference to the ICB card.
Owner ID	User name that is logged into the ICB card.
Chairperson	Enter the name of the chairperson for this conference.
Start	Enter the date and time that the conference starts. The minutes box shows 15-minute increments (that is, 0, 15, 30, and 45). *Range*: Hours/15-minute increments. The default value of the time field is rounded to the nearest 15 minutes according to the following rule: • In the first 10 minutes of the interval, the system rounds the time off to the past. For example, if the time is 8:23, the box shows the time as 8:15. The system interprets this as an immediate conference. • In the last five minutes of the interval, the system rounds it to the future 15-minute value. For example, 8:26 appears as 8:30. ***Note:*** If a change needs to be made to an existing conference, click on the Appointment tab to make the necessary changes. That information will be moved to the ICB tab.

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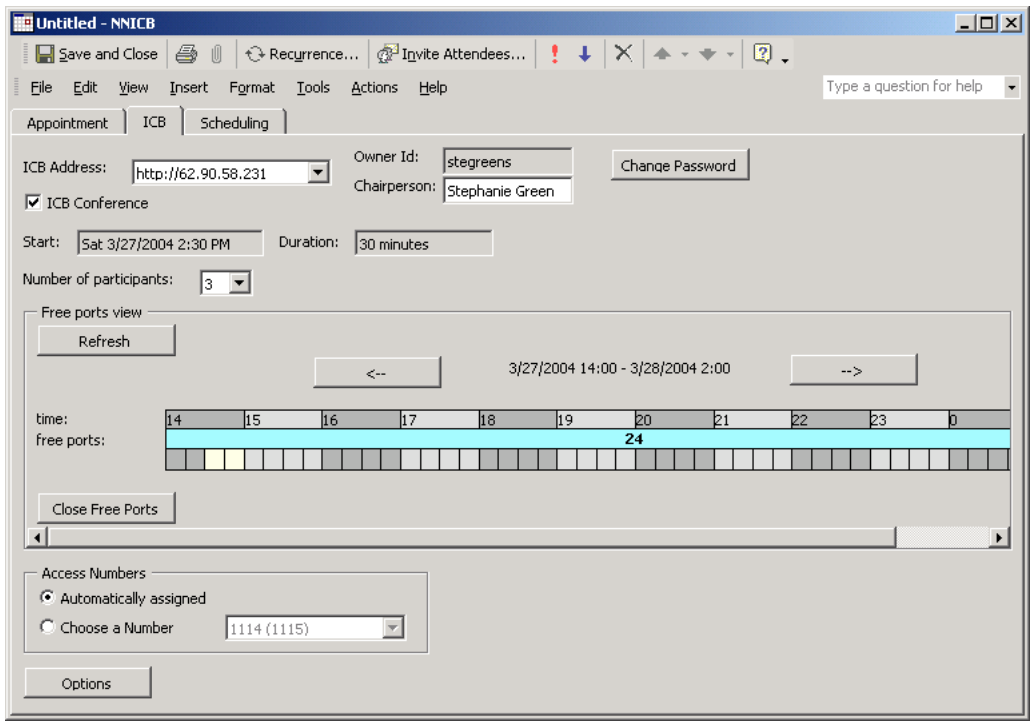
Table 38
ICB tab window fields (cont'd.)

Field	Description
Duration	Enter the duration of the conference. *Range*: Up to 12 hours in 15-minute increments (the selection box shows all possible values).
Number of Participants	Select the number of participants for this conference from the drop-down box. The default value is four.
Access Numbers	Select either to automatically assign a number or a specific number from the drop-down list.

Free Ports view

Figure 77 "ICB tab window - Free Ports view" (page 165) shows the expanded scheduling window after clicking on the **Free Ports** button. The information in this window refers to the date set above it in the Start area. The time scale covers 12 hours in 15-minute increments.

Figure 77
ICB tab window - Free Ports view



Options section

Figure 78 "ICB tab window - Options section" (page 166) shows the expanded window after clicking on the **Options** button.

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Figure 78
ICB tab window - Options section

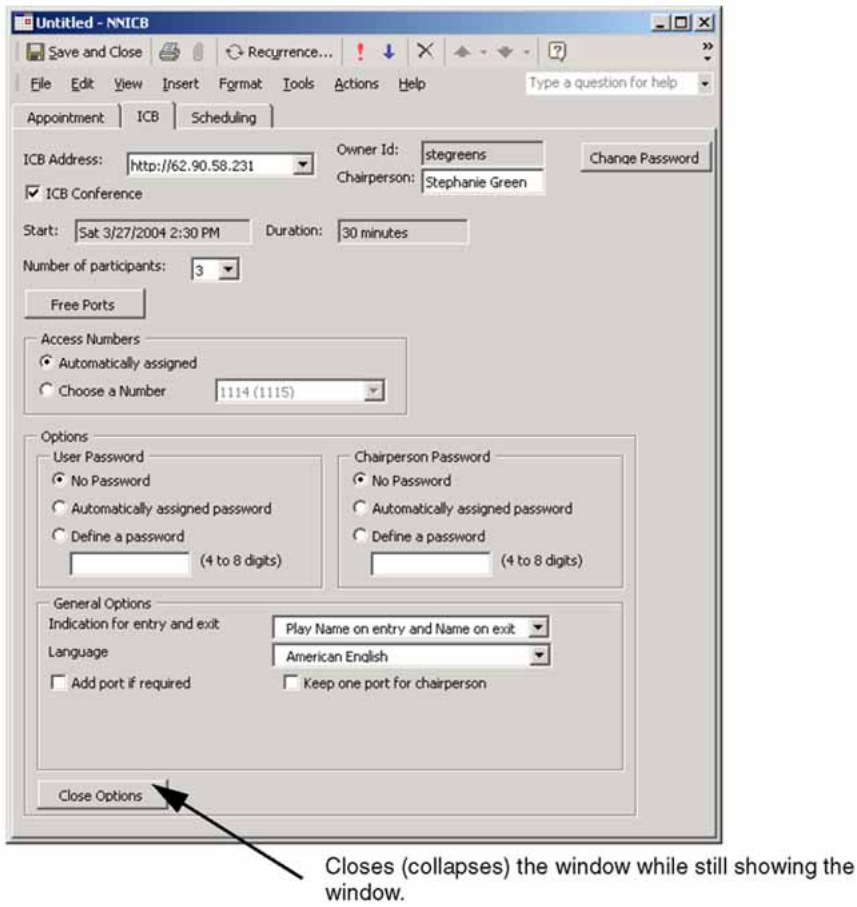


Table 39 "ICB tab window - Options section fields" (page 166) describes the fields in the Options section.

Table 39
ICB tab window - Options section fields

Field	Description
Password section	

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Table 39
ICB tab window - Options section fields (cont'd.)

Field	Description
User Password	Enter an optional password for the conference. If configured, callers must enter this password to join the conference. Available options are as follows: • No password - no optional password. • Automatically assigned - The system automatically generates the password. The administrator sets the password length from 4 to 8 digits. • Choose a password - The user defines the password. The range is 4 to 8 digits. The window shows the password as it is entered. The system does not check the password for uniqueness. Different conferences can use the same password. ***Note:*** The default setting is determined by the Administrator's default conference setting.
Chairperson Password	Enter a password for chairperson authentication. This field has the same options as the user password. ***Note:*** The default setting is determined by the Administrator's default conference setting.
General Options section	
Indication for entry and exit	Define how the system announces when people enter or exit a conference. The following options are available from the pull-down menu: • Play name on entry and name on exit. • Play name on entry and tone on exit. • Play tone on entry and tone on exit. • Silence (no indication for entry or exit). ***Note:*** The default setting is determined by the Administrator's default conference setting.
Language	Select the language the system uses for voice prompts during the conference. The pull-down menu offers the set of languages available in the system. The default is the ICB card's default language that an administrator selects using the Installation Wizard (see "Step 1 - Basic Card Settings" (page 74)). When using single-number access, the preferred language takes affect after the caller enters the conference ID and password. Before that the system uses the default language.

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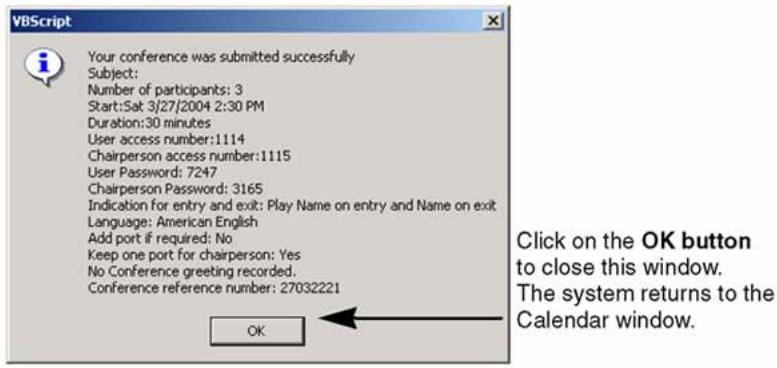
Table 39
ICB tab window - Options section fields (cont'd.)

Field	Description
Add ports if needed	When this box is checked, the system allows the meeting to expand beyond the number of reserved ports if more than the anticipated number of participants show up. The system adds ports only if there are enough ports available (that is, they are not reserved for another meeting). ***Note:*** The default setting is determined by the Administrator's default conference setting.
Keep one port for chairperson	Click on this box to reserve a port for the chairperson. When all but one of the ports are occupied, and the chairperson has not yet dialed in, the remaining port is not available for a participant. If this box is not checked, the system uses the ports on a first-come, first-serve basis. In this case, if all the ports are taken up by participants, the system does not allow the chairperson to enter the conference. ***Note:*** The default setting is determined by the Administrator's default conference setting.

Scheduling complete

After scheduling a new meeting or modifying an existing meeting, the Confirmation window appears to verify the entries. The system displays the window after it stores the conference in the database. See Figure 79 "Confirmation window" (page 168) for an example.

Figure 79
Confirmation window



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Editing an existing conference

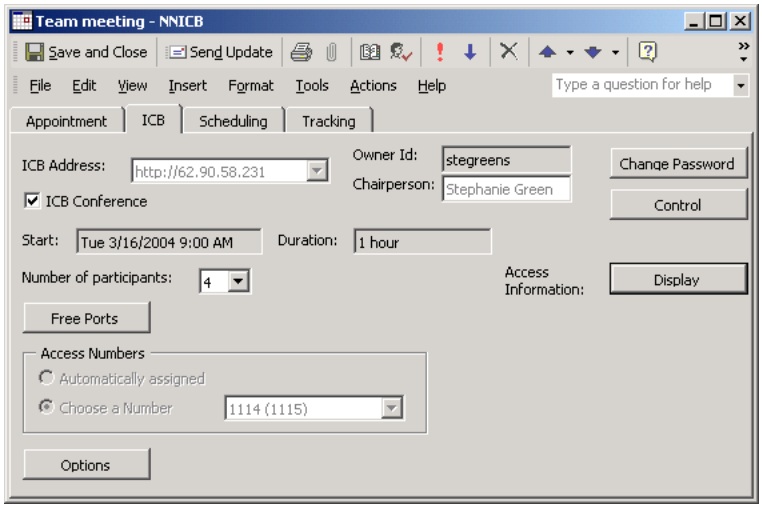
Open the conference appointment in Microsoft Outlook for editing. The only field that cannot be modified when editing an inactive conference is the dual-card meeting option (that is, users cannot make a single-card conference dual and vice versa).

Only the following fields can be edited during an active conference:

- number of participants
- duration
- add ports as needed (under the Options section)

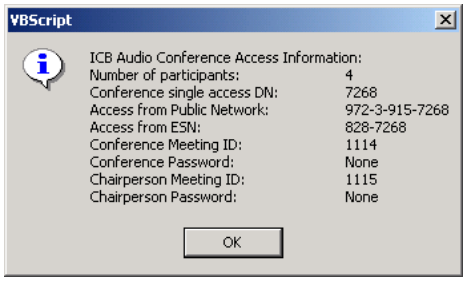
Once a conference is scheduled with the Microsoft Outlook GUI, the ICB tab looks like Figure 80 "ICB tab window - edit conference" (page 169). The **Control** button allows a user to access the chairperson control section of the BUI for this scheduled conference. Refer to the “Chairperson operations” (page 100) for operation information. The **Display** button provides the conference access and meeting password information for users and the chairperson. See Figure 81 "ICB tab window - display information" (page 170) for a depiction of this window.

Figure 80
ICB tab window - edit conference



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Figure 81
ICB tab window - display information



Setting a delegate user for Microsoft Outlook Calendar

A user can give another person sharing permission to schedule appointments and meetings for them in their calendar. The delegate Outlook feature allows the user to specify for the person whether or not they can modify and create meetings and appointments. Scheduling an ICB meeting is operated the same way.

To use the delegate feature with the ICB form:

- The person who schedules the meeting and the person that gives permission must have accounts in the ICB card. The owner of the meeting is the one that gave permission.
- When using Microsoft Outlook 2003, the script in shared folders must be enabled. (Tools > Options > Other > Advanced Options).

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Maintenance

Purpose

This chapter describes how to maintain and troubleshoot the ICB card and associated equipment.

The chapter contains the following sections:

- “Maintenance overview” (page 171) - introduces the maintenance strategy.
- “Updating the Microsoft Outlook GUI ICB form” (page 173) - shows the process for updating the Microsoft Outlook GUI form.
- “Diagnostic tools” (page 176) - lists the available maintenance tools.
- “CLI command summary” (page 180) - shows the commands technicians can use from the CLI to perform maintenance activities.
- “ICB fault isolation and correction” (page 184) - describes faults and shows recommended recovery actions.
- “Error message handling” (page 185) - describes the on-line error message system.
- “Backup and restore procedures” (page 190) - provides procedures for backing up and restoring data.

Maintenance overview

Perform operations, administration, and maintenance (OA&M) of the ICB system by using the command line interface (CLI). Access the CLI through the following:

- A TTY terminal connected to the ICB card or through a PC emulating a terminal. The PC connects to the ICB card through the Ethernet Adapter.
- The administration BUI.

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An operator can use the CLI to generate reports and perform port maintenance. An administrator can use the CLI to manage system administration, maintenance, and security.

To conduct conference OA&M for an ICB card, connect a terminal to the RS-232 port or the Ethernet connector associated with that ICB card. The maintenance terminal connects to each ICB card through an IPE module I/O panel connector or through the Ethernet adapter card.

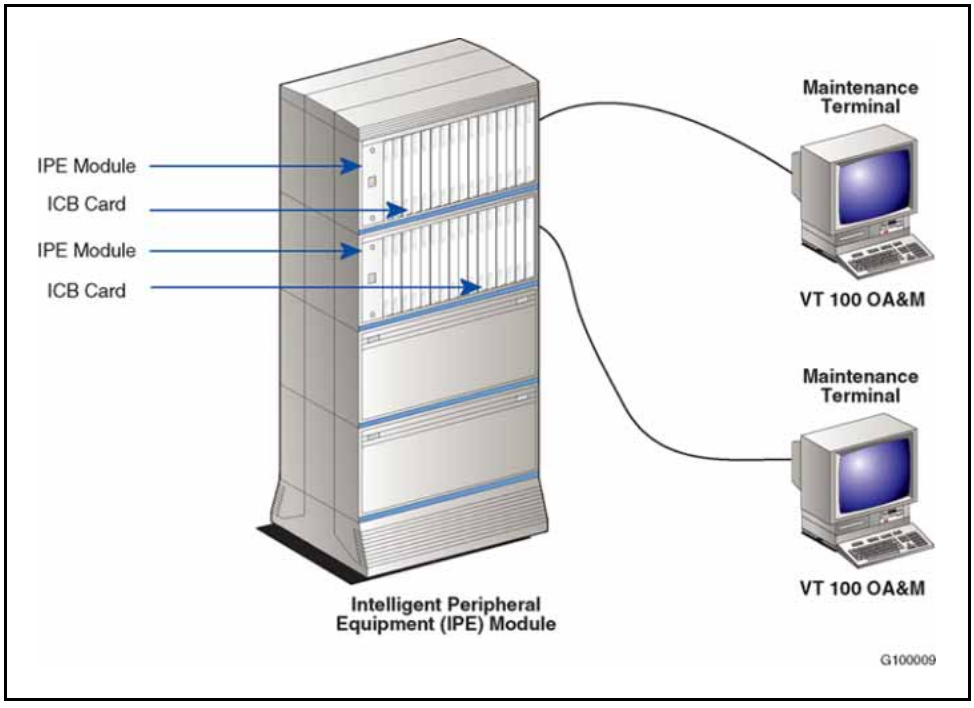
The Ethernet adapter provides two options:

- direct terminal connection or modem connection to DB-9 connector
- Ethernet connection, where multiple terminals connected to the Ethernet can access an ICB card

For the Ethernet connection option, an IP address assigned to the ICB card is required to enable access to the ICB through the LAN.

Figure 82 "ICB card in the Intelligent Peripheral Equipment Module" (page 172) shows an Meridian system with two IPE modules. This example shows each IPE module with one ICB card. Each ICB card connects to its maintenance terminal through the associated IPE module I/O panel connector. Use one terminal for all ICB cards by moving the terminal cable to the I/O panel connector of the card to be accessed.

Figure 82
ICB card in the Intelligent Peripheral Equipment Module



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Problem solving

A problem can have more than one cause. To isolate the cause, a knowledge of ICB operation is required. After identifying the cause, the problem can be corrected by replacing defective cards, connecting accidentally disconnected cables, or correcting software security problems. The Meridian system and the ICB provide built-in self-diagnostic indicators and software and hardware tools. These diagnostic facilities simplify system troubleshooting and reduce mean-time-to-repair (MTTR).

Make sure that the Meridian system is operating correctly, before diagnosing ICB problems.

ATTENTION
FOR MORE INFORMATION
Refer to the following:

- **553-3011-500** - *Small System Maintenance*
- **553-3021-500** - *Large System Maintenance*
- **553-3031-500** - *CS 1000S System Maintenance*
- **553-3041-500** - *CS 1000E System Maintenance*
- **555-4001-129** - *Meridian SL-100 Intelligent Peripheral Equipment (IPE) Reference Manual*

Updating the Microsoft Outlook GUI ICB form

When the ICB form needs to be updated in Microsoft Outlook, the form needs to be updated first by the Administrator. The Administrator will then notify users that the ICB form needs to be updated. The procedure to publish the new form is the same as publishing the original form. See Procedure 25 “Microsoft Outlook Administrator to publish the ICB files to the Organizational Forms Library” (page 156) or Procedure 26 “Publishing the ICB form in Microsoft Outlook by each Microsoft Outlook user” (page 157) for the procedure details.

Users need to clear cache when the ICB form does not exist in Microsoft Outlook. Follow Procedure 32 “Clearing the Microsoft Outlook forms Cache” (page 173) for the steps.

Procedure 32
Clearing the Microsoft Outlook forms Cache

Step	Action
1	Open Microsoft Outlook.
2	Choose **Tools > Options**. *The Options window opens*.

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3 Select the **Other** tab.

4 Click **Advanced Options**. *The Advanced Options window opens*.

5 Click **Custom Forms**. *The Options window opens*.

6 Click **Manage Forms**. *The Forms Manager window opens*.

7 Click **Clear Cache**.

If no **Clear Cache** button is available, you must delete the forms cache file manually, follow the steps in Procedure 33 “Deleting the forms cache file manually” (page 174).

8 Click **Close** to close the **Forms Manager** window.

9 Click **OK** to close the **Options** window.

10 Click **OK** to close the **Advanced Options** window.

11 Click **OK** to close the **Options** window.

--End--

Procedure 33
Deleting the forms cache file manually

Step	Action
1	Close Microsoft Outlook.
2	Go to the folder where the forms cache file is located. • If you are using User Profiles, go to C:\Windows\Profiles\<username>\Local Settings\Application Data\Microsoft\Forms • If you are not using User Profiles, go to C:\Windows\Local Settings\Application Data\Microsoft\Forms
3	Delete the file **`Frmcache.dat`**. Each upgrade of the ICB firmware comes with upgraded ICB files, which must be retrieved and published. See Procedure 45 “Upgrade the ICB firmware version” (page 224). Follow the steps in Procedure 34 “Upgrading the ICB form in the Organizational Forms Library” (page 174) to upgrade the ICB form in the Organizational Forms Library.

--End--

Procedure 34
Upgrading the ICB form in the Organizational Forms Library

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Step	Action
1	Retrieve the upgraded ICB files.
	a Go to the folder where the ICB files are stored.
	b Delete all .**OFT** files except **icbf.oft, icbs.oft, icbsjc.oft,** and **icbsk.oft**.
	c Rename an existing ICB form files, using names such as "icbf_old.oft", "icbs_old.oft", "icbsjc_old.oft", and "icbsk_old.oft".
	Note: Nortel Networks recommends that customers keep only one previous version of the ICB files.
	d Go to the location of the ICB PC Card and log in using the following username and password.
	Username: micb
	Password: admin
	e Copy the **icbf.oft, icbs.oft, icbsjc.oft**, and **icbsk.oft** files from the **OUTLOOK** directory.
2	Remove older versions from the library. Follow the steps in Procedure 29 “Removing the ICB files from the Personal Forms Library (way 1)” (page 161).
3	Publish the new upgraded forms. Follow the steps in Procedure 26 “Publishing the ICB form in Microsoft Outlook by each Microsoft Outlook user” (page 157).
4	Clear the Microsoft Outlook forms cache. Follow the steps in Procedure 32 “Clearing the Microsoft Outlook forms Cache” (page 173).
	--End--

Users can now install the new form as their default form.

Follow the steps in Procedure 35 “Upgrading the ICB form in the Personal Forms Library” (page 175) to obtain, publish, and install the upgraded ICB form in the Personal Forms Library.

Procedure 35
Upgrading the ICB form in the Personal Forms Library

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Step	Action
1	Remove the current form. Follow the steps in Procedure 30 “Removing the ICB files from the Personal Forms Library (way 2)” (page 161).
2	If the ICB administrator has not published the form, follow the steps in Procedure 26 “Publishing the ICB form in Microsoft Outlook by each Microsoft Outlook user” (page 157) to publish the form in the Personal Forms Library.
3	Set the new upgraded form as the default Calendar form. Follow the steps in Procedure 27 “Select the ICB form as the default form in Microsoft Outlook” (page 159).
4	Clear the Microsoft Outlook forms cache using Procedure 32 “Clearing the Microsoft Outlook forms Cache” (page 173).
5	Schedule a test meeting to ensure the upgrade was successful. Follow the steps in “Scheduling BUI” (page 88).

--End--

Diagnostic tools

Use the following diagnostic tools to troubleshoot problems in the system, including problems with the ICB. When diagnosing ICB problems, use the following tools:

- LED indicators
- display codes
- card self-tests
- sanity monitoring
- diagnostic commands (that is, overlay commands for the CS 1000 and MAP commands for the CS 2100/Meridian SL-100)
- history files
- TCP/IP connectivity test

ICB status LED indicator

The ICB has a red LED indicator at the top of the faceplate that indicates the status of the card. If the LED is lit, the card can be faulty or manual busy (Man). The card goes through a series of tests. When inserted into the slot or reset, the card:

- blinks three times during self-test
- runs software files from the PCMCIA to the ICB card

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- blinks three more times
- stays on until a return to service (RTS) occurs

This procedure takes approximately 45 seconds. If the card turns on and remains on without blinking, the card is not functioning correctly. The LED turns off when the card returns to service.

Power Up Self-test

The ICB card has testability features that aid in fault isolation. When inserted into an operating system module, when it is powered up, or when the system is reset, each ICB card automatically performs a Power Up Self-test. A Power Up Self-test can be performed on a card using software commands or menus.

The self-test checks general ICB functions and determines if they are operating correctly. The checks are useful when first installing the cards, because the card automatically starts the self-test when inserted. The self-test provides an immediate indication of the card's operating status by performing a detailed test and analysis of the installed hardware. The test determines the integrity of the hardware and establishes the connection of the ICB card.

The Power Up Self-test is executed through the maintenance port. If any fault has been detected, an error message is stored in the system log file and is printed on the maintenance port.

Table 40 "ICB self-test sequence" (page 177) describes the items the system checks during the ICB self-test.

Table 40
ICB self-test sequence

Item tested	Description
Processor/Co-processor	Reads and stores processor ID. Runs processor self-test.
SDRAM	Checks the amount of SDRAM installed. Performs read/write test.
System I/O Controller	Performs read/write test on selected registers.
PCMCIA Controller	Performs read/write test on selected registers.
DS-30X Interface	Tests shared memory and performs loopback test over SD-30 LCA.
On-board DSP card	Checks the presence of DSP cards and initiates diagnostic tests on DSP cards, if present.
PCMCIA hard drive	Checks the presence of the hard drive and checks the configuration information.
PCMCIA Flash card	Checks the presence of Flash memory and checks configuration information.

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Table 40
ICB self-test sequence (cont'd.)

Item tested	Description
Loopback MPU	Sends data to the transmit area of the MPU buffers and resends it back for the receive area to the same buffer.
Loopback DSP	Sends data to the transmit area of the MPU buffers and resends it back for the receive area to the same buffer.

Signaling Tests

Signaling tests check the x12 interfaces in both directions between the card and system. This test includes reception of the messages from the system and sending messages to the system. The Signaling test is executed from Overlay 30 using the UNTT command (Meridian 1/CS 1000) or from the IPE MAP Level using the Tst command (CS 2100/Meridian SL-100).

Sanity monitoring

Sanity monitoring is a background routine that checks the operation of system resources, such as CPU activity and memory allocation. This background routine tries to restore normal operation if the system performance has degraded to an unacceptable level. If all attempts to restore normal operation fail, this routine restarts the system to restore operation. If the soft reset is not effective, the system initiates a full, board-level reset. If the full reset is not successful, the maintenance LED remains on.

Diagnostic commands

Meridian 1/CS 1000 overlay commands

Each card performs diagnostic tests as part of the daily routines. Diagnostic tests can also be activated from a maintenance TTY.

The boot time of the ICB from reset, or power up, to when the card is ready and from an ENLC to when the ports are idle is approximately two minutes.

All relevant system maintenance commands for an extended digital line card apply to the ICB and are handled transparently to the system. Use LD32 to enable and disable an ACD M2616 telephone.

Table 41 "Commands to enable/disable ICB channels" (page 179) lists some of the commands used to control the ICB status and functions.

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Table 41
Commands to enable/disable ICB channels

Command	Operation performed
LD 32	
DISC/ENLC	Disable/Enable specified card.
DISU/ENLU	Disable/Enable specified channel.
LOOP	Performs a network memory test, continuity test, and signaling test on the specified loop.
STAT	Get status of specified card/channel.
LD 30	
UNTT	Performs self-test on the ICB.

CS 2100/Meridian SL-100 diagnostic commands

Each card performs diagnostic tests as part of the daily routines. Diagnostic tests can be activated from the MAP terminal on the CS 2100/Meridian SL-100. The ICB card appears as an extended digital line card to the system. For the diagnostic routine to pass in the LTP level of the MAP terminal, the feature Communicator must be assigned to key 1 of the LEN.

Table 42 "CS 2100/Meridian SL-100 commands to enable/disable ICB channels" (page 179) lists commands used to control the ICB status and functions.

Table 42
CS 2100/Meridian SL-100 commands to enable/disable ICB channels

Command	Operation performed
IPE MAP Level	
Bsy Card x/ RTS card x	Disable/enable specified card.
Tst	Perform a network memory test, continuity test, and signaling test on the specified loop.
QueryPM Inven Card x	Get status of specified card.
LTP MAP Level	
Bsy	Make the LEN or DN busy.
Bsy INB	Take the port out of service. The system does not generate alarms.
RTS	Bring the ICB port in-service.

Note: During a One Night Process (ONP), a no restart switch activity (SWACT) to the other central processing unit (CPU) drops active calls on the ICB card. A warm SWACT of the front end during maintenance activities does not affect active calls on the ICB card.

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TCP/IP connectivity test

Maintenance technicians can use "ping" to test if the LAN connection is installed and configured properly. Perform a ping test in one of the following ways (they are equivalent so there is no need to try both):

- from a computer on the local LAN to the ICB card's IP address
- from the CLI (under the **SMaint/** directory) to the IP address of a computer on the local LAN

CLI command summary

Using CLI commands

The CLI contains menus and submenus. To select a menu option, enter the appropriate short command or full command at the prompt. When a menu is selected, use the commands in Table 43 "Navigating the menus and displaying help" (page 180) to navigate to other menus or to display help.

Table 43
Navigating the menus and displaying help

Command	Result
*	Returns to the previous menu.
/	Returns to the top menu level.
?	Displays help for the commands in the current menu.

When entering a menu option that has parameters defined, the "Modify, Save, or Cancel:" command line displays so that the parameters can be modified, if required.

To modify system parameters and objects, use one or more of the commands in Table 44 "Modifying parameters" (page 180) and Table 45 "Modifying objects" (page 180).

Table 44
Modifying parameters

Command	Result
`M`	Modifies one or more parameters.
`S`	Saves modified parameters.
`C`	Cancels the modification and allows the parameter to keep its previous value.

Table 45
Modifying objects

Command	Result
`<cr>`	Accepts the current value when the **Enter** key is pressed.

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Table 45
Modifying objects (cont'd.)

Command	Result
value <cr>	Changes the attribute with a new value when the value is entered and the **Enter** key is pressed.
.	Cancels the modification and allows the object to keep its previous value.

To modify a value or attribute of an object, the program responds with a sequence of prompts: one prompt for each attribute of the object. The prompt defines the name and the current value of the attribute. You can change the value, accept the current value, or cancel the modification as follows:

```
attribute_a (current_value_a): new_value_a <cr>
attribute_b (current_value_b): <cr>
attribute_c (current_value_c): .
```

The system can display the current value and a list of available values to select. In the following example, the value of attribute_d changes to bbbb:

```
attribute_d (current_d, (1-aaaa, 2-bbbb, 3-cccc)): 2
```

When executing the command(s), the program provides the option to modify, save, or cancel the changes. When **Save** is entered, the system accepts the changes. After the session ends, use the commands in Table 43 "Navigating the menus and displaying help" (page 180) to navigate through the menus.

ICB CLI commands

Table 46 "ICB CLI command summary" (page 181) shows ICB-specific CLI commands.

Table 46
ICB CLI command summary

Menu and command	Items and commands
System administration: **SA**	System Attributes Editor: **SY** Use the System Attributes Editor for initial card configuration (see Procedure 13 "Configure initial card parameters using the CLI" (page 72)) and to define the following: • card name - up to 10 characters; appears in top of the initial window if specified. • refresh period - time between updates to CLI window when not in use, from 0 to 60 minutes (default is 5 minutes). 0 disables system status display.

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Menu and command	Items and commands
	• short occupancy - detects short connection time of an ICB port. Connection times less than the threshold can indicate a bad connection of incorrect DN dialed. When this occurs, the system increments a counter. When the system checks counters, it displays those with peg counts as potential problems. • subnet mask - the subnet mask of the ICB • gateway IP address - the gateway IP address of the ICB • IP address - the IP address of the ICB • disconnect lone participant - time before system disconnects a single participant in a conference (default is 30 minutes). ***Note:*** If changes to IP addresses are to be completed to previously installed ICB4 cards that are currently configured for Dual Card Conferences, the card must be changed to Single Card Mode via the BUI prior to making changes to the IP addresses of the cards.Refer to Figure 28 "Installation Wizard: Step 1 - Basic Card Settings window" (page 75)
System Maintenance: **SM**	System Test: **ST** To perform system component tests enter: • i - perform in-service tests that do not disrupt service • o - perform out-of-service tests Maintenance Report Browser: **MR** Browse maintenance reports by date. For more information, see "CLI Maintenance (Error) Report" (page 215). Ping Test: Enter a computer's IP address to test IP connectivity with this computer. Short Connection Report: **SC** Browse short connection reports by date (see "CLI Short Connection Report" (page 201)). Database Archive: **AR** Backup the customer database (see "Backup" (page 136)). Database Restore: **RE** Restore the customer database (see "Restore" (page 195)). Card Restart: **CR** Restarts ICB card and begins software reload.

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Menu and command	Items and commands
	Message Analysis Tool: **SHO** Prints information about an error message that is entered (see "Error message procedures" (page 187)). Message Filtering: **ERR** Enables the filtering of error messages (see Procedure 39 "Configure error message filtering" (page 189)). Data Conversion: **CONVERT** Copies the data from the upper PCMCIA, converts to ICB Release 4 format, and stores it in the lower PCMCIA.
Protected administration: **PA**	Password Editor: **PS** Edit passwords (see "Password security" (page 231)). Functionality Upgrade: **FU** Performs a functionality upgrade. *The system prompts for the number of ports and for the keycode that must be entered in three rows of eight characters each. The system will then prompt for which feature (can be either advanced or basic)*. Software Upgrade: **SW** Performs a software upgrade. *The system first prompts for the source: upper socket or FTP. If FTP is entered, the system then prompts for IP address, path to file, login, and password*. Administrator BUI Reset: **AB** Reset passwords to the default (that is, 000000) of all administrators that use the BUI.
Port maintenance: **PM**	Port Status Display: **PS** Displays status of all ICB ports as follows: Idle, Dialing_out, Ringing, Talking, or Disabled. Port Disconnect: **PD** Disconnect a specific port from the conference.
Report Generation: **RG**	Meetings Log Browser: **ML** Browse the meeting log (see "CLI Meetings Log Report" (page 203)).

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Menu and command	Items and commands
	Log ordering: **ORDer_mlog** Prompts for the same parameters (year, month, day) and displays the log contents sorted by access DN. The advantage is that all records of each specific conference appear together.

ICB fault isolation and correction

Alarm clearing procedures for the ICB are the identical to those for other IPE cards.

ATTENTION
FOR MORE INFORMATION
Refer to the following documents for additional information about how to clear alarms:

- **Meridian 1** - *Fault Clearing* ()
- **Meridian SL-100** - *Alarm Clearing Procedures* ()

Table 47 "ICB equipment problems" (page 184) describes ICB service problems and the test procedures used to solve these problems.

Note: If the problem cannot be solved after using all available diagnostic tools and test procedures, list the symptoms observed and contact your Nortel Networks representative.

Table 47
ICB equipment problems

Symptoms	Diagnosis	Solution
Red card LED on the ICB is permanently on.	Card is disabled or faulty.	Check the card status and perform a self-test on the card by pulling it out and plugging it back in, or from the CLI using the **cr** command under the **SMaint** menu.
Display on the controller card shows fault codes.	Card faulty, failed self-test, or problem communicating with peripheral equipment.	Refer to the *Meridian 1 and CS 1000 Input/Output Administration Guide* () or *Meridian SL-100 Log Report Reference Manual* () for a description of the fault codes. Based on the description, take the appropriate action to resolve the problem.
Error messages the TTY terminal or the MAP displays.	Hardware or software problems with the ICB.	Note the error messages. Refer to the *Meridian 1 and CS 1000 Input/Output Administration Guide* () or *Meridian SL-100 Log Report Reference Manual* () for their description. Based on the description, take the appropriate action to resolve the problem.

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Card replacement

The ICB uses PCMCIA technology which enables the ICB to be removed from the IPE shelf indefinitely without losing the configuration data. Before replacing the PCMCIA card, back up the data on the card so that it does not have to be re-entered (see "Backup and restore procedures" (page 190)). Use Procedure 36 "Replace a card" (page 185) to replace an ICB card.

Procedure 36
Replace a card

Step	Action
1	Prepare for this procedure (see Procedure 1 "Prepare for the installation" (page 46)).
2	Disable the ICB card.
3	Remove the card from its card slot in the IPE module.
4	Remove all PCMCIA cards from the old ICB card.
5	Transfer all PCMCIA cards to the new ICB card. Keep the packaging material from the new card. *This procedure moves all software, configuration, and records to the replacement ICB card*.
6	Transfer the Security Device from the old ICB to the replacement. *The new card reuses the keycode. The keycode remains on the PCMCIA card, which was removed from the old ICB*.
7	Enable the new card.
8	Package the old ICB card using the packaging material from the new card. Ship the card to the repair center.

--End--

Error message handling

The ICB provides enhanced message handling that includes the following:

- Fixed message format and unique message codes.
- Categorization of messages by severity.
- Message analysis tool that provides on-line documentation.

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- Message filtering based on such items as severity and firmware component.
- Advanced troubleshooting.

Note: Since the on-line documentation is always available and accurate according to the cards firmware version, this guide does not document specific error messages.

Error messages format

The general format of error messages is as follows:

<serial number> <severity> <error code> <timestamp> <error text>

Table 48 "Error message field formats" (page 186) describes the error message fields.

Table 48
Error message field formats

Field	Description
<serial number>	Four digits that provide a sequence for the messages. It starts at 0001 at power-up and increments by one for each message issued. It wraps around when it reaches 9999.
<severity>	Severity levels are as follows: **CRITICAL** - indicates immediate corrective action is required (for example, the application cannot continue and/or the card must be restarted). **MAJOR** - indicates urgent corrective action is required (for example, the BUI doesn't work, but call processing continues to operate). **MINOR** - indicates the existence of a fault condition; corrective action should be taken to prevent a more serious fault. For example, a problem affecting a single channel is minor, so long as the system is still fully operational. **WARNING** - indicates a low level failure that almost does not impact a customer. No corrective action is required, because auto-recovery is performed. Frequent appearance can indicate a more serious problem. **INFO** - shows normal operational event notifications (for example, state changes in hardware or software; time and date changes). **DEBUG** - for use by designers only.

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Table 48
Error message field formats (cont'd.)

Field	Description
<error code>	Unique identifier of the event being reported. It is made up of the following two parts: • a string of up to six letters indicating the firmware component that originates the message • three decimal digits comprising the error number within this component
<timestamp>	Date and time of the message in the format **MM-DD hh:mm:ss:ff**, where: MM = month number. DD = day of the month. hh = hour (in 24-hour format). mm = minutes. ss = seconds. fff = fraction of second, in milliseconds.
<error text>	Short description of the problem or event, and related parameters (for example, port number).

Error message procedures

Follow the steps in Procedure 37 "Access the on-line error message analysis tool" (page 187) to view the on-line error message documentation.

Procedure 37
Access the on-line error message analysis tool

Step	Action
1	Access the CLI **SM** directory and enter the following: **SHO** *The CLI prompts you for to enter the error code.*
2	Enter the error code for which you want information: For example, enter: **MNGMMI109** ***Note:*** The letters are case sensitive and must be entered exactly as they appear in the error message. *The CLI prints the following related information about the message:<* *Syntax> - definition of the message syntax.* *Meaning - shows what the message indicates.* *Parameters - description of the message parameters (fields).*

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Action - steps to follow to isolate the problem and/or fix it.
Impact - possible effects of the event.

--End--

The entire file of error descriptions is available as a readable text. It can be retrieved from the ICB to a PC for off-line reference. Follow the steps in Procedure 38 “Retrieve the entire error message file to a PC” (page 188) to retrieve the error description file to a PC.

Procedure 38
Retrieve the entire error message file to a PC

Step	Action
1	The entire file of error descriptions is a readable text file. From your PC’s desktop access FTP.
2	To download the entire file, enter the following path: `a:gnr\errors.txt`

--End--

The output of messages can be suppressed according to pre-defined criteria. This functionality enables a technician to focus on a specific group of messages to improve productivity. Messages that keep reappearing due to known circumstances which are not necessary to see can be suppressed.

The filtering criteria are as follows:

- Severity of messages - only messages with the selected severity levels appear. Any combination is possible.
- Firmware component - only messages with the selected firmware component appear. Any combination is possible.
- Detailing level:
  - Low - the message appears without the <error text> part. The full description can be retrieved using the message analysis tool based on the error code.
  - High - the full message appears.

All filtering criteria can be defined separately for appearance on the CLI and for storage in error log files (that is, a selected group of messages can be defined to appear in the CLI, but not in the error log, or visa versa).

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Follow the steps in Procedure 39 “Configure error message filtering” (page 189) to configure message filtering.

Procedure 39
Configure error message filtering

Step	Action
1	Access the CLI **SM** directory and enter the following: **ERR** *The CLI displays command inputs in the following three sections:* • *FORMAT* • *CLI_SEVERITY_FILTER* • *DISK_SEVERITY_FILTER*
2	You can edit the values as per normal CLI usage. ***Note:*** If you use the second level login command, two more filter sections are available: CLI_FW_COMPONET_FILTER and DISK_FW_COMPONENT_FILTER. **EXAMPLE:** **ps** *// technician enters err* *// ICB displays section name and its parameters, and prompts for action:* `section [FORMAT]` `CLI error message format: long` `Disk error message format: short` *// default is long for both* *Modify, Next section, Cancel:* **n** *// next: go to next section* `section [CLI_SEVERITY_FILTER]` *// filter CLI messages by severity* `Critical: yes` *// yes means that the message will appear* `MAJOR: yes` `MINOR: yes` `WARNING: yes` `INFO: yes` `DEBUG: yes` `Modify, Next section, Cancel` **n** *// next: go to next section*

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```
section [DISK_SEVERITY_FILTER] // filter CLI messages in disk file
Critical:  yes // yes means that the message will appear
MAJOR: yes
MINOR: yes
WARNING: yes
INFO: yes
DEBUG: yes
Modify, Next section, Cancel: //
```

--End--

Advanced troubleshooting

The ICB provides the following tools for technicians to troubleshoot and debug problems based on error messages:

- **Automatic trace back** - the system prints an automatic trace back list of predefined error codes. This feature helps software designers solve errors.
- **Automatic E-mail notification** - the system can send an E-mail notification containing a predefined list of error codes to the administrator, or other address.
- **Automatic card restart** - ICB restarts can be performed for a predefined list of error codes. This feature enhances automatic recovery.

Note: All the actions defined above can be limited to a predefined number of occurrences, with a separate limit for each action.

Backup and restore procedures

Files can be backed up and restored from either the CLI or the Administration BUI.

Backup

An administrator schedules the backup from the administration BUI. Table 49 "Backup considerations" (page 191) shows the items to consider when scheduling an automatic backup. Some of these items also apply to an immediate backup.

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Table 49
Backup considerations

Item	Description
Content	Specify which of the following items to backup (the default is never; that is, no backup; however, if another option is selected in the "Schedule" section the default contents is data only): • **Data** - configuration, brandline greeting, and scheduling data (future conferences). • **Reports** - includes error logs. • **Customized greetings** - greetings for future meetings. Note, because this item can reach a large file size, a technician may prefer to exclude it.
Time	The database can be backed up immediately, or scheduled as a daily, weekly or monthly backup. For scheduled backups, determine the: • hour of the backup (hours only, no minutes) • day of the week, if weekly • day of the month, if monthly (1-28 only)
Destination	Backup files to one of the following destinations: • The secondary PCMCIA device, inserted in the upper slot of the ICB card. • A remote FTP server. The system compresses (zips) the backup files, before transferring them. Specify the server's IP address, remote folder path, FTP login, and password for the remote server. The system names the ZIP file according to the date. It does not overwrite previous backups. ***Note:*** The remote folder must be an existing folder in the remote server; if this path is not found, the system puts the backup file in the folder reached directly by FTP. • An E-mail destination. The system compresses (zips) the backup files before sending them. The E-mail address is the same one the system uses for other administration E-mails (for example, reports and aged conferences).

During the backup process the card remains operational. However, the system denies database changes and does not accept the following operations:

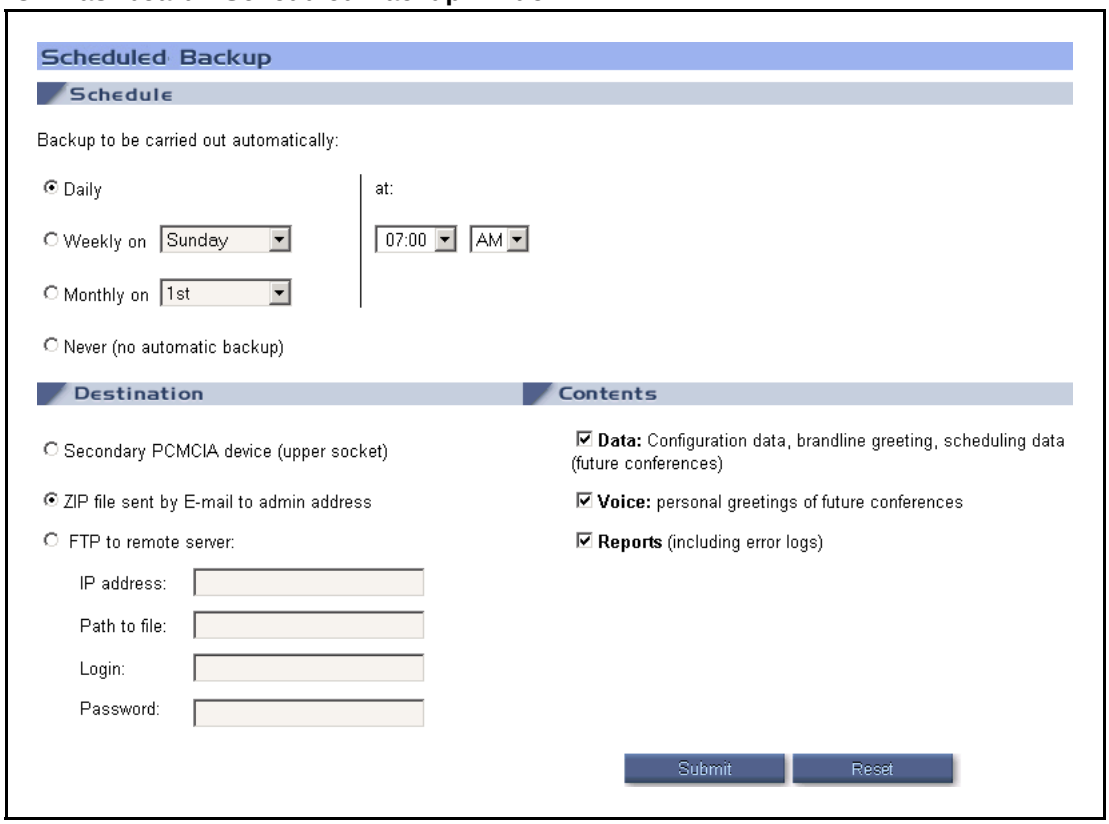
- setting up a new conference or modifying an existing conference (allows view only)
- recording a custom greeting
- making configuration changes including users, always on meeting, and groups

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Scheduled backup

Figure 83 "ICB Dashboard - Scheduled Backup window" (page 192) shows the Scheduled Backup window accessed from the ICB Dashboard. For more information about the ICB Dashboard, see “ICB Dashboard” (page 108).

Figure 83
ICB Dashboard - Scheduled Backup window



The administrator defines the time, destination and contents of the backup. Table 50 "Scheduled Backup parameters" (page 192) describes these three sections of the Scheduled Backup window.

Table 50
Scheduled Backup parameters

Section	Description
Schedule	Click on an radio button to define the backup schedule as follows: • **Daily** - every day at the hour specified. • **Weekly** - once a week on the specified day, at the specified hour. • **Monthly** - once a month on the specified day (1-28), at the specified hour. • **Never** - the system does not perform an automatic backup (the default).

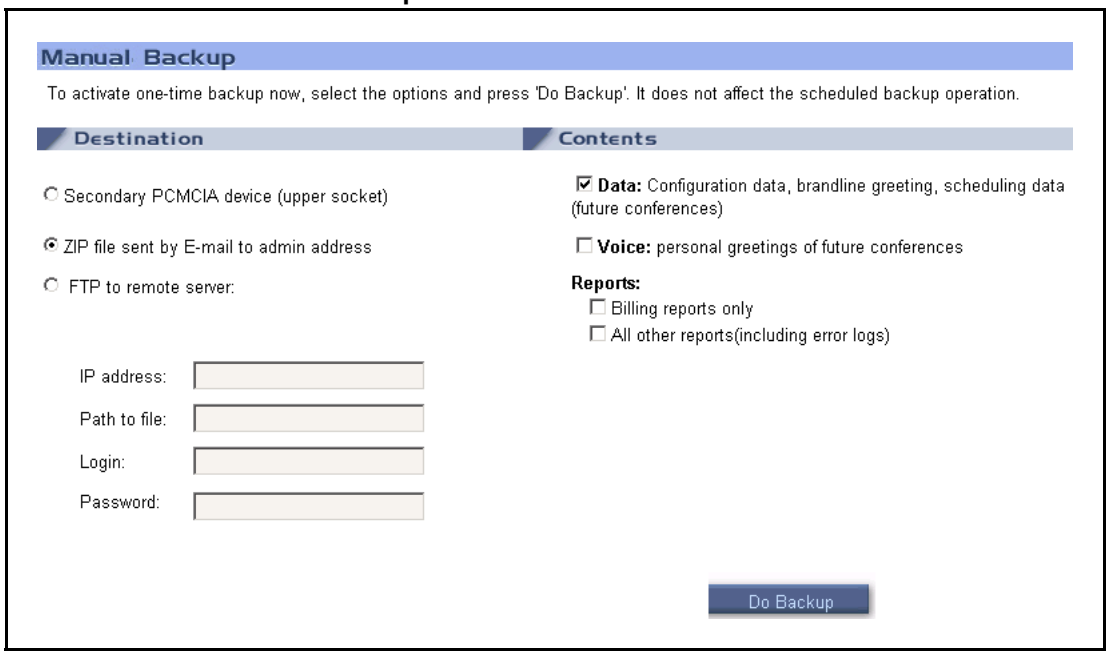
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Section	Description
	The hour section is to the round hour (that is, hh:00), AM or PM.
Destination	Click on an radio button to define the backup destination as follows: • The secondary PCMCIA device, inserted in the upper slot of the ICB card (the default). • An E-mail destination. The system compresses the backup files, before sending them. The administrator defines the Administrator's E-mail address in the General Setting window (see Figure 57 "ICB Dashboard - Greeting Settings window" (page 116)). • A remote FTP server. The parameters for the FTP session must be defined, as shown in the boxes below the FTP radio button. The system compresses the files, before transferring them. The system names the ZIP file according to date, so that it does not overwrite previous backups.
Contents	Click on one or more box as shown in the window to select the contents of the backup. Data is the default.

Manual Backup

An administrator uses the window in Figure 84 "ICB Dashboard - Manual Backup window" (page 193) to perform a one-time, manual backup.

Figure 84
ICB Dashboard - Manual Backup window



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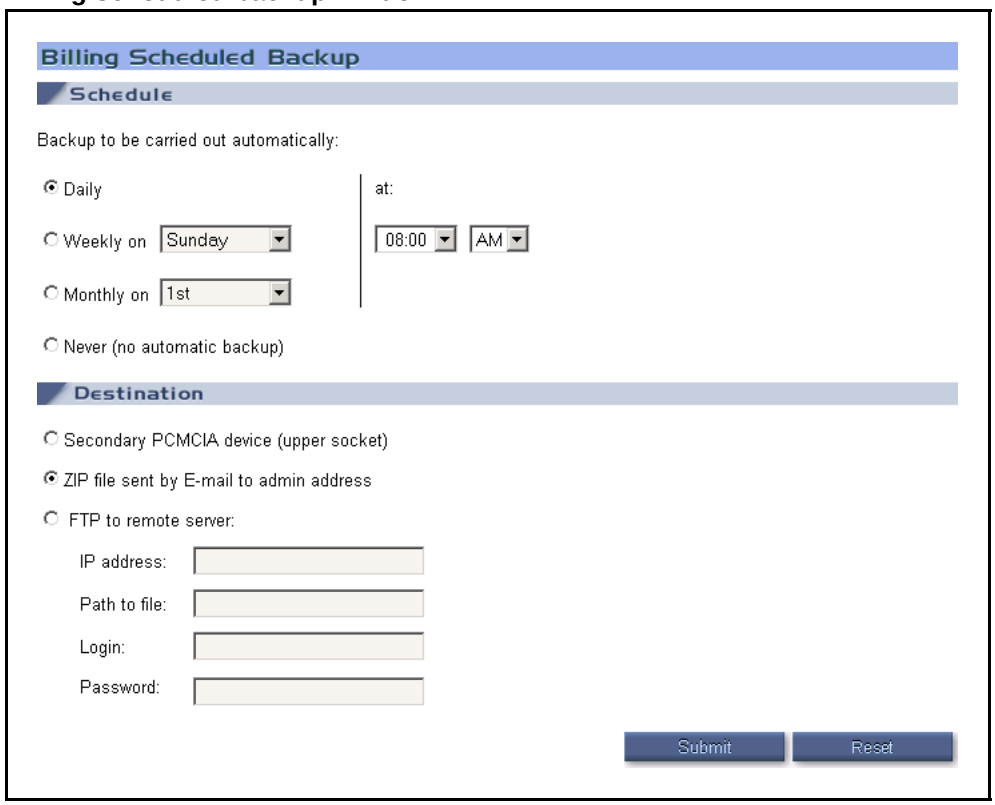
The Destination and Contents sections are the same as for an automatic backup. Open a CLI window by clicking on the CLI button on the top frame of the dashboard. Click on the **Do Backup** button to activate an immediate backup according to your selected options.

Note: If the **Do Backup** button is clicked with no CLI window open, a pop-up message requests the administrator to open a CLI window.

Billing scheduled backup

An Administrator uses the window in Figure 85 "Billing scheduled backup window" (page 194) to defines the time and destination of the billing backup. Table 51 "Billing Scheduled Backup parameters" (page 195) describes these two sections of the Billing Scheduled Backup window.

Figure 85
Billing scheduled backup window



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Table 51
Billing Scheduled Backup parameters

Section	Description
Schedule	Click on an radio button to define the backup schedule as follows: • **Daily** - every day at the hour specified. • **Weekly** - once a week on the specified day, at the specified hour. • **Monthly** - once a month on the specified day (1-28), at the specified hour. • **Never** - the system does not perform an automatic backup (the default). The hour section is to the round hour (that is, hh:00), AM or PM.
Destination	Click on an radio button to define the backup destination as follows: • The secondary PCMCIA device, inserted in the upper slot of the ICB card (the default). • An E-mail destination. The system compresses the backup files, before sending them. The administrator defines the Administrator's E-mail address in the General Setting window (see Figure 57 "ICB Dashboard - Greeting Settings window" (page 116)). • A remote FTP server. The parameters for the FTP session must be defined, as shown in the boxes below the FTP radio button. The system compresses the files, before transferring them. The system names the ZIP file according to date, so that it does not overwrite previous backups.

View Backup History Log

The administrator can view a history log of past scheduled backups to make sure that the backups have taken place as scheduled. The Backup History Log window is a view-only window and shows each backup attempt as one line: time stamp (dd/mm/yyyy hh:mm:ss) and message. The message shows the type of backup (automatic or manual), destination, and success or failure. The events appear with the most recent backup on the top of the list.

View Last Backup Details

The Last Backup Details view-only window prints out the details of the last backup attempt (either scheduled or manual). This is the same text that appears on the CLI during a backup.

Restore

Use Procedure 40 "Restore the database from the secondary PCMCIA" (page 196) to restore the database from the secondary PCMCIA device.

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Procedure 40
Restore the database from the secondary PCMCIA

Step	Action
1	Insert the PCMCIA device holding the backed-up database in the ICB card's upper slot.
2	Use the CLI **`REstordb`** command in the SMaint directory. *The system prompts you for the source of the restore.*
3	Select **upper socket** and press the **Enter** key. *The system restores the database.*

--End--

Use Procedure 41 "Restore the database from a backed up ZIP file" (page 196) to restore the database from a backed-up ZIP file.

Procedure 41
Restore the database from a backed up ZIP file

Step	Action
1	Determine which backed-up ZIP files to restore.
2	Name this file on the file server ICBDATA.ZIP.
3	Run the **`REstordb`** command with the parameter indicating this is a restore following an FTP download. *The system prompts for the source.*
4	Select **FTP**. *The system prompts for the following parameters: IP address, path to file, login, and password.*
5	Enter the information as appropriate and press the **Enter** key. *The system restores the data*.

--End--

During the restore process the card disables itself and does not answer calls. It also does not accept changes from the BUI.

Backup and restore process log

The backup process sends messages to the CLI window. The messages can be viewed while the process is running by accessing the CLI.

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The system generates two files that contain information about the backup progress. The backup.log in the USER directory contains one line for each of the last backups, and restorations, up to a maximum of 20. Each line contains the following:

- a time stamp
- whether it was a manual or scheduled backup to
  - disk or
  - E-mail
- whether it was a restoration and from which source
- whether it was successful or failed

The LASTBKP.LOG file in the GNR directory provides a more detailed report. This file contains much of the information that the CLI prints while the process is running. The system keeps this file with the backup database, regardless of how the backup is performed. The system keeps this file on the primary PCMCIA along with the ZIP file, if the ZIP file is required to be saved. The LASTBKP.LOG file can be viewed at the received E-mail location.

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Reports

Purpose

This chapter describes the reports that the ICB can generate.

The chapter contains the following sections:

- "Overview" (page 199) - introduces the types of reports the ICB can generate and describes where to view them.
- "Short Connection Report" (page 201) - describes the Short Connection Report.
- "Meetings Log Report" (page 202) - describes the Meeting Logs Report.
- "Overbooking Report" (page 204) - describes the Overbooking Report.
- "Billing Report" (page 206) - shows how the ICB handles billing and describes the Billing Report.
- "Maintenance (Error) Report" (page 214) - describes the Maintenance (Error) Report.

Overview

ICB can be viewed reports from the following:

- **BUI** - arranges report data as a table, in readable format, with column titles. The report can be copied to the local desktop as a raw format file. The report can be printed by using the browser's print function.
- **CLI** - provides direct access to Short Connection, Meetings Log, and Maintenance reports.

The ICB keeps the files for 128 days or less, depending on the definition of the general tab window from Microsoft Outlook.

Note: Records related to dual-card meetings appear in the primary card only.

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Table 52 "Report summary" (page 200) describes the reports that the ICB generates.

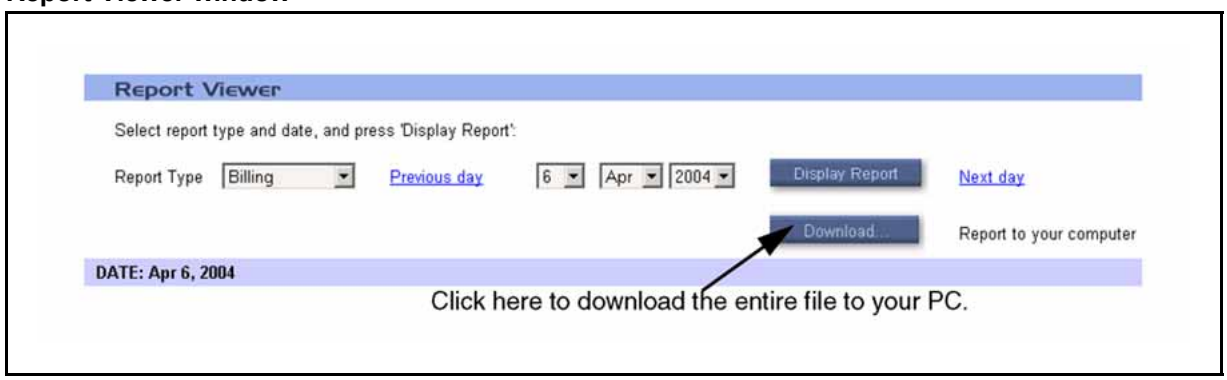
Table 52
Report summary

Report	Purpose	Raw Format	Display	
			CLI	BUI
Short Connection	Detect faulty behavior (users are not serviced).	not a file	SMaint/ SCon	Yes
Meetings Log	Conference activity log.	structured text (see note)	RGen/ MLog	Yes
Overbooking	Track actual usage of ports.	.CSV	N/A	Yes
Billing	Provide billing records.	.CSV	N/A	Yes
Maintenance (Error)	Logs errors.	text	SMaint/ MReport	Yes
Note: Text records have a fixed length of 1024 characters, padded with trailing spaces. The first record is binary.				

BUI Report Viewer

An administrator can view reports from the BUI. Click on **View a Report** on the ICB Dashboard to access the Report Viewer window (see Figure 86 "Report Viewer window" (page 200)). Follow the steps in Procedure 42 “Displaying reports” (page 200) for displaying reports.

Figure 86
Report Viewer window



Procedure 42
Displaying reports

Step	Action
1	Access the ICB Dashboard.
2	Select **Report Viewer**.

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3 Select the report type from the pull-down menu. Choices are Meeting Log, Error, Overbooking, Billing, and Short Connection.

4 There are two ways to select the date.

a Click on **Previous Day** or **Next Day** links. The requested report will be displayed.

b Click the appropriate date from the drop down boxes. Then click the **Display Report** button. The requested report will be displayed.

5 The reports can be downloaded to the Administrator's PC by clicking the **Download** button. The file downloads to the location defined in the local file selection dialog box of the Windows operating system.

--End--

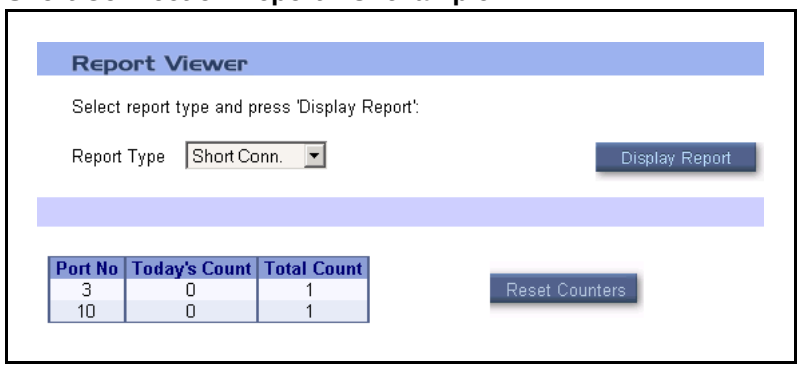
The following sections in this chapter show examples of the reports.

Short Connection Report

BUI Short Connection Report

Figure 87 "Short Connection Report BUI example" (page 201) shows how the Short Connection Report looks when accessed from the BUI.

Figure 87
Short Connection Report BUI example



The Short Connection Report always shows the current status; the date cannot be selected. The report displays the same text as what CLI displays after the **`SMaint/SCon/Print`** command. The window does not shows ports with all zero counters.

The **Reset Counters** button sets all counters back to zero (similar to the CLI **`SMaint/SCon/Reset`** command).

CLI Short Connection Report

Use the Short Connection Report menu to present or reset the short connection peg-count.

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To access the Short Connection Report menu, login as an administrator. Enter the System Maintenance command (**sm, SM**, or **SMaint**) and enter the Short Connection Report command (**sc, SC**, or **SCon**).

Short port occupancy can indicate a fault condition on a port or can indicate that a user is dialing the incorrect DN. Set the short occupancy range in the System Attributes Editor menu, which can range from 0 to 30 seconds.

From the Short Connection Report menu, the option is available to print (p) or reset (r) the counter to zero. When printing the short connection peg-count, the system presents all ports with a count in the following format:

port # today's_count total_count

The counts have the following meanings:

- **today's count** - count of short connections that occur this day.
- **total count** - cumulative count of all short connections since the ICB was last reset, or the system reset the short connection counters.

If all counters are zero, the system prints the header followed by the message "all counters are zero".

Short Connection Report CLI example

STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?: **sc**
Print, Reset: **p**

Port #	today's_count	total_count
10	2	4
18	1	10
31	5	34

Print, Reset: **r**
Reset all short connection counters? (Yes, (No)) **Yes**
Counters reset.
Print, Reset: *
STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?:

Meetings Log Report

BUI Meetings Log Report

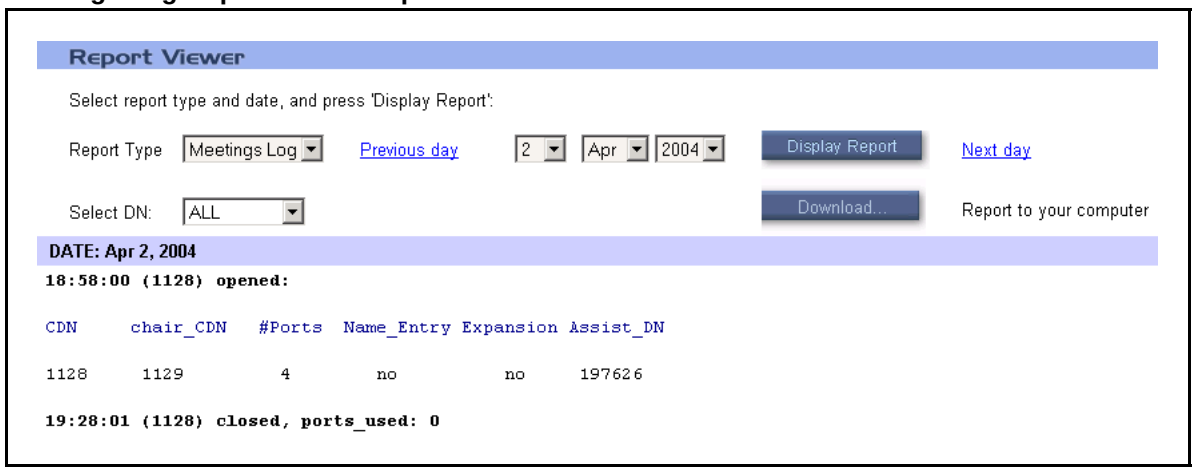
The BUI sorts the Meetings Log Report by DN. The BUI displays the report with events grouped by meeting. Therefore, the window shows a "Select DN" pull-down menu to enable the selection of the particular DN's records to appear in the report. Figure 88 "Meetings Log Report BUI example"

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(page 203) shows how the BUI displays the report, which has the same text lines that the CLI prints when **RGen/MLog** is entered. The BUI adjusts the font to make this report easier to read.

If the report does not fit on one window, click on the **Next Page** button to display more information.

Figure 88
Meetings Log Report BUI example



CLI Meetings Log Report

The CLI Meeting Log Browser menu displays a log of conference events for a specified date. After the system displays data, it returns to the year-month-day prompt using the last selected date as default. To interrupt the log display, enter * and press the **Enter** key.

Each event report starts with the time stamp and the main DN in the following format:

hours:minutes:seconds (DN) <description of event>

The date selected to display the conference log must be in the past.

The system deletes old log files after exceeding the predefined report aging time. The system indicates if there are no log files for the specified date. To access the Meeting Log Browser menu, login as an operator or administrator. Enter the Report Generation command (**rg**, **RG**, or **RGen**) and enter the Meeting Log Browser command (**ml**, **ML**, or **MLog**).

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Meetings Log Report CLI example

```
Log: ml
year (1996): 1995
month (02): 03
day (20): 15
14:55:06 (2230) opened:
DN    chair_DN    #Ports       Name_Entry    Expansion      Assist_DN
2230 2001          3              yes              no              1000
15:00:45 (2220) expanded
15:01:00 (2220) entry: 24       //Conferee entered conference on port 24//
15:03:23 (2230) ch_entry: 4           //Chair joined conference on port 4//
15:03:56 (2220) exit: 14          //Conferee left conference from port 14//
16:35:09 (2230) mmi_op lock                    //Conference locked//
16:44:15 (2220) mmi_op unlock                //Conference unlocked//
16:45:00 (2220) closed
16:56:02 (2230) ch_com dial_out: 395945        //Chair dials out DN//
16:57:00 (2230) ch_com return       //Chair returns without called party//
16:58:20 (2230) ch_com redial: 395945 //Chair redialed last dialed DN//
16:59:16 (2230) ch_com ret with_party //Chair returns with called party/
16:58:45 (2230) ch_com count                   //Chair counts conferees//
17:00:54 (2230) mmi_op num_of_ports: 2     //New number of ports is 2//
17:01:44 (2230) mmi_op duration: 4:00          //New duration is 4 hours//
17:02:54 (2230) mmi_op expansion: yes   //Port expansion is allowed//
17:03:45 (2230) ch_com lock                    //Chair locks conference//
17:05:45 (2230) ch_com unlock                //Chair unlocks conference//
17:08:26 (2230) ch_com drop last d_in       //Drops last dial in conferee//
17:08:56 (2230) ch_com drop last d_out    //Drops last dial out conferee//
17:09:16 (2230) ch_com drop all                //Chair drops all conferees//
```

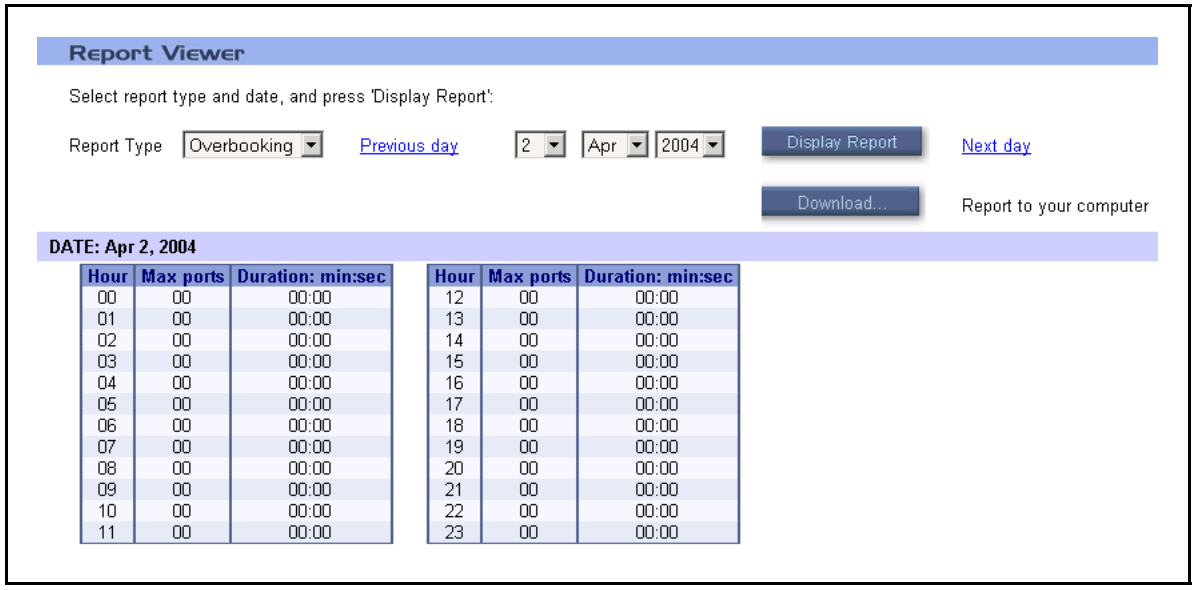
Overbooking Report

BUI Overbooking Report

Figure 89 "Overbooking Report BUI example" (page 205) shows how the Overbooking Report appears when accessed from the BUI.

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Figure 89
Overbooking Report BUI example



Hour	Max ports	Duration: min:sec
00	00	00:00
01	00	00:00
02	00	00:00
03	00	00:00
04	00	00:00
05	00	00:00
06	00	00:00
07	00	00:00
08	00	00:00
09	00	00:00
10	00	00:00
11	00	00:00

Hour	Max ports	Duration: min:sec
12	00	00:00
13	00	00:00
14	00	00:00
15	00	00:00
16	00	00:00
17	00	00:00
18	00	00:00
19	00	00:00
20	00	00:00
21	00	00:00
22	00	00:00
23	00	00:00

The table in the report shows the contents of the Overbooking Report which the BUI translates from a .CSV file. The columns in the table are as follows:

- **Hour** - The hour of the day, from 0 to 23 where:
  - 00 = 0:00 o'clock to 1:00 o'clock
  - 01 = 1:00 o'clock to 2:00 o'clock etc.
- **Max Ports** - The maximum ports busy, by actual calls, during this hour.
- **Duration: min:sec** - The total duration in which all ports are busy during this hour. When the value is greater than 0, the value in the "Max Ports" column shows that card's capacity. The duration field in .CSV format appears as two separate columns; the BUI combines the columns for easy viewing.

There is one line in the table for each hour of the day, so this window does not require a **Next Page** button.

Overbooking Report (.CSV)

The system generates the Overbooking Report on a daily basis. Each line of the over-booking report contains the following information:

- 1st field: hour (00-23)
- 2nd field: maximum number of ports (00-32)
- 3rd field: duration in minutes (00-60)
- 4th field: duration in seconds (00-59)

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The total number of lines is 26. The first line is for the date, the second line is for the field names, and 24 lines are for every hour as follows:

DATE: <month name> dd yyyy,,,
hour,max ports,duration minutes,duration seconds
00,<max port>,<duration minutes>,<duration seconds>
01,<max port>,<duration minutes>,<duration seconds>
02,<max port>,<duration minutes>,<duration seconds>
03,<max port>,<duration minutes>,<duration seconds>
04,<max port>,<duration minutes>,<duration seconds>
05,<max port>,<duration minutes>,<duration seconds>
06,<max port>,<duration minutes>,<duration seconds>
07,<max port>,<duration minutes>,<duration seconds>
08,<max port>,<duration minutes>,<duration seconds>
09,<max port>,<duration minutes>,<duration seconds>
10,<max port>,<duration minutes>,<duration seconds>
11,<max port>,<duration minutes>,<duration seconds>
12,<max port>,<duration minutes>,<duration seconds>
13,<max port>,<duration minutes>,<duration seconds>
14,<max port>,<duration minutes>,<duration seconds>
15,<max port>,<duration minutes>,<duration seconds>
16,<max port>,<duration minutes>,<duration seconds>
17,<max port>,<duration minutes>,<duration seconds>
18,<max port>,<duration minutes>,<duration seconds>
19,<max port>,<duration minutes>,<duration seconds>
20,<max port>,<duration minutes>,<duration seconds>
21,<max port>,<duration minutes>,<duration seconds>
22,<max port>,<duration minutes>,<duration seconds>
23,<max port>,<duration minutes>,<duration seconds>

Billing Report

Introduction

Users can be charged for conference reservations and dial-out calls during a conference. The system stores billing reports in database files which can be retrieved from the card by FTP. Dial-out calls must be charged through the Meridian system billing records.

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Billing charges are based on the following:

- The duration of the meeting, including any extension of the conference from either the BUI or by the chairperson using the *98 command from the keypad.
- The number of ports booked for the meeting. The figure includes any increase in the number of ports during the conference from the BUI or a port increase provided automatically by the ICB.

  Note: The system charges users for the number of ports booked for the conference. This charge does not depend on how many conferees participated in the meeting or the duration of each input call.

BUI configuration

The Billing Account ID for every user must be defined through the ICB Dashboard (see “Users List” (page 120)). The Billing Account ID is the account number of the user, up to nine digits, for billing purposes. This number appears in ICB billing reports for conferences owned by the user.

The following options are available for generating billing reports (see “General Settings window” (page 110)):

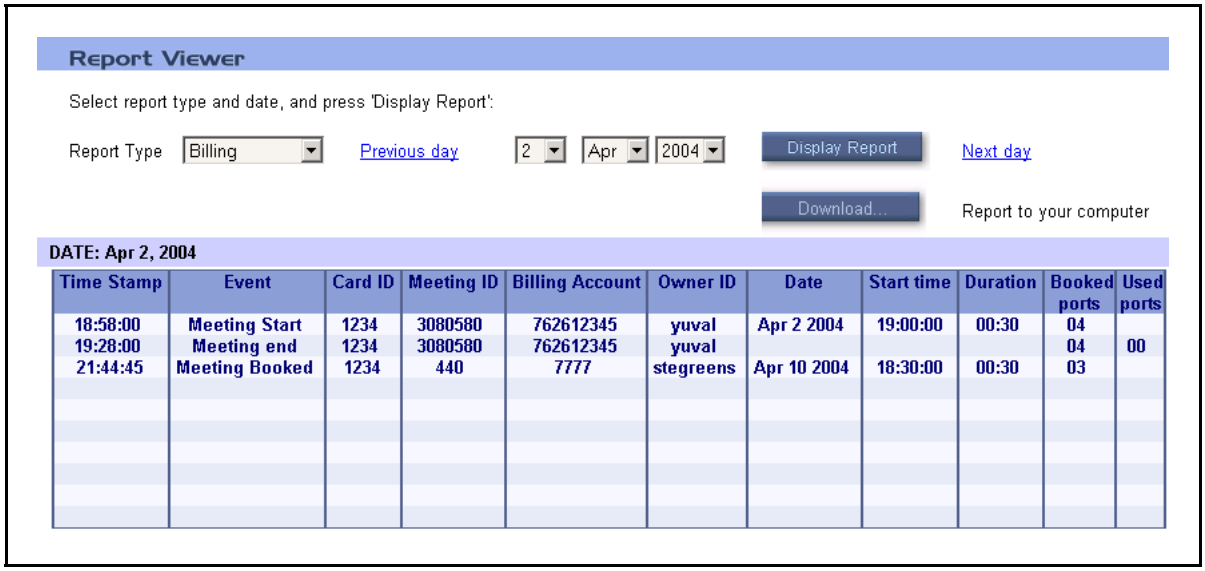
- **No billing** - the system does not generate billing reports.
- **Billing Reports** - the system generates billing reports.
- **Billing Reports & CDR** - the system generates billing reports and Call Detail Records. This option is only available on the CS 1000.

BUI Billing Report

Figure 90 "Billing Report BUI example" (page 208) shows how the Billing Report appears when accessed from the BUI. The table in the window shows the contents of the Billing Report which the BUI translates from the .CSV file.

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Figure 90
Billing Report BUI example



The "Event" field values appear as code numbers in the .CSV file. In the BUI, the system displays them as event names.

If the report does not fit on one window, click on the **Next Page** button to display more information.

Billing Report (.CSV)

The system saves ICB Billing Reports automatically in files on a daily basis. These files use the a:\OAM\BILLING directory on the PCMCIA for the period defined by the report aging feature. The default period is 32 days.

The file's names consist of capital letter "B" and the date of the report (year, month and day) in the following format: Byyymmdd and have the extension CSV, where:

- **yyy** - indicates the year (for example, "099" for 1999, "100" for 2000, "101" for 2001).
- **mm** - indicates the month
- **dd** - indicates the day

For example, B0990720.CSV has the Billing Report for July 20, 1999 and B1010203.CSV contains the Billing Report for February 03, 2001.

Note: To retrieve billing files, transfer the files by FTP over the TCP/IP LAN using a fixed password.

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Each Billing Report consists of 14 fields separated by commas. Table 53 "Billing Report contents" (page 209) shows the information that the Billing Report contains.

Table 53
Billing Report contents

Field	Contents
1st	Time stamp in hours (00-23).
2nd	Time stamp in minutes (00-59).
3rd	Time stamp in seconds (00-59).
4th	Event as follows: **1** Meeting booked **2** Meeting modified **3** Meeting start **4** Active meeting modified **5** Meeting cancelled before being started **6** Active meeting cancelled (after being started) **7** Meeting schedule time has ended **8** Card restart
5th	Card ID (up to a four-digit number).
6th	Meeting ID (up to a 10-digit number).
7th	Billing account (up to a nine-digit number).
8th	User ID.
9th	Meeting date.
10th	Meeting start time in hours (00-23).
11th	Meeting start time in minutes (00-59).
12th	Meeting start time in seconds (00-59).
13th	Duration in hours (01-12).
14th	Duration in minutes (00-59).

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Table 53
Billing Report contents (cont'd.)

Field	Contents
15th	Ports scheduled (02-40).
16th	Ports used (02-40).

Note: For a permanent bridge the meeting date, start time, and duration fields are irrelevant and always appear as zero. The first line is for the date, the second line is for the field names, and all other lines are for the events.

The daily billing report format is as follows:

DATE: <month name> dd yyyy,,,,,,,,,,,,
<1st field name>, <2nd field name>,.....,<14th field name>
<1st field>,<2nd field>,....,<14th field>
<1st field>,<2nd field>,....,<14th field>
<1st field>,<2nd field>,....,<14th field>
<1st field>,<2nd field>,....,<14th field>

BIlling Report .CSV example

In this example, the meeting ID is 32, user billing account is 999, and card ID is 7.

First line - at 8am meeting has been booked to start on Aug 8 1998 at 10:30am,
duration of 02:15, 6 ports.
Second line - at 9am meeting modified to 8 ports.
Third line - at 10.28am meeting started.
Fourth line - at 11am active meeting modified to 3 hours duration.
Fifth line - at 01:28pm meeting ended (time has ended).
Sixth line - at 04:00pm card restarted.
DATE: Aug 7 1998
time stamp hours, time stamp minutes, time stamp seconds, event, card ID,
meeting ID, billing account, date, start time hours, start time minutes, start time
seconds, duration hours, duration minutes, ports
08,00,00,01,7,32,999,Aug 8 1998,10,30,00,02,15,06
09,00,00,02,7,32,999,Aug 8 1998,10,30,00,02,15,08
10,28,00,03,7,32,999,Aug 8 1998,10,30,00,02,15,08
11,00,00,04,7,32,999,03,00,08

A billing file includes the following records:

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- Date stamp, for example: DATE: Aug 7 1998
- Header: time stamp hours, time stamp minutes, time stamp seconds, event, card ID, meeting ID, billing account, date, start time hours, start time minutes, start time seconds, duration hours, duration minutes, and ports
- Billing event record

Table 54 "Event examples" (page 211) shows example billing records for all events. The card ID is 1234 and the user's billing account is 999.

Table 54
Event examples

Example	Description
Meeting Booked - In this example, the time stamp, card ID, meeting ID, billing account, user ID, start time, duration, and ports information was available.	
08,00,00,01,1234,7,999,Barry,Aug 8 2004,10,30,00,02,15,06	This record indicates that the meeting has been booked at 8 am, the user's name is Barry, to start on August 8, 2004 at 10:30 am, duration 2 hours 15 minutes, with 6 ports.
Meeting Modified - In this example, the time stamp, card ID, meeting ID, billing account, user ID, start time, duration, and ports information was available.	
09,00,00,02,1234,7,999,Barry,Aug 8 2004,10,30,00,02,15,08	This record indicates that a BUI user (Barry) changed the meeting to include eight ports at 9 am, before the meeting began.
Meeting Started - In this example, the time stamp, card ID, meeting ID, billing account, user ID, start time, duration, and ports information was available.	
10,28,00,03,1234,7,999,Barry,Aug 8 2004,10,30,00,02,15,08	This record indicates that the meeting started at 10:28 am. ***Note:*** The meeting's start time is 10:28 am and not 10:30 am as scheduled. Meetings always start two minutes before the scheduled start time to guarantee timely entry of users.
Active Meeting Modified - In this example, the time stamp, card ID, meeting ID, billing account, user ID, duration, and ports information was available.	
11,00,00,04,1234,7,999,Barry,03,00,08	This record indicates that at 11 am a user (Barry) expanded the duration of the active meeting to three hours. The original duration was 2 hours 15 minutes.
Meeting Ended - In these examples, the time stamp, card ID, meeting ID, billing account information, and user ID was available. Examples report this event for three different cases:	

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Table 54
Event examples (cont'd.)

Example	Description
The meeting was cancelled before it began. 10,05,00,05,1234,7,999,Barry,06,00	This record indicates that a user (Barry) cancelled the meeting reservation at 10:05 am from the BUI, before the scheduled start time. There were 6 ports booked for this meeting. The number of used ports is 0, because none of participants entered the meeting.
The active meeting was cancelled after it began. 12,48,00,06,1234,7,999,Barry,06,05	This record indicates that the meeting ended at 12:48 pm from the BUI, before the scheduled meeting time elapsed. There were 6 ports booked for this meeting. The next number (5) shows how many participants entered the conference. This number can be greater than the number of ports booked for the meeting, because the meeting person booking the meeting enabled the option for expansion.
The meeting's scheduled time elapsed. 13,28,00,07,1234,7,999,Barry,10,12	This record indicates that the meeting ended at 01:28 pm, because the scheduled time elapsed. There were 10 ports booked for this meeting. The next number (12) shows how many participants entered the conference. This number is greater than the number of ports booked for the meeting, because of expansion during the meeting.
Card Restarted - In this example, the time stamp, and card ID information was available.	
16,08,30,**08**,1234,	This record indicates that there was a card restart at 16:08:30. The event ID appears in bold letters. 1234 is the card's ID, 7 is the meeting's ID, and 999 is the customer's billing ID.

CS 1000 Call Detail Recording

The Call Detail Recording (CDR) feature enables the ICB to charge users for out-going calls based on CDR reports the CS 1000 system generates. The reports are generated even if the call is unanswered. The CS 1000 must have the following software packages: Call Detail Recording (CDR) package 4; and CDR with Charge Account (CHG) package 23.

Note: CDR is not available on the CS 2100/Meridian SL-100.

To enable the CDR feature, select "Billing and CDR Reports" from the Billing options pull-down menu in the ICB Dashboard - General Settings window (see Figure 53 "ICB Dashboard - General Settings window" (page 110)).

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Charge Account feature

To define the CDR with Charge Account feature, refer to *CS 1000 Call Detail Recording and CS 1000 Features and Services* ().

When a user dials out with the Billing and CDR Reports option selected, the ICB card takes the Charge Account key (consisting of the first eight digits of the user's account ID), the call ID, and the meeting ID from the charge account field for the CDR record.

The Charge Account key

In the CS 1000, the Charge Account key for every port of the ICB card must be defined in LD 11 (see Table 55 "LD 11 - Define the Charge Account key for an ICB port" (page 213) for an example).

Table 55
LD 11 - Define the Charge Account key for an ICB port

Prompt	Response
REQ	chg
TYPE	4 0 2 0
TYPE	2616
TN	4 0 2 0
ECHG	yes
ITEM	key 9 chg

CDR record format

CDR records are printed on CS 1000 system TTY terminal defined as a CDR user. When defining the CDR with Charge Account feature, the Charge Account data is included in CDR records for each ICB outgoing call, as in the following examples:

1. The following record appears on CDR TTY as outgoing call is started:

   C 040 00 5211 T095019 1203 11.25 00000099912340000000007

   & 0000 0000

   where:

   first 9 digits: 000000999 is the billing account,
   next 4 digits: 1234 is the card ID,
   next 10 digits: 0000000007 is the meeting ID.

2. The following record appears on CDR TTY as outgoing call is ended:

   N 041 00 5211 T095019 1203 11.47 00:22:08 A 333

   & 0000 0000

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CDR example scenarios

The conference call was booked using the BUI by a user whose billing account is 9134513, on July 19, 1999 at 06:15 p.m., for July 20, 1999 from 08:00 a.m. to 09:00 a.m. The number of ports booked is six.

The conference call was started as scheduled on July 20, 1999 two minutes before 08:30 a.m. During the call at 08:36 a.m. (after eight minutes), the chairperson calls out once to a long distance number and brings a user into the call. After 47 minutes the dialed out person drops off. No record is stored in the ICB card in relation to this event.The following record appears in the CS 1000 CDR:

```
C 040 00 5211 T095019 20/07 08:36 00913451312340000000007
& 0000 0000
N 041 00 5211 T095019 20/07 09:23 00:47:08 A 333
& 0000 0000
```

At 08:55 a.m. the chairperson calls out to a long distance number and after two minutes returns to the meeting without the dialed party. The following record appears in the CS 1000 CDR:

```
C 040 00 5215 T095019 20/07 08:55 00913451312340000000007
& 0000 0000
N 041 00 5215 T095019 20/07 08:57 00:02:12 A 333
|& 0000 0000
```

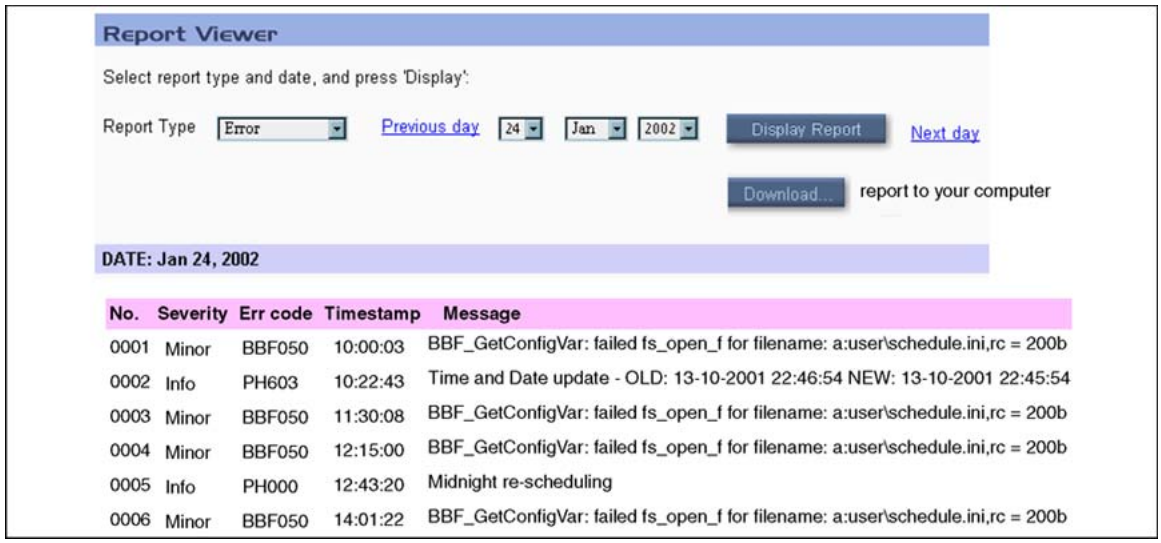
Maintenance (Error) Report

BUI Maintenance (Error) Report

Figure 91 "Maintenance (Error) Report BUI example" (page 215) shows how the BUI Maintenance Report.

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Figure 91
Maintenance (Error) Report BUI example



The Maintenance (Error) Report appears in the table in this window. The window shows the same text lines as those generated by the CLI **`SMaint/MReport`** command.

If the report does not fit on one window, click on the **Next Page** button to display more information.

For more information about how the ICB handles error reporting, see “Error message handling” (page 185).

CLI Maintenance (Error) Report

The Maintenance Report Browser menu enables maintenance reports to be displayed according to date. These reports analyze system problems based on error messages compiled on that date. To access the Maintenance Report Browser menu, login as the administrator. Enter the System Maintenance command (**`sm`**, **`SM`**, or **`SMaint`**) and enter the Maintenance Report Browser command (**`mr`**, **`MR`**, or **`MReport`**).

All reports are time stamped and contain information about the cause of the problem. After the system displays the data, it returns to the "year-month-day" prompt using the last selected date as default.

The selected date must be in the past. The system discards old files that exceed the report aging number of days. If the date entered is too old, an error message appears. If the date is within the correct date range, but there are no report entries for that day, a message indicating there are no messages appears. To interrupt the report display, enter * and press the **Enter** key.

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The maintenance reports have the following format:

<serial number>: <MON_REPORT_ID> <channel #> <time> <Applic_Manager_cycle> <Message Body>

Maintenance Report (Error) CLI example

The following example displays the maintenance report for March 15, 1996:

STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?: **mr**
year(1996): **1996**
month (11): **03**
day (22): **15**
1234:timer101 ch01 16:16:18:111 9000 "Num: 100 Timing Stop. 00."
1235: sig100 ch00 16:17:05:234 9900 "SIG: Q_APP in msg:0000005A"
0001:HW PCMCIA001 ln0077 ch01 16:25:29:836 PCMCIA card inserted in socket 1
year (1996): .
STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?:

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Upgrades

Purpose

This chapter provides procedures for upgrading your system to ICB Release 4 from previous releases and for upgrading sub-issues of ICB Release 4. The chapter contains the following sections:

- "Overview" (page 217) - introduces the ICB upgrade strategy.
- "Planning for an upgrade" (page 220) - provides information to help prepare for an upgrade.
- "Upgrade procedures" (page 221) - provides system upgrade procedures.

Overview

The ICB Release 4 can be upgraded from MICB Release 2 and MICB Release 3, but not from MICB Release 1. A new board and a new flash card are provided when upgrading. The vintage BC and flash card are replaced in upgrading. The dongle remains. Upgrades cannot be completed over the web. A new keycode is required when upgrading. Table 56 "ICB upgrade paths" (page 217) shows the upgrade paths regarding the conversion of hardware and customer data.

Table 56
ICB upgrade paths

From ...		To ...		
Firmware	**Card**	**Firmware**	**Card**	**Data conversion**
MICB Release 1	NT5D51AA	ICB Release 4	NT5D51BC	No
MICB Release 1	NT5D51AB	ICB Release 4	NT5D51BC	No
MICB Release 2	NT5D51AB	ICB Release 4	NT5D51BC	Yes
MICB Release 2	NT5D51AB	ICB Release 4	NT5D51BC	Yes

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Table 56
ICB upgrade paths (cont'd.)

From ...		To ...		
Firmware	**Card**	**Firmware**	**Card**	**Data conversion**
MICB Release 3	NT5D51AC	ICB Release 4	NT5D51BC	Yes
ICB Release 4	NT5D51AC	ICB Release 4	NT5D51BC	Yes

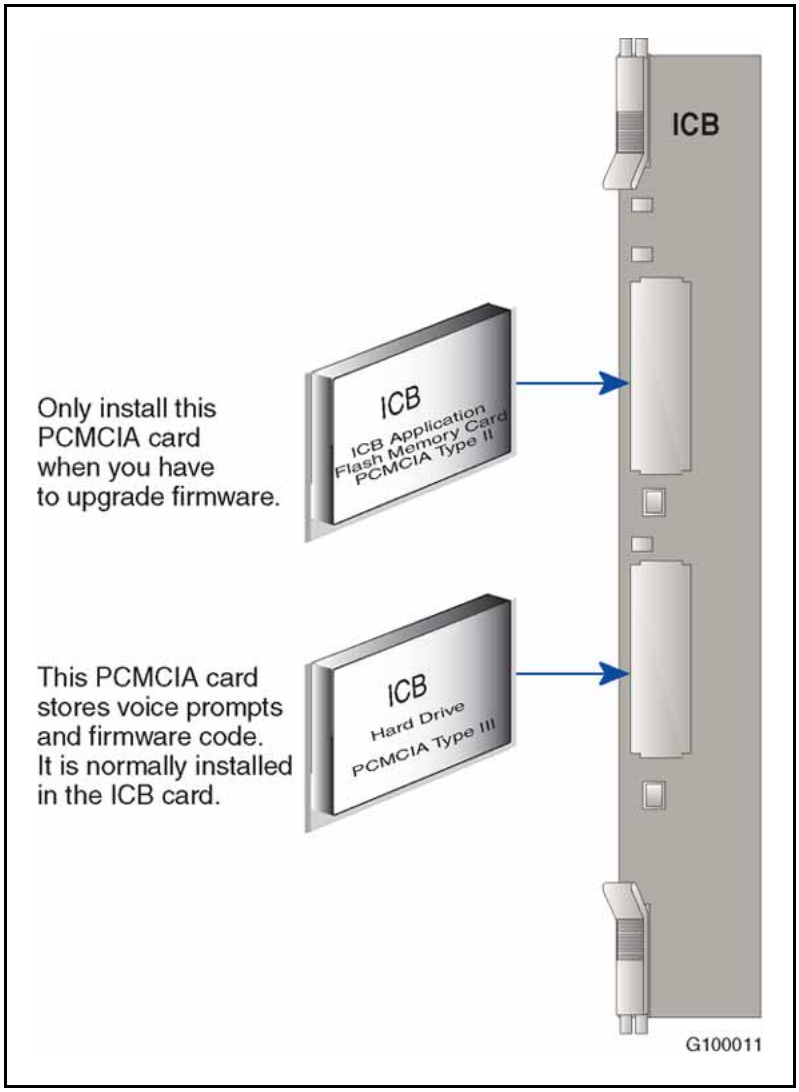
Note: There is an upgrade from MICB Release 1 to ICB Release 4 but data conversion is not supported. This is the same as a new installation.

Insert a PCMCIA card into the top PCMCIA slot accessible through the ICB faceplate for external memory expansion, new voice announcements, and firmware upgrades. The available storage for voice prompts on the PCMCIA disk is 130 Mbytes, providing 260 minutes of voice recording. The ICB uses the PCMCIA ATA, Type II and Type III Flash cards for ICB software upgrade and backup.

The ICB card has two PCMCIA sockets. PCMCIA hard drive cards store ICB voice prompts and firmware code. The ICB ships with the PCMCIA hard drive. The bottom socket houses the PCMCIA hard drive card that contains the current firmware and customer data. Use the top socket to upgrade the firmware. Figure 92 "Installing a PCMCIA card into the ICB faceplate slot" (page 219) shows how to load PCMCIA cards into the ICB faceplate slots to upgrade the ICB capacity.

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Figure 92
Installing a PCMCIA card into the ICB faceplate slot



Keycode security

A keycode protects against unauthorized ICB feature use. The keycode restricts upgrades of either the number of ports or application software to a given ICB card. Nortel Networks tracks the keycodes to allow for accurate handling of field repairs and incremental upgrades.

Keycodes are required for the following upgrades:

- feature enhancements
- new applications
- port additions

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Keycodes are not required for the following:

- backup and restore operations
- application patching/bug fix

Nortel Networks provides the customer with a keycode to enable installation of any required upgrade. Enter the keycode using the Command Line Interface from the local maintenance port on the ICB card. The keycode is 24 characters long; enter it in three sets of eight digits each called keycode1, keycode2, and keycode3.

Planning for an upgrade

When preparing for an upgrade, consider the following items:

- Always back up the site data, before beginning an upgrade.
- Upgrades from any release require new hardware.
- When adding the Microsoft Outlook GUI functionality, the ICB Administrator must coordinate with the Microsoft Outlook Administrator. Also, the user community needs to be informed.

Managing the user community during an upgrade

An important part of planning an upgrade is managing the user community. Table 57 "User community upgrade considerations" (page 220) lists items that will impact the user community during an upgrade to ICB Release 4.

Table 57
User community upgrade considerations

Item	Description
BUI access	Users need to know how to reset their browser to access the ICB and when to do that. This is required because the address they previously used in the browser to access ICB had an extension of ICB.htm. Users need to remove the extension.
User training	Provide users with the ICB Release 4 User Guide and information about the following: • Custom greeting. • How to access and use chairperson control. • How to delegate chairperson control (that is, acquire and release chairperson control). • Volume control. How to use the feature from the TUI or the BUI control screen.

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Table 57
User community upgrade considerations (cont'd.)

Item	Description
	• If single DN access is to be implemented, the changes to existing conferences (that is, already booked) and future meetings need to be communicated to the users. • Microsoft Outlook
E-Mail format	Changes to the E-Mail format should be reviewed and made visible to people who will be creating meetings.

Upgrade procedures

MICB Release 2 or MICB Release 3 card upgrade

Use Procedure 43 "MICB Release 2 or MICB Release 3 card upgrade" (page 221) to upgrade your ICB card from Release 2 or Release 3.

Procedure 43
MICB Release 2 or MICB Release 3 card upgrade

Step	Action
1	Disable the operational MICB Release 2 or MICB Release 3 card using LD 32. ***Note:*** CS 2100/Meridian SL-100 customers must Bsy the ICB card at the PM level, before starting the procedure and RTS the card once the upgrade is complete.
2	Pull the MICB Release 2 or MICB Release 3 card out from the slot.
3	Remove the MICB Release 2 or MICB Release 3 PCMCIA from the lower socket.
4	Insert a new ICB Release 4 PCMCIA in the lower socket of the new ICB Release 4 card (vintage BC). This PCMCIA should be as shipped from the factory, with no customer data on it.
5	Remove the security device from the old card and move it to the new ICB Release 4 card.
6	Insert the new ICB Release 4 (vintage BC) into the slot.
7	Enter the new keycode.
8	When the card is activated as ICB Release 4, enter the CLI and login as an administrator. Enter: name: **`admin`** Password: **`<CR>`** Where CR is an empty password.

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9 Insert the old MICB Release 2 or MICB Release 3 PCMCIA in the upper socket.

10 From the CLI enter:

`SMaint` and then **`convert`**

The ICB copies the data from the upper PCMCIA, converts to ICB Release 4 format, and stores it in the lower PCMCIA.

> ***Note:*** If the conversion is done from a dual MICB Release 2 (which uses a PC server), the system does not copy "administrator" users. Instead the system creates one default administrator, "admin" with a password of "000000".

11 Remove the MICB Release 2 or MICB Release 3 PCMCIA from the upper socket. Nortel Networks recommends that you keep it, in case the customer wants to revert back to MICB Release 2 or MICB Release 3.

12 You can now enter the administration BUI to review or modify parameters and options.

13 Enable the card in LD 32.

--End--

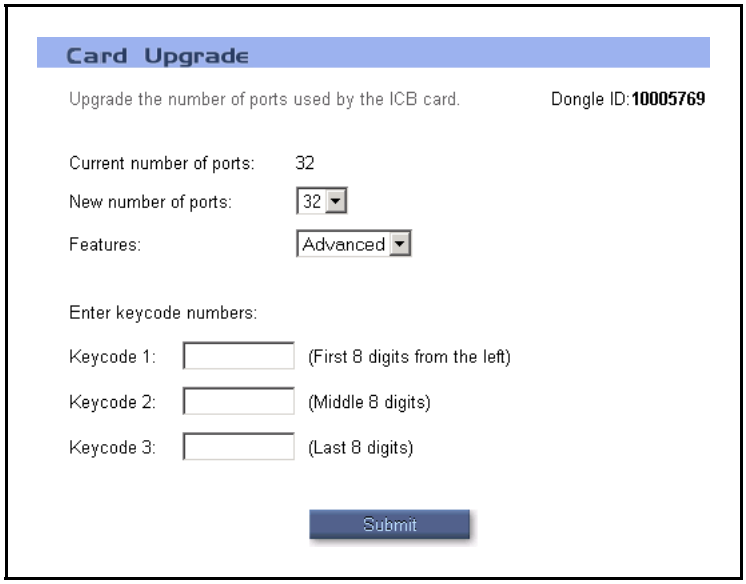
Port Upgrade

The ICB card can be configured to have port sizes ranging from 12 to 62; however, systems requiring more than 32 ports require a dual-card configuration. To activate a different number of ports than currently active, login to the BUI as an administrator. Keycodes are required. Under the Upgrades section of the ICB Dashboard click on the Number of Ports link (see Figure 93 "ICB Dashboard - Card Upgrade window" (page 223)).

> ***Note:*** The CS 2100/Meridian SL-100 only supports 32- and 64-port ICB cards. This procedure is not supported for CS 2100/Meridian SL-100 customers.

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Figure 93
ICB Dashboard - Card Upgrade window



A ports upgrade is purchased from Nortel Networks, it comes with a new keycode for the card. Follow the steps in Procedure 44 “Upgrade ports from the administrator ICB Dashboard” (page 223) to perform the port upgrade.

Procedure 44
Upgrade ports from the administrator ICB Dashboard

Step	Action
1	From the pull-down menu, select the new number of ports in the combo-box. The current number of ports appears as view-only above this box.
2	Enter the keycode. The keycode is 24 digits. To simplify input, the system divides the keycode into three sets of eight digits each. *The system displays the input characters as they are entered.*
3	Click on the **Submit** button. *The system submits the change only if the keycode entry is correct. If the entry is incorrect, the following message appears: "Keycode is incorrect! Re-enter the keycode.*

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"Before clicking on the **Submit** button, operation can be cancelled by clicking on the **Dashboard** button on top of the window.

Note: Ports must be configured in the switch in order for them to be operational.

--End--

Firmware Upgrade

Upgrade the ICB Release 4 firmware from the following two sources:

- the secondary PCMCIA device
- a remote FTP server

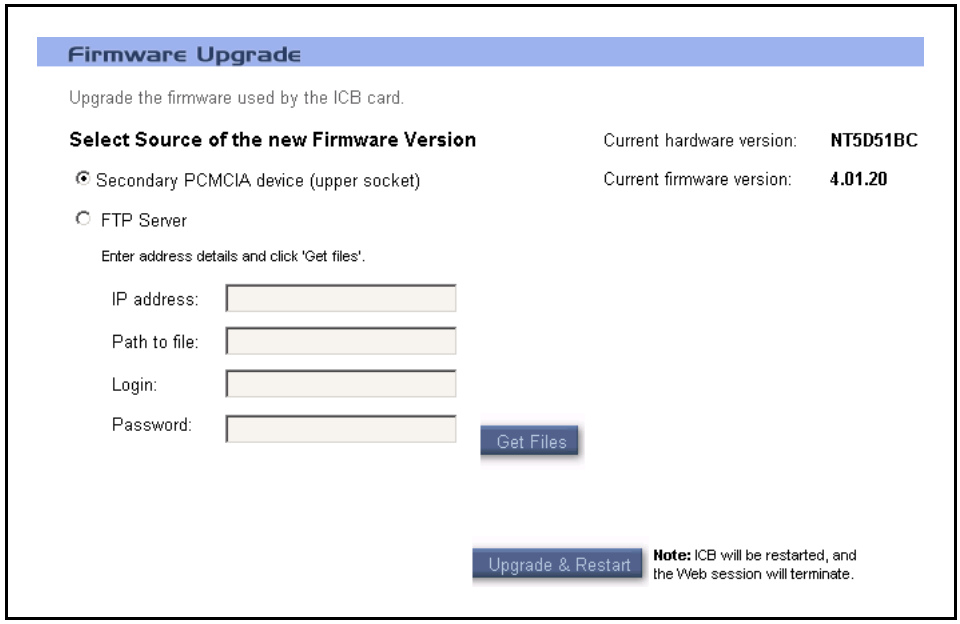
Use a BUI administration window for the upgrade process, which supports both options (see Figure 94 "ICB Dashboard - FIrmware Upgrade window" (page 225)). The CLI can also be used. Follow the steps in Procedure 45 “Upgrade the ICB firmware version” (page 224) to upgrade the ICB firmware version.

Procedure 45
Upgrade the ICB firmware version

Step	Action
1	Log into the BUI.
2	Click **Upgrade the Firmware Version** in the **Dashboard**. *The Firmware Upgrade window opens*. See Figure 94 "ICB Dashboard - FIrmware Upgrade window" (page 225) for a depiction.

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Figure 94
ICB Dashboard - FIrmware Upgrade window



3 Select the source of the new firmware version. If the source is an FTP server, specify the IP address, path, login user name, and password.

4 Click **Upgrade & Restart**.

--End--

After upgrading the firmware, you must publish the new upgraded ICB form that comes with the firmware. See Procedure 34 “Upgrading the ICB form in the Organizational Forms Library” (page 174).

The top-right corner of the Firmware Upgrade window shows the current hardware and firmware versions. The firmware version takes the form of "4.xx", where 4 is the ICB release and xx is the firmware version number.

The first step is to specify the upgrade source by clicking on one of the radio buttons. Depending on the source selected, the following procedures describe how to perform the firmware upgrade.

Procedure 46
Firmware upgrade from ICB card upper socket

Step	Action
1	Click on the **secondary PCMCIA device** radio button.
2	Insert the PCMCIA disk in the upper socket of the ICB card.

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3 Click on the **Upgrade & Restart** button.

The ICB copies the files from the upper socket and performs a restart. When the restart is complete, the current BUI session is lost. Login again as an administrator. When returning to this window, the new firmware version should appear in the top-right corner of the window.

--End--

Procedure 47
Firmware upgrade using FTP

Step	Action
1	Click on the **FTP Server** radio button.
2	Enter the FTP parameters in the fields the window provides as follows: **a** **IP address** - the remote FTP server where the upgrade files are stored. **b** **Path to file** - path of the folder on the computer where the upgrade files are stored (for example, c:\ICB\4_01). **c** **Login** - login name for FTP. **d** **Password** - password for FTP login.
3	Click on the **Get Files** button to start the FTP transfer session.
4	After the previous steps finishes, click on the **Upgrade & Restart** button. *The ICB copies the files from the FTP server and performs a restart. When the restart is complete, the current BUI session is lost. Login again as an administrator. When returning to this window, the new firmware version should appear in the top-right corner of the window.*

--End--

Upgrade to the single DN access method

Follow the steps in Procedure 48 “Upgrade to single DN access” (page 227) to upgrade an existing MICB Release 2 or MICB Release 3 card to ICB Release 4 configured with single DN access.

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Procedure 48
Upgrade to single DN access

Step	Action
1	Follow Procedure 43 “MICB Release 2 or MICB Release 3 card upgrade” (page 221) to upgrade an MICB Release 2 or MICB Release 3 card to an ICB Release 4 card.
2	Configure the DNs. **a** Remove the DN pairs from the switch datafill. For more information, if your system is a Meridian 1 or CS 1000, see “Assign ACD DNs” (page 48); if your system is a CS 2100 or Meridian SL-100 see “Single-card configuration” (page 55). ***Note:*** DN pairs can be left in the ICB. Callers to existing conferences configured with direct access DNs will be requested to enter the access DN to reach the meeting. **b** Configure the single access DN in the switch. For more information, if your system is a Meridian 1 or CS 1000, see “Assign ACD DNs” (page 48); if your system is a CS 2100 or Meridian SL-100 see “Single-card configuration” (page 55). ***Note:*** This DN should be forwarded to the ICB card main ACD DN.
3	Access the ICB Installation Wizard and perform the following (see “Step 2 - Access Numbers” (page 77)): **a** Click on the first radio button for the single DN access method. **b** Enter the new single-access DN. **c** Click on the **Submit & Continue** button. *The new single DN access method now applies.*
4	Instruct users to dial the single DN for future conferences. ***Note:*** Make sure the notification e-mail content is still valid.

--End--

Upgrade from a stand-alone to a dual-card ICB

This section describes how to upgrade an ICB Release 4 card operating as a stand-alone ICB to be either the primary or secondary card in a dual-card configuration.

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The main issue to consider is the DN pairs: a single card can have up to 10 DN pairs, whereas a dual card can have only nine DN pairs, plus the dual-card meetings DN.

When upgrading or configuring a dual-card ICB Release 4 configuration, the secondary card must be configured before the primary card. Therefore, Procedure 49 “Stand-alone card to secondary card” (page 228) must be performed before Procedure 50 “Stand-alone card to primary card” (page 229).

Procedure 49
Stand-alone card to secondary card

Step	Action
1	Access the ICB Installation Wizard: Step 1 - Basic Card Settings window (see “Step 1 - Basic Card Settings” (page 74)). In the "Type" field, select the radio button "Dual Card - Secondary."
2	Click the **Submit & Continue** button. If 10 DN pairs are configured, the system deletes one automatically. The ICB first attempts to delete a DN pair that has no conferences scheduled against it. If no such DN pair is found, the ICB deletes the DN pair with the least number of conferences using it. All associated conferences are deleted. ***Note:*** A DN pair used by a permanent conference is not deleted. If a DN pair is deleted in direct-access dialing mode, a pop-up message appears. Note the deleted DN pair, as it can be removed from the Meridian switch configuration.
3	The system displays Step 2 of the Installation Wizard (see “Step 2 - Access Numbers” (page 77)). If the automatic change, as described above, took place, this is reflected in the DN table. If the direct access dialing mode is used, only nine DNs appear.
4	Click the **Submit & Continue** button. The system saves the change and the screen returns to the ICB Dashboard.
5	Logout of this card and proceed to the primary ICB configuration.

--End--

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Procedure 50
Stand-alone card to primary card

Step	Action
1	Access the ICB Installation Wizard: Step 1 - Basic Card Settings window (see “Step 1 - Basic Card Settings” (page 74)). In the "Type" field, select the radio button "Dual Card - Primary."
2	Click the **Submit & Continue** button. If 10 DN pairs are configured, the system deletes one automatically. The ICB first attempts to delete a DN pair that has no conferences scheduled against it. If no such DN pair is found, the ICB deletes the DN pair with the least number of conferences using it. All associated conferences are deleted. ***Note:*** A DN pair used by a permanent conference is not deleted. If a DN pair is deleted in direct-access dialing mode, a pop-up message appears. Note the deleted DN pair, as it can be removed from the Meridian switch configuration.
3	The system displays Step 2 of the Installation Wizard (see “Step 2 - Access Numbers” (page 77)). If the automatic change, as described above, took place, this is reflected in the DN table. If the direct access dialing mode is used, only nine DNs appear.
4	Click the **Submit & Continue** button.
5	The system displays Step 4 of the Installation Wizard (see “Step 4 - Dual Card Meetings” (page 79)). If a DN pair was automatically deleted as described above, it appears in the fields "Conference access number" and "Chairperson number in primary card." You can change these numbers; they must be configured in the Meridian switch as well. Fill in all the fields as described in the installation instructions, and click the **Finish** button.
6	Logout of this card and proceed with the Meridian switch configuration change (see Procedure 51 “Meridian switch configuration changes” (page 230)).

--End--

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Procedure 51
Meridian switch configuration changes

Step	Action
1	If a DN pair was deleted from the secondary or primary card, delete it from the switch datafill.
2	Configure the DNs defined in the Installation Wizard Step 4 window of the primary ICB. Define them as described in the dual-card ICB installation instructions (for the Meridian 1 or CS 1000 see “Configure DNs for a dual-card conference” (page 52); for the CS 2100 or Meridian SL-100 see “Dual-card configuration” (page 60)).

--End--

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Appendix Password security

Purpose

This chapter describes ICB Release 4 password protection and access restrictions.

The chapter contains the following sections:

- “Access permissions” (page 231) - lists the security options available with the ICB Release 4 system.
- “Unsuccessful login attempt handling” (page 233) - describes how the ICB handles unsuccessful logins.
- “Password parameters summary” (page 233) - summarizes the default login names and passwords, and their parameters
- “Reset passwords” (page 234) - provides procedures for resetting passwords.

Access permissions

ICB Release 4 provides strict password protections and other mechanisms to restrict access from unauthorized personnel (see Table 58 "Access permissions" (page 231)).

Table 58
Access permissions

Access type	Description of permissions
BUI (HTTP server web access)	1. Login name and password. The login name is a combination of letters and digits up to 10 characters in length. The password consists of digits only. Define the length according to the parameter "minimum password length". Users and administrators can change their passwords at any time. 2. The system does not permit multiple, simultaneous BUI sessions for the same user. When a user logs into the BUI, no one else can login with the same user ID, until the session terminates (that is, the user logs out).

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Access type	Description of permissions
	The system permits only one administration session at a time. Therefore, if there is an active administrator session, the system does not permit another administrator log in. 3. You can access only the initial login window when you enter the BUI's URL from your web browser. You cannot access any other page or file directly. 4. The system times out and closes the session after a period of inactivity. The administrator defines the time-out parameter.
CLI (direct connection)	1. There are two login levels. Each level has a login name and password, both of which are changeable through the CLI. The name and password can contain letters and digits. 2. The CLI does not print the password when it is being entered. 3. The system records every successful login as an information message in the error log. 4. Upon a successful login, the CLI prints the login date and time. 5. The system times out and closes the session after a period of inactivity. The administrator defines the time-out parameter.
Telnet (server access)	1. Remote access using telnet requires a dedicated login name and password. Successful login provides access to the CLI, which, in turn, requires its own access and login as described above. The name and password can contain letters and digits. 2. The system records every successful login as an informational message in the error log. The CLI terminal prints this message. 3. The system times out and closes the session after a period of inactivity. The administrator defines the time-out parameter.
FTP (server access)	1. Remote access using FTP requires a dedicated login name and password. The name and password can contain letters and digits. 2. The system records every successful login as an informational message in the error log. The CLI terminal prints this message. 3. The system times out and closes the session after a period of inactivity. The administrator defines the time-out parameter.
General	1. The system always encrypts files containing passwords. 2. An administrator defines the minimum length of the login name and password. The system enforces the minimum requirement when a user changes their login name or password. This rule applies to all the passwords that this table describes. It does not apply to the conference and chairperson passwords set up in the BUI scheduling window. 3. The maximum password length is 16 characters, which is hard-coded. 4. The IP/LAN connectivity provides access through the LAN using HTTP, Telnet and FTP only.

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Unsuccessful login attempt handling

Procedure 52 “Unsuccessful login operation” (page 233) shows how the system handles unsuccessful login attempts.

Procedure 52
Unsuccessful login operation

Step	Action
1	No action is required for this procedure. However, observe the activities in the following steps and report any system discrepancies to your support technician.
2	For each faulty login, the system issues a message in the error log and the CLI. This applies to all access types: BUI; TUI; CLI; and Telnet. The following is an example of the message format (for more information on error messages, see “Error message handling” (page 185)). *0024: WARNING MNGMMI114 12-06 15:42:55:612 FTP login FAILED from 152.217.111.234*
3	The ICB counts consecutive login attempts. When the count reaches the "maximum faulty login attempts" parameter set by the administrator, the system performs the following: **a** **BUI user and administrator access** - After five consecutive faulty login attempts in which the login name is correct, but the password is wrong, the system blocks this login name. The administrator must reset the name to resume normal login operation. **b** **CLI access** - After the maximum allowed login attempts, the system blocks the CLI for a period of time. The administrator can define the blocking time period. **c** **Telnet access** - After the maximum allowed login attempts, the system closes the connection. An administrator can define the "new connection refused" time period. **d** **TUI access** - After three unsuccessful login attempts, the system disconnects the call.

--End--

Password parameters summary

Table 59 "Default login names and passwords" (page 234) shows the ICB Release 4 default login names and passwords.

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Table 59
Default login names and passwords

Access type	Default login name	Default password
User BUI login (multiple users)	No default	000000
Administration BUI login (multiple administrators)	No default (see Note 1)	000000
TUI login (multiple users)	No default	Equal to BUI password
CLI first level	admin	- (see Note 2)
CLI second level	debug	-
Telnet	MICB	admin
FTP	MICB	admin
Note 1: Initially, one administrator account exists:"admin" ***Note 2:*** The CLI's default passwords are empty (that is, no password).		

Table 60 "Security parameters summary" (page 234) summarizes the security parameters and their defaults.

Table 60
Security parameters summary

Parameter	Range	Default value
Minimum login name length	4-10	4
Minimum password length	1-16	4
Maximum password length	Hard-coded	16
CLI maximum unsuccessful login attempts	1-10	5
CLI blocking period after "Maximum unsuccessful login" is exceeded	1-1440 seconds	0
CLI inactivity time-out	1-1440 minutes	15
Telnet blocking period after "maximum unsuccessful login:" is exceeded	1-1440 seconds	20
Telnet maximum unsuccessful login attempts	1-10	5
Telnet inactivity time-out	1-1440 minutes	15
FTP inactivity time-out	1-1440 minutes	15
BUI inactivity time-out	1-1440 minutes	30

Reset passwords

Follow the steps in Procedure 53 "Reset forgotten passwords" (page 235) when a user forgets their password.

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Procedure 53
Reset forgotten passwords

Step	Action
1	The administrator can reset any BUI password through the user management BUI. One administrator can also reset another administrator's password.
2	When an administrator forget's their BUI password, and there is no other administrator, the password can be reset from the CLI by entering the following command: **PAdmin/ABreset** (or abbreviated **pa/ab**) *The system resets all administrator passwords, if more than one exist.*
3	When system passwords are forgotten (that is, Telnet, FTP, and CLI first level), the passwords can be viewed from the second level of the CLI.
4	When the second level CLI password is forgotten, perform the following steps. **a** Connect a CRT (or terminal emulation on a PC) directly to the back of the card's serial port. **b** Perform a manual power-up as follows: 1. Pull the card out of the slot. 2. Plug the card back into the shelf. *The ICB starts the power-up process.* **c** Wait for the following banner to appear: `**********` `**********` `* Running MAIN CODE!!! *` **d** Enter the token **default**. This token must be entered within 15 seconds of the banner's appearance. *The restart process continues and more lines of text may appear.* **e** When the power-up process completes and the CLI is ready for input, enter the factory-default second level password (that is, login = debug; password = no password). **f** Access the password editing command to display or modify the CLI name and password (see Procedure 54 "Use the second-level CLI edit password command" (page 236)).

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After logging out from the CLI, normal login resumes.

--End--

Follow the steps in Procedure 54 “Use the second-level CLI edit password command” (page 236) to edit or view a password from the second level of the CLI.

Procedure 54
Use the second-level CLI edit password command

Step	Action
1	Enter the second-level login name and password.
2	Enter **`PA Admin`** (or **`pa`**). *The CLI displays a list of available commands.*
3	Enter the following command: **`PSweditor`** (or **`ps`**). *The ICB displays passwords and related parameters and prompts for values. The system groups the parameters by sections, to allow faster steps. The sections are: [MIN_LENGTH], [CLI], [TELNET], [FTP], and [BUI}.*

--End--

CLI Password Editor editing session

The following is a example of using a CLI password editing session to change an FTP password. Table 61 "Password example font conventions" (page 236) shows the font conventions that the example uses.

Table 61
Password example font conventions

Font	Description
`Mono`	`Prompts of text displayed by the CLI.`
Bold	**User input.**
// Italics	*Explanations and comments.*

Values in the examples are not necessarily the defaults.

CLI change to FTP Password example

ps

//Administrator entered PSweditor
// ICB displays section name and its parameters, and prompts for action:

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```
section [MIN_LENGTH]
MIN_NAME_LENGTH: 4
MIN_PASSWORD_LENGTH: 8
Modify, Next section, Cancel:
```

// Actions description:
// Modify - modify this section; MICB prompts values one by one
// Save - save pending changes and continue to next section
// Next - continue to next section
// Cancel - discard all pending changes and exit the command

n

// 'next' action selected
// MICB displays section name and its parameters, and prompts for action:

```
section [CLI]
1st level user name:  admin
1st level password:
2nd level user name:  debug
2nd level password:
Maximum allowed login attempts:  5
Blocking period (minutes) after login failures:  60
CLI idle timeout in minutes:  30
Modify, Next section, Cancel:
```
n

// next: go to next section

```
section [TELNET]
Telnet user name:  micbtln
Telnet password:  xyzu1234
Maximum allowed Telnet login attempts:  3
Blocking period (minutes) after login failures:  60
Telnet idle timeout in minutes:  20
Modify, Next section, Cancel:
```
n

// next: go to next section

```
section [FTP]
FTP user name:  micbftp3
FTP password:  abcd1234
FTP idle timeout in minutes:  5
Modify, Next section, Cancel:
```
m

// modify this section

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```
section [FTP]
FTP user name:  micbftp3 (4-30 chars): <cr> // empty input
FTP password:  abcd1234 (8-30 chars): efgh5678 // new pswd
FTP idle timeout in minutes:  5 (1..1440): <cr>

// Section is re-displayed with modified values for confirmation (not saved yet)

section [FTP]
FTP user name:  micbftp3
FTP password:  efgh5678
FTP idle timeout in seconds:  900
Modify, Save, Next (section), Cancel: // re-prompt for action

s

// save changes
File "a:user\bindata.ini" was saved.

// Next section is displayed

section [BUI]
BUI idle timeout in minutes:  30
Modify, Save, Cancel: // re-prompt for action

// Command terminated (section FTP is last), current CLI menu is displayed:

PSWeditor, FUpgrade, SWupgrade, ?
```

Application Protocol Port Numbers

Refer to for the port numbers to use with the specific application protocol.

Table 62
Application Protocol Port Numbers

Application	Port Number
Telnet	23
FTP	21, 20
SMTP	25
HTTP	80
Dual ICB cards	3700 (uses proprietary port)

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Appendix Product integrity

Environmental specifications

ICB environmental requirements meet, or exceed, Meridian system requirements. The power provided for each card slot in the IPE module exceeds the power requirements for an ICB. Table 63 "ICB environmental specifications" (page 239) shows the range of acceptable temperatures and humidity for the ICB.

Table 63
ICB environmental specifications

	Specification	Minimum	Maximum
Normal Operation	**Recommended**		
	Temperature	15° C	30° C
	Relative humidity	10%	55% (non-condensing)
	Absolute		
	Temperature	0° C	45° C
	Relative humidity	5% to	95% (non-condensing)
	Rate of change	Less than 1° C per 3 minutes	
Storage	**Long Term**		
	Temperature	- 40° C	70° C
	Relative humidity	0%	95% (non-condensing)
		- 40° C to 70° C, non-condensing	
	Short Term (less than 72 hr.)		
	Temperature	- 40° C	70° C
Temperature Shock	In three minutes	- 40° C to	25° C

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Table 63
ICB environmental specifications (cont'd.)

	Specification	Minimum	Maximum
	In three minutes	25° C to	70° C
		- 40° to 70° C, non-condensing	

Regulatory standards

The following tables list the safety and electro-magnetic compatibility regulatory standards for the ICB, by geographic region. Specifications for the ICB meet, or exceed, the standards listed in the regulations for these regions.

Safety

Table 64 "Safety regulations" (page 240) provides a list of safety regulations met by the ICB, and the type of regulation and the country or region covered by each regulation.

Table 64
Safety regulations

Regulation Identifier	Regulatory Agency
UL 60950	Safety, United States, CALA
CSA 22.2 225	Safety, Canada
EN 41003, FCC part 68	Safety, International Telecom
EN 60950/IEC 60950	Safety, International
BAKOM SR 784.103.12/4.1/1	EMC/Safety (Switzerland)
AS3260, TS001 - TS004, TS006	Safety/Network (Australia)
JATE	Safety/Network (Japan)

Electro-magnetic compatibility (EMC)

Table 65 "Electro-magnetic emissions" (page 240) lists electro-magnetic emissions regulations met by the ICB card, along with the standard that lists each regulation.

Table 65
Electro-magnetic emissions

Regulation Identifier	Regulatory Agency
FCC part 15B Class A	United States Radiated Emissions
CSA C108.8	Canada Radiated Emissions
EN50081-1 EN300-386 V1.3.2	European Community Generic Emission Standard

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Table 65
Electro-magnetic emissions (cont'd.)

Regulation Identifier	Regulatory Agency
EN55022/CISPR 22 CLASS A	Radiated Emissions (Basic Std.)
BAKOM SR 784.103.12/4.1/1	EMC/Safety (Switzerland)
SS-447-20-22	Sweden EMC standard
AS/NZS 3548	EMC (Australia/New Zealand)
NFC 98020	France EMC standard

Table 66 "Electro-magnetic immunity" (page 241) lists electro-magnetic immunity regulations met by the ICB card, along with the standard that lists each regulation.

Table 66
Electro-magnetic immunity

Regulation Identifier	Regulatory Agency
CISPR 22 Sec. 20 Class A	I/O conducted noise
EN300-368 V1.3.2 EN61000-4-2	ESD (Basic Standard)
EN300-386 V1.3.2 EN61000-4-3	Radiated Immunity (Basic Standard)
EN300-386 V1.3.2 EN61000-4-4	Fast transient/Burst Immunity (Basic Standard)
EN300-386 V1.3.2 EN61000-4-5	Surge Immunity (Basic Standard)
EN300-386 V1.3.2 EN61000-4-6	Conducted Disturbances (Basic Standard)
BAKOM SR 784.103.12/4.1/1	EMC/Safety (Switzerland)
SS-447-20-22	Sweden EMC standard
AS/NZS 3548l	EMC (Australia/New Zealand)
NFC 98020	France EMC standard

MTBF

The ICB MTBF will be better than 50 years for ground benign (GB) and 40° C ambient.

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List of terms

ACD

Automatic Call Distribution.

Browser User Interface

An interface that allows the administration of OA&M functions on conferences, users, and cards through a standard web browser.

BUI

See Browser User Interface.

Chairperson DN

The directory number the conference chairperson dials to enter the conference.

CLI

See Command Line Interface.

CLS

Class of Service.

Command Line Interface

An interface that allows the administration of OA&M functions on cards through telnet or through a standard VT100 terminal.

CPU

Central Processing Unit. A chip that performs logic, control, and arithmetic functions. The part of the switch that performs these functions and any others necessary to process calls.

DID

Direct Inward Dialing.

DLC

Digital Line Card.

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DN

Directory Number.

DRAM

Dynamic Random Access Memory. A high density type of semi-conductor memory. It typically has slower access time than SRAM and requires external memory refresh circuitry.

DSP

Digital Signal Processing. A specialized computer chip that performs speedy and complex operations on digitized waveforms. Useful in processing sound and video.

DTMF

Dual Tone Multi-frequency. A term describing push-button or touch-tone dialing.

EMC

Electro-Magnetic Compatibility. Refers to equipment units that perform their functions without causing or suffering unacceptable electromagnetic interference from other equipment in the same environment.

EMI

Electro-Magnetic Interference. Unwanted electromagnetic coupling, such as a ham radio heard on an electric organ or church music heard in hearing aids. Also known as "static".

Firmware

Hardwired logic, software, data, and programming instructions such as that stored by threading wires through ferrite cores. May also refer to software programmed in the factory or burnt in the field, and is semi-permanently stored within ROM.

Flash memory

Electrically erasable memory that is non-volatile (not affected by power disruptions).

FTP

File Transfer Protocol.

HTTP

Hypertext Transfer Protocol.

ICB

Integrated Conference Bridge.

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IP

Internet Protocol.

IPE

Intelligent Peripheral Equipment. A range of cards that contain micro- processors that provide off-loading of the CPU function and the flexibility to make changes to the system's parameters without revising the hardware.

ISM

Incremental Software Management.

LAN

Local Area Network.

LED

Light Emitting Diode.

LEN

Line Equipment Number (CS 2100/Meridian SL-100 equivalent of TN).

Main DN

The directory number that conferees dial to enter the conference when using direct access.

MAP

Maintenance and Administration Position.

MAU

Medium Access Unit.

MMI

Man-Machine Interface.

MPU

Microprocessor Unit.

MTBF

Mean Time Between Failure. A measure of reliability: the time that a user may reasonably expect a device or system to work before an incapacitating fault occurs. Also, the average number of hours between one random failure and the next under stated conditions.

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MTTR

Mean Time To Repair.

OA&M

Operations, Administration, and Maintenance.

ONP

One Night Process. This is a term to define upgrades that occur over a single night when traffic is slower than during the day.

PBX

Private Branch Exchange. A telephony switch that is privately owned.

PCM

Pulse Code Modulation.

PCMCIA

Personal Computer Memory Card International Association. This organization has defined a credit card sized plug-in board for use in PCs. These cards are the only way to get to a laptop bus without using a docking station. In addition, application software can be stored on the card into system address space so that the software can run directly from the card, resulting in a faster start and less memory required from the host computer.

RTS

Return To Service.

SCSI

Small Computer System Interface. A device that enables computers to cable-connect to networks or external tape units/hard drives.

SDI

Serial Data Interface. For some Meridian switches, provides ports between the CPU and external devices such as a teletype or maintenance telephone. More generally, an SDI is a mechanism for changing the parallel arrangement of data within computers to the serial form used on transmission lines and vice versa.

SDN

Secondary Directory Number.

SMTP

Simple Mail Transfer Protocol.

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Telephone User Interface

An interface that allows the scheduling of simple conferences over a DTMF telephone.

TN

Terminal Number (CS 1000 equivalent of LEN).

TUI

See Telephone User Interface.

.WAV

File format used for storing voice files created under Microsoft Windows.

XPM

Extended Peripheral Module.

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Nortel Communication Server 1000/Communication Server 2100 Solution/Meridian SL-100

Nortel Integrated Conference Bridge: Service Implementation Fundamentals

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