
Nortel Communication Server 1000

Nortel Communication Server 1000 Release 4.5

Communication Server 1000E

Upgrade Procedures

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Standard 1.00. This document is issued for Communication Server 1000 Release 4.0.

Contents

List of procedures	9
About this document	15
Subject	15
Applicable systems	15
Intended audience	15
Conventions	16
Related information	16
Technical support	17
Overview	19
Contents	19
References in preparation for an upgrade	19
CS 1000E main components	20
Components involved in an upgrade	22
Estimating installation time	23
Administration tools	24
Upgrading the Signaling Server	26
H.323 Gatekeeper database migration	26
Terminal Server	27
Passwords	28
First steps	31
Contents	31

Things to know	31
What to have ready	37
First steps	39
Upgrading the CP PII Call Servers to CS Release 4.5	41
Contents	41
Introduction	41
Prepare for upgrade	41
Perform the upgrade	50
Complete the upgrade	76
Upgrading to CP PIV	81
Contents	81
Introduction	81
Preparing for upgrade	81
Performing the upgrade	109
Completing the upgrade	175
Signaling Server upgrade and reconfiguration	181
Contents	181
Introduction	181
Upgrading from previous releases	182
Upgrading the Signaling Server software	182
Reconfiguring the Signaling Server	191
Reinstalling the previous release of software	203
Upgrading the Media Gateway 1000T	207
Contents	207
Introduction	208
Things to know	209

Upgrade the MG 1000T Core software	212
Upgrade the MG 1000T Expansion(s)	225
Test the upgrade	229

Upgrading Voice Gateway Media Card and IP Phone loadware and firmware 231

Contents	231
Things to know	231
Task summary	232
Verify current loadware and firmware versions	232
Obtain and upload loadware and firmware files	240
Upgrade the Voice Gateway Media Card loadware	243
Upgrade loadware using a Software Delivery card	248
Upgrade the IP Phone firmware	250
UFTP	251

Upgrade checklists 255

Contents	255
Introduction	255
Site details	256
Upgrade details	256
Pre-upgrade checklists	257
Pre-conversion steps	259
Post-conversion checks	260

Appendix A: System upgrade utilities 261

Contents	261
Introduction	261
Access the Utilities menu	261
Verify and upgrade bootROM	263
Upgrade the bootROM on the SSC card	265
Archive the database	266

Install an archived database	268
Restore a database	269
Use the Current Installation Summary utility	272
Revert to a previous software release	274
Appendix B: Obtaining software	277
Downloading software from the Nortel website	277
Appendix C: Centralized Software Upgrade	279
Contents	279
Introduction	279
Automatic upgrade using the Centralized Software Upgrade feature	280
Manual software upgrade operation	285
Technical Assistance service	289
Contents	289
Nortel Technical Assistance Centers	289
Services available	292
Requesting assistance	295
List of terms	297

List of procedures

Procedure 1	
Preparing for upgrade	39
Procedure 2	
Connecting a terminal	44
Procedure 3	
Performing a data dump	49
Procedure 4	
Checking that Call Server 0 is active	52
Procedure 5	
Splitting the Call Servers	53
Procedure 6	
Upgrading the software	53
Procedure 7	
Verifying the upgraded database	73
Procedure 8	
Reconfiguring I/O ports and call registers	74
Procedure 9	
Switching call processing	75
Procedure 10	
Making the system redundant	76

Procedure 11	
Testing Call Server 0	76
Procedure 12	
Switching call processing	78
Procedure 13	
Testing the Call Server	78
Procedure 14	
Switching call processing	79
Procedure 15	
Performing a data dump to backup the customer database:	80
Procedure 16	
Connecting a terminal	84
Procedure 17	
Performing a data dump	89
Procedure 18	
Transferring the customer database from floppy disk to CF	91
Procedure 19	
Transferring the customer database from floppy disk to CF (Windows explorer)	97
Procedure 20	
Making the RMD bootable	105
Procedure 21	
Checking that Call Server 0 is active	115
Procedure 22	
Splitting the Call Servers	116

Procedure 23	
Removing the Call Server 1 CP PII Processor and Drive Carrier Card	116
Procedure 24	
Installing Call Server 1 CP PIV Procesor and blank faceplate	119
Procedure 25	
Installing the software	121
Procedure 26	
Verifying the upgraded database	140
Procedure 27	
Reconfiguring I/O ports and call registers	141
Procedure 28	
Switching call processing to Call Server 1	143
Procedure 29	
Checking that Call Server 1 is active	144
Procedure 30	
Testing Call Server 1	145
Procedure 31	
Checking that Call Server 1 is active	145
Procedure 32	
Removing the Call Server 0 CP PII Processor and Drive Carrier Card	146
Procedure 33	
Installing Call Server 0 CP PIV Processor and blank faceplate	148
Procedure 34	
Upgrading the software	150

Procedure 35	
Verifying the upgraded database	169
Procedure 36	
Making the system redundant	170
Procedure 37	
Testing Call Server 0	175
Procedure 38	
Switching call processing	177
Procedure 39	
Testing Call Server 1	178
Procedure 40	
Switching call processing	179
Procedure 41	
Performing a data dump to backup the customer database:	180
Procedure 42	
Upgrading the Signaling Server software	183
Procedure 43	
Reconfiguring the Signaling Server	191
Procedure 44	
Reinstalling the previous software release	204
Procedure 45	
Performing a data dump on the MG 1000T Core	213
Procedure 46	
Upgrading the MG 1000T Core software	214

Procedure 47	
Upgrading or reinstalling MG 1000T	
Expansion software	226
Procedure 48	
Determining loadware version during	
boot sequence	233
Procedure 49	
Determining the loadware version through	
Element Manager	233
Procedure 50	
Determining the loadware version through	
the CLI	236
Procedure 51	
Determining the IP Phone firmware version	
on a Voice Gateway Media Card	237
Procedure 52	
Determining firmware version on an IP Phone	240
Procedure 53	
Obtaining and uploading loadware and	
firmware	241
Procedure 54	
Upgrading Voice Gateway Media Card	
loadware	243
Procedure 55	
Upgrading loadware using a	
Software Delivery card	249
Procedure 56	
Distributing IP Phone firmware	252
Procedure 57	
Accessing the Utilities menu	262

Procedure 58	
Verifying and upgrading boot ROM	263
Procedure 59	
Upgrading bootROM on the SSC card	265
Procedure 60	
Archiving the database	266
Procedure 61	
Installing an archived database	268
Procedure 62	
Restoring a database	269
Procedure 63	
Using the Current Installation Summary utility	272
Procedure 64	
Reverting to a previous software release of software	274
Procedure 65	
Downloading software from the Nortel website	277
Procedure 66	
Enabling Centralized Software Upgrade on the MG 1000E	283

About this document

This document is a global document. Contact your system supplier or a Nortel representative to verify that the hardware and software described are supported in your area.

Subject

This document provides procedures for upgrading a Communication Server 1000E (CS 1000E) system to Nortel Communication Server Release 4.5 software, and for upgrading a CS 1000E Call Processor (CP) PII system to CP Pentium IV (CP PIV).

Note on legacy products and releases

This NTP contains information about systems, components, and features that are compatible with Nortel Communication Server 1000 Release 4.5 software. For more information on legacy products and releases, click the **Technical Documentation** link under **Support** on the Nortel home page:

www.nortel.com/

Applicable systems

This document applies to the CS 1000E system.

Intended audience

This guide is intended for system installers and administrators with a strong understanding of CS 1000E equipment and operation. Contact Nortel Training Centers for information on installation courses.

Conventions

In this document, the CS 1000E system is referred to generically as “system.”

Related information

This section lists information sources that relate to this document.

NTPs

The following NTPs are referenced in this document:

- *Converging the Data Network with VoIP* (553-3001-160)
- *Signaling Server: Installation and Configuration* (553-3001-212)
- *IP Peer Networking: Installation and Configuration* (553-3001-213)
- *Branch Office: Installation and Configuration* (553-3001-214)
- *Optivity Telephony Manager: Installation and Configuration* (553-3001-230)
- *Optivity Telephony Manager: System Administration* (553-3001-330)
- *Element Manager: System Administration* (553-3001-332)
- *IP Line: Description, Installation, and Operation* (553-3001-365)
- *IP Phones: Description, Installation, and Operation* (553-3001-368)
- *Communication Server 1000S: Overview* (553-3031-010)
- *Communication Server 1000S: Planning and Engineering* (553-3031-120)
- *Communication Server 1000S: Installation and Configuration* (553-3031-210)
- *Communication Server 1000E: Overview* (553-3041-010)
- *Communication Server 1000E: Planning and Engineering* (553-3041-120)
- *Communication Server 1000E: Installation and Configuration* (553-3041-210)

Online

To access Nortel documentation online, click the **Technical Documentation** link under **Support** on the Nortel home page:

www.nortel.com/

CD-ROM

To obtain Nortel documentation on CD-ROM, contact your Nortel customer representative.

Technical support

For technical support contact information, see “Technical Assistance service” on [page 289](#).

Overview

Contents

This section contains information on the following topics:

References in preparation for an upgrade	19
CS 1000E main components	20
Components involved in an upgrade	22
Estimating installation time	23
Administration tools	24
Administration tools	24
Element Manager	24
Optivity Telephony Manager 2.2 (OTM 2.2)	25
Upgrading the Signaling Server	26
H.323 Gatekeeper database migration	26
Passwords	28

References in preparation for an upgrade

To plan the network, refer to *Communication Server 1000S: Planning and Engineering* (553-3031-120) and *Converging the Data Network with VoIP* (553-3001-160).

To read about installing, configuring, and managing Voice Gateway Media Cards and IP Phones, refer to *IP Line: Description, Installation, and Operation* (553-3001-365) and *IP Phones: Description, Installation, and Operation* (553-3001-368).

For detailed information about installing and configuring new components, refer to *Communication Server 1000E: Installation and Configuration* (553-3041-210).

To read about virtual trunking and the Network Routing Service (NRS), refer to *IP Peer Networking: Installation and Configuration* (553-3001-213) and *Communication Server 1000E: Overview* (553-3041-010).

CS 1000E main components

A basic CS 1000E solution is comprised of a Communication Server 1000E (CS 1000E) platform and a Media Gateway 1000T (MG 1000T) platform.

- The CS 1000E platform provides core processing capability and IP functionality. It includes:
 - dual CS 1000E Core Call Servers (0 and 1)
 - 1 to 30 Media Gateway 1000Es (MG 1000E) and optional MG 1000E Expanders
 - Signaling Servers (total number required depends on capacity and survivability levels)
 - an MRV Terminal Server
 - Layer 2 switches

Another key element in the CS 1000E is the Network Routing Service (NRS), a software application that provides network-based routing capability. The NRS runs on the Signaling Server, with other applications or as a standalone component.

For information about NRS, refer to *IP Peer Networking: Installation and Configuration* (553-3001-213).

- The MG 1000T provides digital and analog PSTN access to the CS 1000E system. It includes:
 - an MG 1000T Core and optional MG 1000T Expander
 - an additional 1 to 4 MG 1000T Expansions and optional MG 1000T Expanders that are controlled by the MG 1000T Core

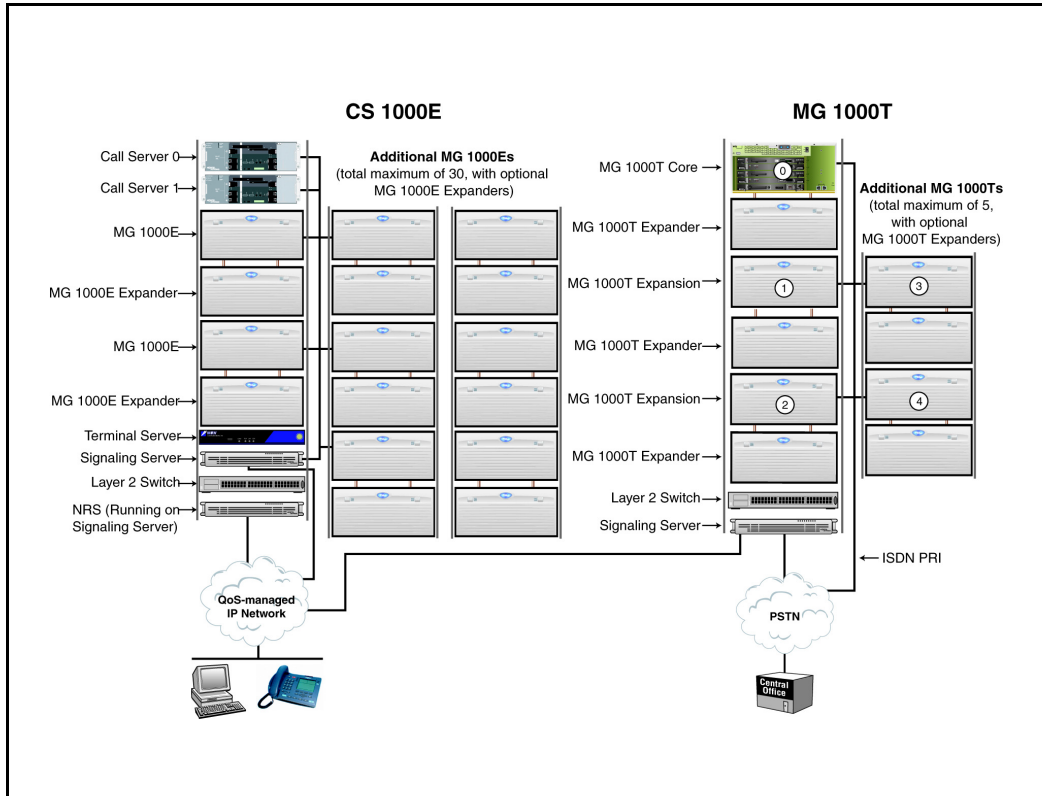
- Signaling Servers (total number required depends on capacity and survivability levels)
- Layer 2 switches

Key differences between the CS 1000E and MG 1000T are as follows:

- Each Call Server in a CS 1000E CP PII system has three circuit cards: a CP PII card, a System Utility card, and a Drive Carrier card — a similar set as used in CS 1000M CP PII Large Systems.
- Each Call Server in a CS 1000E CP PIV system has two circuit cards: a CP PIV card and a System Utility card. The CP PII system Drive Carrier card is replaced by a Drive Carrier replacement faceplate.
- The main controller in the MG 1000T Core is the Small System Controller (SSC) card, the same card used in CS 1000M Small Systems.
- The CS 1000E system software is based on the core software of the CS 1000M Large Systems. The MG 1000T software is based on the core software of the CS 1000S systems.
- In the CS 1000E, the Call Server configuration is fully redundant, since it features two complete Call Servers. In the MG 1000T, the configuration is survivable, since the SSC card in an MG 1000T Expansion can be configured as survivable.
- Software on the MG 1000T supports a Clock Controller; software on the CS 1000E does not. This means that only the MG 1000T can support the following features (because they use a Clock Controller):
 - ISDN PRI and BRI applications (D-channel functionality)
 - DECT

Figure 1 on [page 22](#) shows the main components of a basic CS 1000E system.

Figure 1
Basic CS 1000E system



Components involved in an upgrade

Software-only upgrade

The following components are included in a software-only upgrade:

- Call Server 1000E and MG 1000E software
- MG 1000T Core and MG 1000T Expansion software
- Signaling Server software
- Voice Gateway Media Card application software

- Voice Gateway Media Card firmware
- IP Phone firmware

CP PIV processor and software upgrade

- NT4N39 CP PIV processor (2 per system required)
- N0026096 blank faceplate
- Call Server 1000E and MG 1000E software
- MG 1000T Core and MG 1000T Expansion software
- Signaling Server software
- Voice Gateway Media Card application software
- Voice Gateway Media Card firmware
- IP Phone firmware

Estimating installation time

When all equipment and software is available, Nortel recommends planning a two to four hour period in which to perform the upgrade. Service interruptions can occur during this period.

System expansions and additional installations require additional time. See *Communication Server 1000E: Installation and Configuration* (553-3041-210) for details.

Making IP Peer Networking modifications also requires additional time beyond that of an upgrade. It can be performed after completing a standalone configuration upgrade. It does not require the interruption of call processing. See *IP Peer Networking: Installation and Configuration* (553-3001-213) for details.

Upgrade and installation times depend on the following criteria:

- number and availability of technicians
- familiarity with CS 1000E
- physical location of hardware components

- interoperability products (Nortel Messaging Server 500, Symposium, OTM)
- unit testing and system testing
- unforeseen issues

Administration tools

Element Manager

Each Signaling Server hosts a web server that enables access to a user-friendly graphical user interface. This management framework, which is called Element Manager, can be accessed directly through a web browser or the OTM 2.2 navigator. The OTM 2.2 navigator includes integrated links to each system's Element Manager in a network.

Element Manager increases the speed and efficiency of system management by organizing parameters in logical groups, where single web pages provide access to information that was traditionally spread across multiple overlays. The ability of Element Manager to “hide or show information” helps the user focus on specific information, avoiding the distraction of multiple parameters.

Element Manager reduces configuration errors by providing a full text description of each parameter and acronym. It also reduces errors by simplifying parameter value selection through the use of pre-selected default values and drop-down lists.

Note: The CS 1000E system and MG 1000T platform are managed separately from their own Signaling Servers, which in turn run Element Manager web servers.

The following management tasks can be performed using Element Manager:

- **System Status**
Enables users to perform maintenance actions on Call Server components (D-channel, MSDL, TMDI, Digital Trunk, Clock Controller, Network and Peripheral, Trunk diagnostic) and IP Telephony.

- **Configuration**
Enables users to configure customer data, trunks and routes (traditionally done in LD 14, 15, and 16), D-channel and Common Equipment data (LD 17), digital trunk interface (LD 73), Flexible Code Restriction and Incoming Digit conversion (LD 49), and the IP telephony node.
- **Network Numbering Plan**
Enables users to configure the Network Routing Service, and ESN data blocks for the Call Server (LD 86).
- **Software Upgrade**
Enables users to obtain Call Server software version, License parameters, and packages list. Users can also upgrade Voice Gateway Media Card loadware and IP Phone firmware.
- **Patching**
Enables users to download, activate and deactivate patches for the Call Server and IP Telephony components.
- **System Utilities**
Enables users to backup and restore databases, set time and date, and upload software files and patches to a directory on the Signaling Server.

Configuration procedures for these tasks are in *Communication Server 1000E: Installation and Configuration* (553-3041-210), and *System Management* (553-3001-300).

For upgrade and configuration procedures that use Element Manager, see “Upgrading Voice Gateway Media Card and IP Phone loadware and firmware” on [page 231](#).

Optivity Telephony Manager 2.2 (OTM 2.2)

The OTM 2.2 application can be used to manage a network-wide view of all telephony equipment. Network management tools allow network-level views and navigation of elements within the network. MG 1000T Expansions and MG 1000B platforms can be added to a network through OTM’s **System Properties Network** tab. For more information about OTM, refer to *Optivity Telephony Manager: System Administration* (553-3001-330).

Web-based management tools

CS 1000E simplifies overall network management through the following web-based management enhancements:

- Support for element-level configuration and maintenance.
- Support for network-wide functions.
- Support for web-based station administration.
- Better integration with Nortel Messaging Server 500 management.

Network-level tools

Network-level tools in the CS 1000E simplify the process of moving users within the network. They also consolidate billing and directory information for network calls.

For more information, see *Optivity Telephony Manager: Installation and Configuration* (553-3001-230) or *Communication Server 1000S: Overview* (553-3031-010). For more information about retrieving Call Detail Recording records, see *Communication Server 1000E: Installation and Configuration* (553-3041-210).

Upgrading the Signaling Server

To upgrade the Signaling Server to Communication Server 1000 Release 4.5, see *Signaling Server: Installation and Configuration* (553-3001-212).

H.323 Gatekeeper database migration

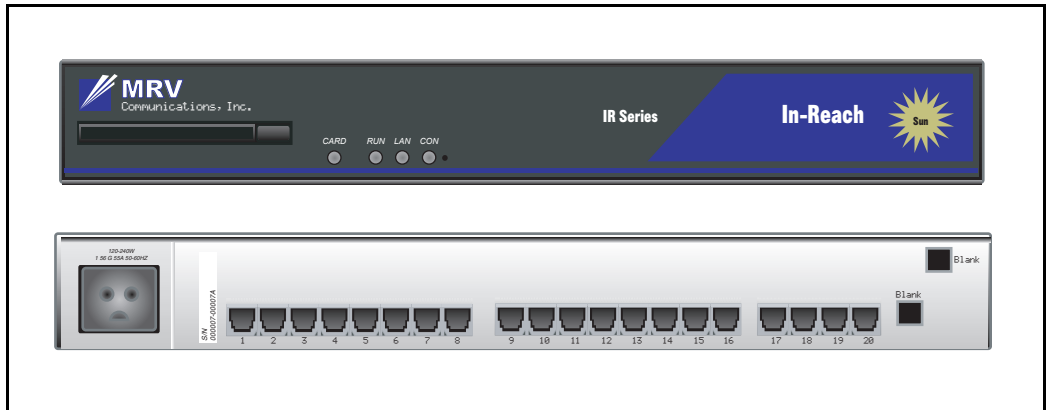
To migrate an H.323 Gatekeeper database to a Communication Server 1000 (CS 1000) Release 4.5 Network Routing Service (NRS) database, see *Signaling Server: Installation and Configuration* (553-3001-212).

Terminal Server

Main role

The MRV IR-8020M IP-based Terminal Server provides the Call Server with standard serial ports for applications and maintenance. Figure 2 shows the Terminal Server.

Figure 2
Terminal Server



Hardware components

The MRV Terminal Server provides 20 console ports for modular RJ-45 connectors. It is also equipped with one RJ-45 10BaseT connection for network interface to the ELAN subnet and an internal modem to provide remote access.

Operating parameters

Traditionally, serial ports are used to connect terminals and modems to a system for system maintenance. As well, many third-party applications require serial port interfaces to connect to a PBX. Because the Call Server provides only two local serial ports for maintenance purposes, an IP-based Terminal Server is required to provide the necessary serial ports.

The Terminal Server provides standard serial ports for applications. These applications include billing systems that analyze Call Detail Recording (CDR) records, Site Event Buffers (SEB) that track fault conditions, and various legacy applications such as Property Management System (PMS) Interface and Intercept Computer applications. In addition, serial ports are used to connect system terminals for maintenance, modems for support staff, and printers for system output.

The Terminal Server is configured to automatically log in to the active Call Server at startup. For this reason, each Call Server pair requires only one Terminal Server. Customers can configure up to 16 TTY ports for each Call Server pair.

The Terminal Server can be located anywhere on the ELAN subnet. However, if the Terminal Server is used to provide local connections to a Com port on the Call Server, it must be collocated with the system.

The Terminal Server can also be used as a central point to access and manage several devices through their serial ports.

IMPORTANT!

Currently, the CS 1000E only supports the MRV IR-8020M commercial Terminal Server.

Passwords

Two login passwords are key to the upgrade process:

- 1 PWD1
- 2 Limited Access Password (LAPW)

PWD1

PWD1 is the central login defined at the Call Server. If the system is fully functional (that is, the connection is active) between the Call Server, Signaling Server, MG 1000E Expansions, and Voice Gateway Media Cards, the PWD1 login grants access to all Command Line Interfaces (CLIs) and

Element Manager. If the link is not active, the specific login configured for each component must be used.

LAPW

Limited Access Password (LAPW) login can be configured on the Call Server to provide limited access to specified overlays. LAPWs can be used to log into the Call Server or to Element Manager. For more information, see *System Management* (553-3001-300).

First steps

Contents

This section contains information on the following topics:

Things to know	31
CS 1000 Release 4.5 software compatibility	31
Software requirements	35
Keycodes	36
What to have ready	37
Readiness checklist	38
Data checklist	37
First steps	39

Things to know

CS 1000 Release 4.5 software compatibility

Consult Table 1 for CS 1000 Release 4.5 software compatibility.

Table 1

CS 1000 Release 4.5 CS 1000E compatibility (Part 1 of 5)

Application	CS 1000E
PC Attendant Console	Supported
Meridian Attendant PC software	Supported
M2250 Attendant Console	Supported

Table 1
CS 1000 Release 4.5 CS 1000E compatibility (Part 2 of 5)

Application	CS 1000E
M2016S Secure Set (NA Only)	Supported
M39xx	Supported
Optivity Telephony Manager (OTM)	OTM 2.2
Telephony Manager	TM 3.0 (GA Sept '05)
Element Manager	EM 4.5
CallPilot	2.0, 2.02, SU03, 3.0
HMS 400	Supported
CallPilot Mini	Not supported
Meridian Mail Modular Option EC	Not supported directly
Meridian Mail Enhanced Card Option	Not supported directly
Meridian Mail reporter R2.x	NA
Companion - Manufacture Discontinued new system packages, January 2003	Not supported
Meridian DECT (DMC4/DMC8 version)	Dect Mobility card NOT supported in the IP Media Gateway due to dependencies on E1/BRI interfaces for clocking sync. Can be supported in IP Peer Gateways. Will deliver Wireless capability with i2210.
VoIP – 802.11 Wireless IP Gateway with Symbol	Not supported
IP Phone 2210 / 2211	Supported
IP Phone 2001	Supported
IP Phone 2002	Supported
IP Phone 2004	Supported
Softphone 2050	Supported
Mobile Voice Client 2050	Supported
IP Phone 2033	Supported
IP Phone ACD Set	Supported

Table 1
CS 1000 Release 4.5 CS 1000E compatibility (Part 3 of 5)

Application	CS 1000E
IP Phone 2006	GA date TBD
IP Phone 2007	GA date TBD
Remote Gateway 9150	Not supported
Remote Gateway 9110/9115/ IP Adaptor	Not supported
Meridian Home Office MHO-II	Not supported
Mini Carrier Remote	Not supported
Carrier Remote	Not supported
Fiber I	Not supported
Fiber II	Not supported
RPE (Remote Intelligent Peripheral Equipment)	Not supported
Meridian MAX [any platform]	Not supported
Network Administration Center [NAC]	Not supported
Meridian Customer Controlled Routing [MCCR]	Not supported
Meridian Link [Mlink]	Not supported.
Symposium Link	Not supported
Symposium Desktop TAPI Service Provider for MCA (Meridian Communicator Adapter)	Not supported
Meridian Link & MCCR Co-residency	Not supported
Symposium TAPI Service Provider	3.0
Symposium Agent	2.3
Symposium Agent Greeting	2.0
Nortel Remote Agent Observe	1.0
Meridian Link Services [MLS]	4.2, 5
Symposium Express Call Center [SECC]	4.2
Symposium Call Center Server [SCCS] incl. Symposium Web Client	4.2, 5

Table 1
CS 1000 Release 4.5 CS 1000E compatibility (Part 4 of 5)

Application	CS 1000E
Symposium Web Centre Portal [SWCP]	4.0
CTI.next (Nortel Communications Control Toolkit)	5.0
Periphonics IVR (VPS/is)	5.4.2
Periphonics Integrated Package for Meridian Link (IPML) – VPS/is and MPS 100	2.0.4, 2.0.5
Periphonics Multimedia Processing Server (MPS) 100	1.0
Periphonics Multimedia Processing Server - MPS 500, MPS 1000	2.1
Periphonics Integrated Package for Meridian Link (IPML) – MPS 500, MPS 1000	2.1
Business Communications Manager	3.5, 3.6, 3.7
Integrated Call Assistant (MICA)	1.5
Nortel Integrated Conference Bridge (NNICB)	2.1, 3.0x, 4.0
Integrated Recorded Announcement (MIRAN)	2.0.16 and above
Nortel Integrated Personal Call Director	1.0.3 and above, 2.0)
Integrated Voice Services (MIVS)	1.17
MCS 5100	3, 3.5 when GA
CS 2000	SN06.2, SN07, SN08, SN09
CS 2100	SE06.2, SE07, SE08, SE09

Table 1
CS 1000 Release 4.5 CS 1000E compatibility (Part 5 of 5)

Application	CS 1000E
<p>Note 1: In addition to the systems and application compatibility chart above, information at a card and shelf level can be found in the Compatibility Section of <i>Product Compatibility</i> (553-3001-156).</p> <p>Note 2: It is possible for a Main Office Call Server and MG 1000B to temporarily run different software releases, provided the Main Office is running CS 1000 Release 4.5. This allows customers to add a single additional MG 1000B for CS 1000 Release 4.5 without having to upgrade their entire network of MG 1000Bs.</p> <p>Note 3: Mixed software configuration between a CS 1000 Release 4.5 Main Office and a Release 2.0 MG 1000B must be temporary.</p> <p>Note 4: Mixed software configuration between a CS 1000 Release 4.5 Main Office and a Succession 3.0 MG 1000B can be indefinite.</p> <p>Note 5: In Normal mode, IP users use the feature set of the Main Office. In Local mode, IP users use the feature set of the MG 1000B. Analog or Digital users always use the feature set of the MG 1000B.</p>	

Software requirements

Table 2 lists the minimum software requirements for CS 1000 Release 4.5 software. See “Obtaining software” on [page 277](#) for information on how to obtain the latest versions of CS 1000 Release 4.5 software.

Table 2
Software requirements (Part 1 of 2)

Item	Version
Call Server	4.x
Signaling Server (see note below)	4.x
IP Line application (see note below)	4.x
OTM	2.2
IP Phone firmware (see note below)	Latest released with Rls 4.x
8051XA Controller firmware on Voice Gateway Media Cards	Latest released with Rls 4.x Latest released with Rls 4.x for ITG-P 24-port card (MG 1000T only)
Nortel IP Softphone 2050	Latest released with Rls 4.x

Table 2
Software requirements (Part 2 of 2)

Item	Version
Web browser	Microsoft Internet Explorer v.6.02 Netscape is not supported
Note: The Signaling Server Terminal Proxy Server (TPS), IP Line 4.0 loadware, Gatekeeper, Network Routing Service, MG 1000T, MG 1000E, Element Manager and IP Phone firmware are contained on the Signaling Server CD-ROM.	

Keycodes

During an installation or upgrade, valid keycodes are required. A security keycode protects the installation of software, feature set (packages), License parameters, and the system ID. A security device validates the keycodes.

When upgrading a CS 1000E CP PII system to CS 1000 Release 4.5, the key code resides in a keycode file on a floppy disk. The user is prompted to insert the floppy disk with the key code file.

When upgrading the CS 1000E to CP PIV and CS 1000 Release 4.5, the key code resides in a keycode file on a Compact Flash (CF) card. The user is prompted to insert the CF card with the key code file.

When upgrading the MG 1000T, the user is prompted to enter the keycodes. The installation does not continue unless the correct keycodes are entered.

If the entered keycode does not validate, take one of the following actions:

- Check the keycodes and make sure the correct keycodes have been entered.
- Check the software and make sure that it is the correct version for this site.
- Check the feature set and make sure the correct data has been entered.

- Check the License parameters and make sure the correct data has been entered.
- End the installation and contact your Nortel service team.

The system limits the validation of keycodes to three consecutive attempts. After the third unsuccessful attempt, the Software Installation Program returns to the main menu. Any data entered during the session is lost.

Note: If an invalid keycode is entered, the software and databases on the present system are not affected.

When the keycode validation passes, the software is installed on the system.

What to have ready

This section contains the following topics:

- “Data checklist” on [page 37](#)
- “Readiness checklist” on [page 38](#)

Data checklist

Data network planning is crucial to obtain good voice quality. For important information regarding the data and IP telephony network configuration needs, consult *Converging the Data Network with VoIP* (553-3001-160) and *IP Peer Networking: Installation and Configuration* (553-3001-213).

The following data is required:

- **IP addresses for system components.**
Refer to *Communication Server 1000E: Installation and Configuration* (553-3041-210) for more information.
- **IP addresses for the IP Phones.**
DHCP can be used to distribute IP addresses and network information to the IP Phones. Refer to *IP Line: Description, Installation, and Operation* (553-3001-365) for more detail.

- **Trunk, routing, and network zone data** (numbering plan, standard and IP trunks, Network Routing Service data).
Refer to *IP Peer Networking: Installation and Configuration* (553-3001-213) for more detail.
- **System, telephony and voice data** (customer configuration, virtual loop and TN assignments, feature data).

Readiness checklist

As part of the upgrade process, complete the Upgrade readiness checklist.

Table 3
Upgrade readiness checklist

Action	✓
Make sure that all the software that was ordered has been received.	
Provide a PC or workstation that runs the web browser for Element Manager. The web browser can access the Element Manager web server on either the ELAN subnet or TLAN subnet. Use Microsoft Internet Explorer 6.x or higher. Make sure that the cache settings are enabled to check for new pages every time, and to empty the cache when browser is closed.	
Prepare the network data, such as new IP addresses, as suggested in “Data checklist” on page 37 and in: <ul style="list-style-type: none"> • <i>Converging the Data Network with VoIP</i> (553-3001-160) • <i>IP Peer Networking: Installation and Configuration</i> (553-3001-213) • <i>Communication Server 1000E: Installation and Configuration</i> (553-3041-210) 	
Obtain the correct keycodes for the software.	

First steps

This section summarizes the steps to prepare for and initiate an upgrade of the CS 1000 Release 4.5 software.

Note: Data backup and restore is discussed in “Archive the database” on [page 266](#) and “Restore a database” on [page 269](#) respectively, in case there are difficulties with the upgrade and it is necessary to revert to the old configuration.

To install new hardware in a system expansion, refer to *Communication Server 1000E: Installation and Configuration* (553-3041-210).

As a general rule, follow the order of the chapters.

Procedure 1 **Preparing for upgrade**

- 1 Read the safety instructions.
- 2 Review the “Data checklist” on [page 37](#).
- 3 Complete the “Readiness checklist” on [page 38](#).
- 4 Verify compliance with system and site requirements.
- 5 Verify compliance with network requirements for system expansions (adding MG 1000Es, IP Phones, new sites). Refer to *Converging the Data Network with VoIP* (553-3001-160).
- 6 Connect the RS-232 cable to the DB-9 male connector marked COM 1 on the face plate of the Terminal Server to the Call Server. In the case of a MG 1000E upgrade, connect the three-port SDI cable to DB-9 port to the back of the MG 1000E. Connect the serial cable to connector 0.



WARNING

On the MG 1000E, do not connect a serial port to the AUX connector. It can damage the port.

- 7 Perform a data dump.



WARNING

Both before and after an upgrade, perform a data dump on the Call Server.

- 8 Archive the system on the Call Server and save it to removable media. Refer to Procedure 60 "Archiving the database" on [page 266](#). MG 1000Es do not require this step since a default database is used.

End of Procedure

Upgrading the CP PII Call Servers to CS Release 4.5

Contents

This section contains information on the following topics:

Introduction	41
Prepare for upgrade	41
Prepare for upgrade	41
Perform the upgrade	50

Introduction

Complete the procedures in this section to update the Call Servers.

Have the following items available before proceeding:

- Software Install Kit (see page 50)
- required Dependency list patches for the target system

A capture file should be maintained during all processes.

Prepare for upgrade

This document implements a “source- to-target” approach to performing an upgrade. It is important to correctly identify the source platform, target platform, and maintenance window required to perform the upgrade.

This chapter features check boxes indicating what condition the system should be in at that stage of the upgrade. If the system is not in the proper condition steps should be taken to correct this.

This section is written to maintain Dial Tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 4 below:

Table 4
Prepare for upgrade steps

Procedure Step	Page
Plan upgrade	42
Upgrade Checklists	43
Prepare	43
Connect a terminal	44
Print site data	45
Perform a template audit	48
Back up the database (data dump)	49
Perform the upgrade	50

Plan upgrade

Planning for an upgrade involves the following tasks:

- Conduct a site inspection to determine proper power and grounding.
- Review the site profile to determine proper foot space if adding new columns or modules.
- Identify all applications (CallPilot, SCCS, IP, Meridian Mail, etc.) that are currently installed on the source platform.
- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.
- Prepare a contingency plan for backing out of the upgrade.

**DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

Upgrade Checklists

Upgrade checklists can be found in the “Upgrade checklists” chapter on [page 255](#). Engineers may print this section in order to facilitate the upgrade.

Prepare

**IMPORTANT!**

In a Campus configuration, as both cores may be physically separate, it is important to plan for required attendance at both core sites at some point in the upgrade.

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see Table 1 on [page 31](#)).
- Determine and note current patch or Dep lists installed at the source platform.
- Determine required patch or Dep lists at the target platform for all system-patchable components (Call Server, Voice Gateway Media Cards, Signaling Servers and so on).

- Determine the required patches or DEP lists installed on all applications (CallPilot, Symposium Call Center Server, Meridian Mail, OTM, and so on).
- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.
- Perform an inventory on required software and hardware.
- Secure the source software and key code.
- Secure the target software and key code.
- Verify the new key code using the DKA program.
- Print site data.

Connect a terminal

Procedure 2 Connecting a terminal

A maintenance terminal is required to access the Call Servers during the upgrade procedure.

- 1 Connect a terminal to the COM 1 port on the faceplate of CP PII card of the *inactive* Call Server.
- 2 The settings for the terminal are:
 - a. 9600 Baud
 - b. 7 data
 - c. space parity
 - d. 1 stop bit
 - e. full duplex
 - f. XOFF

End of Procedure

Print site data

Print site data to preserve a record of the system configuration (Table 5 on [page 45](#)). Verify that all information is correct. Make corrections as necessary.

Note: Items marked with an asterisk (*) are required. Other items are recommended for a total system status.

Table 5
Print site data (Part 1 of 3)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>

Table 5
Print site data (Part 2 of 3)

Site data	Print command	
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue, ROM and tape ID	LD 22	
	REQ	ISS
	REQ	ROM
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	
		IDC loop


Table 5
Print site data (Part 3 of 3)

Site data	Print command	
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ TYPE LOOP APPL PH	PRT MISP loop number (0-158) <cr> <cr>
DTI/PRI data block for all customers	LD 73	
	REQ TYPE	PRT DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ TYPE SUPL	CHG SUPL Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop. xxx = 0-252 in multiples of four for MG 1000E xxx = 96-112 in multiples of four for MG 1000T (See Table 29)
Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.

Note: The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.



CAUTION

Loss of Data

Do not abort this overlay until the audit is complete. If the overlay is interrupted, data will be corrupted.

LD 01 The audit begins as soon as LD 01 is entered.

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	CHECKSUM OK
-------------------------------------	------------------------

TEMPLATE 0002 USER COUNT HIGH	CHECKSUM OK
--	------------------------

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	CHECKSUM OK
------------------------------------	------------------------

-
-

**TEMPLATE 0120 USER COUNT OK CHECKSUM
OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

To back up system data, perform a data dump to save all system memory to the hard disk.

Procedure 3 Performing a data dump

- 1 Log into the system.
- 2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

LD 43 Load program

- 3 When "EDD000" appears on the terminal, enter:

EDD Begin the data dump



CAUTION

Loss of Data

If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

- 4 The messages "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" will appear once the data dump is complete.

******** Exit program

- 5 Remove and label the floppy disk.



IMPORTANT!

Database backup information should be preserved for a minimum of 5 days.

End of Procedure

Perform the upgrade

Review upgrade requirements

This section describes the *minimum* software required for CS 1000 Release 4.5. Verify that *all* software has been received.

Before the upgrade, check that items on the order form are also on the packing slip. Check that all items been received. If any items are missing, contact your supplier for replacements before you begin the upgrade.



WARNING

Service Interruption

DO NOT proceed with the upgrade if any of the required items are missing. All items must be received to complete the upgrade.

Software Install Kit

The Software Install Kit is a generic set of software and utility programs that are specific to a single release and issue of software. Obtain a new kit when upgrading to a new release or issue of software.

Table 6 lists the contents of the Software Install Kit.

Table 6
Contents of the Software Install Kit

Item	Quantity	Description
Software CD-ROM	1	Each CD contains all nine generics for a given release and issue of software.
Install Program diskettes (1.44-Mbyte media)	3	Used to launch the Install Program and to download software from the CD-ROM. Each 1.44-Mbyte diskette supports one processor type (68060, 68060E, or CP PII).
Distributor Keycode Application diskette (1.44-Mbyte media)	1	A Windows 95 utility that supports download of keycodes from a keycode server.
Database diskettes (blank, 1.44-Mbyte media)	2	Blank 1.44-Mbyte diskettes that can be used to archive the customer database.
Keycode diskette (blank, 1.44-Mbyte media)	1	A blank 1.44-Mbyte diskette that can be used to store a back-up copy of the keycode file.

Splitting the Call Servers

Procedure 4

Checking that Call Server 0 is active

To upgrade Call Server 1, verify that Call Server 0 is the active side performing call processing:

- 1 Verify that Call Server 0 is active.

LD 135 Load program

STAT CPU Get the status of the CPUs

- 2 If Core 1 is active, make Core 0 active:

SCPU Switch to Call Server 0 (if necessary)

******** Exit program

End of Procedure

Procedure 5 **Splitting the Call Servers**

- 1** In Call Server 0, enter the SPLIT command from LD 135.

LD 135	Load program
SPLIT	Split the Call Servers
****	Exit program



The system is now in split mode, with call processing on Call Server 0.

Upgrading to CS 1000 Release 4.5

Upgrading the software

Procedure 6 outlines the steps involved in upgrading to CS 1000 Release 4.5.

Procedure 6 **Upgrading the software**

- 1** Check that a terminal is connected to COM 1 port in CP 1. The settings for the terminal are:
 - a.** 9600 Baud
 - b.** 7 data
 - c.** space parity
 - d.** 1 stop bit
 - e.** full duplex
 - f.** XOFF
- 2** Insert the CD-ROM into the CD-ROM drive in the Disk Carrier:
 - a.** Press the button on the CD-ROM drive to open the CD-ROM disk holder.
 - b.** Place the CD-ROM disk into the holder with the disk label showing.

- c. Press the button again to close the CD-ROM disk holder. Do not push the holder in by hand.

Note: The CD-ROM must be in the CD-ROM drive for the installation to continue.

- 3 Place the CP PII Install floppy disk into the floppy drive on the Disk Carrier.

- 4** Press the manual RESET button on the CP PII card faceplate.

Note: If a problem is detected during the system verification, Install stops, prints an error message, and aborts the installation. If the verification is not successful, do not continue; contact your technical support organization. The system then enters the Main Menu for keycode authorization

- 5 The software installation process begins. The Nortel logo appears after a successful boot from the install disk. Press <CR> to continue with software installation.

[illegible]

- 6 Disable all TNs configured on PE/EPE shelves. This message does not apply to the CS 1000E platform and is generic to the install utility.

WARNING:

This software does not support TNs configured on PE/EPE shelves. Upgrading to this software release will permanently disable all TNs configured on PE/EPE and will not allow new TNs to be configured.

Proceed with the upgrade? (Y/N) y

- 7 Validate hard disk partitions.

Obtaining and checking system configuration ...
Validate hard disk partitions
Physical checking of hard disk will take a while. Please wait.

Testing partition 0

Number of blocks to test = 626472

0 percent done

0 percent done

1 percent done

...

98 percent done

99 percent done

99 percent done

100 percent completed!

Testing partition 1

Number of blocks to test = 626472

0 percent done

0 percent done

1 percent done

...
98 percent done 99 percent done 99 percent done 100 percent completed!
Testing partition 2 Number of blocks to test = 626472 0 percent done 0 percent done 1 percent done
...
98 percent done 99 percent done 99 percent done 100 percent completed!
Disk physical checking is completed!

8 Validate hard drive partition number and size.

Validate hard drive partition number and size ... There are 3 partitions in disk 0: The size of partition 0 of disk 0 is 305 Mb. The size of partition 1 of disk 0 is 305 Mb. The size of partition 2 of disk 0 is 305 Mb. Disk partitions and sectors checking is completed! >Copying "/f0/disk3221.sys" to "/u/disk3221.sys" - >Copying "/f0/disk3321.sys" to "/u/disk3321.sys" - >System date and time is: Friday 04-07-2004, 16:12:49

- 9 Indicate if a Signaling Server is being used.

Communication Server 1000 Software/Database/ BOOTROM CDROM Install Tool =====
Does this system have a Signaling Server.....? (Default - No) Please enter: CR> -> <n> - No <y> - Yes Enter choice> y

- 10 Proceed to Install Menu.

Communication Server 1000 Software/Database/BOOTROM CDROM Install Tool =====
MAIN MENU
The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time. Please enter: CR> -> <u> - To Install Menu. <t> - To Tools Menu. <q> - Quit. Enter choice>u

11 Insert the Keycode diskette.

<p style="text-align: center;">Communication Server 1000 Software/Database/ BOOTROM CDROM Install Tool</p> <p style="text-align: center;">=====</p>
<p>Please insert the diskette with the keycode file into the floppy drive.</p> <p>Please enter:</p> <p>CR> -> <a> - Continue with the keycode validation.</p> <p style="padding-left: 40px;">(The keycode diskette is in the floppy drive on Core 0.)</p> <p style="padding-left: 40px;"><q> - Quit.</p> <p style="padding-left: 40px;">Enter choice> a</p> <p style="padding-left: 40px;">>Validating keycode ...</p> <p style="padding-left: 40px;">Copying "/f0/keycode.kcd" to "/u/keycode" -</p> <p>>The provided keycode authorizes the install of xxxx software (all subissues) for machine type xxxx (CP PII processor on CS 1000E System).</p>

12 Confirm the Keycode matches the software release on the CD-ROM.

<p style="text-align: center;">Communication Server 1000 Software/Database/ BOOTROM CDROM Install Tool</p> <p style="text-align: center;">=====</p>
<p>Please confirm that this keycode matches the CDROM release.</p> <p>Please enter:</p> <p>CR> -> <y> - Yes, the keycode matches. Go on to Install Menu.</p> <p style="padding-left: 40px;"><n> - No, the keycode does not match. Try another keycode diskette.</p> <p style="padding-left: 40px;">Enter choice> y</p> <p style="padding-left: 40px;">Obtaining database file names ...</p>

- 13** Continue with software installation.
Option <a> will convert the database from the hard drive.
Option will convert the database from floppy.
Both databases should be the same from the previous EDD. Select option <a> if you do not wish to transfer the database from the floppy disk.

Communication Server 1000 Software/Database/ BOOTROM CDROM Install Tool =====
INSTALL MENU
The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time. Please enter:
CR> -> <a> - To install Software, CP-BOOTROM. - To install Software, Database, CP- BOOTROM. <c> - To install Database only. <d> - To install CP-BOOTROM only. <t> - To go to the Tools Menu. <k> - To install Keycode only. For Feature Expansion, use OVL143. <p> - To install 3900 Set Languages. <q> - Quit. Enter choice> a

- 14** Insert the software CD into the CD-ROM drive if not already inserted from step 2.

<p style="text-align: center;">Communication Server 1000 Software/Database/ BOOTROM CDROM Install Tool</p> <p style="text-align: center;">=====</p>
<p>Please insert the Software CDROM into the drive on Core 0.</p> <p>The labeled side of the CDROM should be side up in the CDROM tray.</p> <p>Please enter:</p> <p>CR> -> <a> - CDROM is now in drive. Continue with s/w checking. <q> - Quit.</p> <p>Enter choice> a</p>

- 15** Check the software version.

<p style="text-align: center;">Communication Server 1000 Software/Database/ BOOTROM CDROM Install Tool</p> <p style="text-align: center;">=====</p>
<p>The Software CDROM contains version xxxx.</p> <p>Please enter:</p> <p>CR> -> <y> - Yes, this is the correct version. Continue. <n> - No, this is not the correct version. Try another CDROM or keycode disk.</p> <p>Enter choice> y</p> <p>>Copying "/cd0/0370_GMR.N33/target/p/sl1/direct.rec" to "/u/direct.rec" - >Updating "/u/direct.rec"</p>

16 Choosing Yes for the Dependency Lists installation.

Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists installation
 <n> - No, Continue without Dependency Lists installation

Enter choice>

The default choice is YES as shown in the prompt.

If the choice is no, then the following prompt will appear for
the confirmation:

Are you sure?

Please enter:

<CR> -> <n> - No, Go to the Dependency List menu
 <y> - Yes, Go to the next menu

Enter choice>

The default choice is NO which will return the user to
deplst menu.

The Installation Status Summary for the choices entered
is displayed as shown below:

INSTALLATION STATUS SUMMARY

Option Choice Status Comment
SW: CD to disk yes install for rel 400
Dependency Lists yes
Database no
CP-BOOTROM yes

Please enter:

<CR> -> <y> - Yes, start installation.

<n> - No, stop installation. Return to the Main Menu.

The installation continues with the removal of the patch, reten and deplist directories and copying the files from the CD to the hard disk.

>Erasing old file "/u/patch/p12749_1.cpp"

>Erasing old file "/u/patch/reten/reten.pch"

>Erasing old file "/u/patch/deplist/m16000_3.cpp"

>Copying "/cd0/0400_UMR.N33/target/u/patch/p12749_1.cpp" to "/u/patch/p12749_1.cpp"

>Copying "/cd0/0400_UMR.N33/target/u/patch/deplist/m16000_3.cpp" to "/u/patch/deplist/m16000_3.cpp"

The removal of patch, reten and deplist directories will happen only when it is a software upgrade or a new system installation regardless of the DepList installation menu selection.

The installation status summary after the installation will be as follows:

INSTALLATION STATUS SUMMARY

Option	Choice	Status	Comment
SW:CD to disk	yes	ok	install rel xxxx
Dependency Lists	yes	ok	core Version 1 Terminals Version 2
Database	no		
CP-BOOTROM	yes	ok	

Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. This can be seen by issuing ISSP command in LD 22. If there are NO DepLists available on the installation CD the summary should appear as shown below:

INSTALLATION STATUS SUMMARY

Option	Choice	Status	Comment
SW: CD to disk	yes	ok	from xxxx to xxxx
Dependency Lists	yes	ok	None Available
SW: disk to ROM	yes	ok	from xxxxx to xxxxx
Database	no		
CP-BOOTROM	yes	ok	from xxxxx to xxxxx
IOP-ROM	yes	ok	from xxxx to 02.00

17 Enable Centralized Software Upgrade.

Note: Dependent on user preference for managing MG 1000Es, Centralized Software Upgrade does not have to be enabled at this time. It can be enabled from Overlay 143 when desired.

Communication Server 1000 Software/Database/ BOOTROM CDROM Install Tool =====
Enable Automatic Centralized Software Upgrade (CSU) Feature ? (Default - YES) Please enter: CR> -> <y> - Yes <n> - No Enter choice> y
Communication Server 1000 Software/Database/ BOOTROM CDROM Install Tool =====
Set Automatic Centralized Software Upgrade Mode to: Please enter: CR> -> <1> - Sequential <2> - Simultaneous Enter choice> 1 Processing the install control file ... Installing release 4.x

- 19** Enter <CR> to accept installation choices and install software.

<p>Please enter:</p> <p>CR> -> <y> - Yes, start installation. <n> - No, stop installation. Return to the Main Menu.</p> <p>Enter choice> y</p> <p>>Checking system configuration</p>
<p>You selected to install Software release: 4.x on the new system.</p> <p>This will create all necessary directories and pre-allocate files on the hard disk.</p> <p>You may continue with software install or quit now and leave your software unchanged.</p>
<p>Please enter:</p> <p>CR> -> <a> - Continue with new system install. <q> - Quit.</p> <p>Enter choice> a</p>
<p>>Starting software install ... >Installing Release 04x >Initializing partition ... "/p" initialized. >Creating directory "/p/sl1" >Creating directory "/p/sl1/loadware" >Creating directory "/p/sl1/language" >Creating directory "/p/hidir" >Creating directory "/p/install"</p>

Note: The software will continue to create directories and then copy the appropriate files to them.

- >Copying "/u/direct.rec" to "/p/sl1/direct.rec" -
- >Copying "/u/keycode" to "/p/install/keycode.rec" -
- >Fixing packaged files ...
- >Copying "/p/hidir/hsp368.db" to "/p/hidir/hsp.db" -
- >Copying "/p/hidir/sutl368.db" to "/p/hidir/sutl.db" -
- >Copying "/p/hidir/hi368.db" to "/p/hidir/hi.db" -
- >Copying "/p/hidir/cnib402.db" to "/p/hidir/cnib.db" -
- >Copying "/p/hidir/cp368.db" to "/p/hidir/cp.db" -
- >Copying "/p/hidir/ipb368.db" to "/p/hidir/ipb.db" -

20 Select Language PSDL choice.

<p>*****</p> <p>PSDL INSTALLATION MENU</p> <p>The PSDL contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.</p> <p>*****</p>
<p>Select one of the six PSDL files:</p> <ol style="list-style-type: none"> 1. Global 10 Languages 2. Western Europe 10 Languages 3. Eastern Europe 10 Languages 4. North America 6 Languages 5. Spare Group A 6. Spare Group B 7. Packaged Languages <p>[Q]uit, <CR> - default</p> <p>By default option 1 will be selected.</p> <p>Enter your choice ->1</p>
<p>>Copying new PSDL ...</p> <p>>Copying loadware files ...</p> <p>>Copying language files ...</p> <p>>Copying FIJI files ...</p> <p>>Detected change in system type (Pkg 298/299)</p> <p>>Detected change in machine type from 0 to 33</p> <p>>Deleting files in directory "/u/db/hi/"</p> <p>>Installed BOOTROM "/p/load/main_bt"</p>

21 Press <CR> to confirm software installation choices

Communication Server 1000 Software/Database/
BOOTROM CDROM Install Tool

=====

Software release x.x was installed successfully on Core 0.
All files were copied from CDROM to the hard disk.
Please press <CR> when ready ...

INSTALLATION STATUS SUMMARY

Option	Choice	Status	Comment
SW: CD to disk	yes	ok	
Dependency Lists	yes		
AUTO-CSU Feature	SEQ		SEQ-CSU Enabled
IPMG Software:	yes	ok	install for rel 0400
Database	no		
CP-BOOTROM	yes	ok	

Please press <CR> when ready ...

22 Return to the Main Menu.

Communication Server 1000 Software/Database/ BOOTROM CDROM Install Tool =====
TOOLS MENU
<p>This is the Tools Menu for Install. You can select the tool that is appropriate. Please select one of the options below.</p> <p>Please enter:</p> <p><CR> -> <a> - To set the system date and time. - To partition the hard disk. <c> - To display the partition size of hard disk. <d> - To regenerate PDT Password. <g> - To print CDROM content. <h> - To print Keycode content.</p> <p><i> - To print Security Device content. <j> - To Check the customer specific part of CDROM.</p> <p><k> - To manually create Keycode floppy diskette. <r> - To install Keycode only. <s> - To archive existing database. <m> - To return to the Main Menu.</p> <p>Enter choice> m</p>

23 Enter <q> to Quit.

Communication Server 1000 Software/Database/ BOOTROM CDROM Install Tool =====
MAIN MENU
<p>The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM.</p> <p>You will be prompted throughout the installation and given the opportunity to quit at any time.</p> <p>Please enter:</p> <p>CR> -> <u> - To Install Menu. <t> - To Tools Menu. <q> - Quit.</p> <p>Enter choice>q</p>

24 Confirm you wish to Quit.

Communication Server 1000 Software/Database/ BOOTROM CDROM Install Tool =====
<p>You selected to quit. Please confirm.</p> <p>Please enter:</p> <p><CR> -> <y> - Yes, quit. <n> - No, DON'T quit.</p> <p>Enter choice> y</p>

25 Press <CR> to Reboot the system.

	<p>WARNING</p> <p>DO NOT REBOOT USING RESET BUTTON!!!</p>
---	--

- 26** After the system has rebooted and initialized, log in to Call Server 1.
- 27** Enter LD 22 and issue the ISSP and SLT commands to ensure the software conversion was successful.

LD 22

REQ PRT

TYPE PSWV

ISSP Print System, DepList, and Patch information

SLT Print System Limit

******** Exit program

End of Procedure

Verify the upgraded database

Procedure 7

Verifying the upgraded database

- 1** Print ISSP (system software issue and patches)

LD 22 Load program

REQ ISSP

******** Exit program

- 2** Print the system configuration record in LD 22 and compare the output with the pre-upgraded configuration record.

LD 22 Load program

REQ PRT

TYPE CFN

******** Exit program

- 3 Print the SLT in LD 22. This output provides used and unused ISM parameters. Compare with pre-upgrade SLT output.

LD 22 Load program

REQ SLT

******** Exit program

- 4 Print the customer data block(s) in LD 21.

LD 21 Load program

REQ PRT

TYPE CDB

CUST xx

******** Exit program

Reconfigure I/O ports and call registers

Procedure 8

Reconfiguring I/O ports and call registers

- 1 Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 4500 and 1000 respectively). If changes are required, reconfigure the values in LD 17:

LD 17 Load program

CHG

CFN

PARM YES

500B 1000 Use 1000 as a minimum value

NCR 20000 Use 20000 as a minimum value

******** Exit program

- 2 Print the Configuration Record to confirm the changes made above:

LD 22	Load program
REQ PRT	Set the print Option
TYPE CFN	Print the configuration
****	Exit program

End of Procedure



At this point, all applications must be shut down (CallPilot, Symposium, and so on).

Switch call processing to Call Server 1

Procedure 9

Switching call processing

- 1 Enter LD 135 on Call Server 0 and issue the CUTOVR command. Call processing switches to Call Server 1 and service is interrupted.

LD 135

CUTOVR	Transfer call processing from active Call Server to standby Call Server
****	Exit program

- 2 After Call Server 1 initializes. log in to Call Server 1 and verify that the cutover was successful and that all hardware is operational. Perform acceptance testing as required.

End of Procedure

Making the system redundant

Procedure 10

Making the system redundant

LD 135	Load program
JOIN	Join the 2 CPUs together to become redundant

End of Procedure



Call Server 1 is now the active CP.

Upgrading the software on Call Server 0

To upgrade the software on Call Server 0, complete Procedure 6 on [page 53](#) (assume all references to Call Server 1 are now Call Server 0). Upon completion of the upgrade to Call Server 1, complete Procedure 7 on [page 73](#), Procedure 8 on [page 74](#), and Procedure 9 on [page 75](#) (again, assuming all references to Call Server 1 are now Call Server 0).

Complete the upgrade

Testing the Call Servers

Procedure 11

Testing Call Server 0

At this point in the upgrade, the inactive Call Server is tested from the active Call Server. Upon successful completion of these tests, call processing is switched and the same tests are performed again.

From the active Call Server , perform the following tests on the inactive Call Server:

- 1 Perform a redundancy sanity test:

LD 135

STAT CPU Get status of CPU and memory

TEST CPU Test the CPU

- 2 Check the LCD states

- a. Perform a visual check of the LCDs.

- b. Test and LCDs:

LD 135**DSPL ALL**

- c. Check that the LCD display matches the software check.

- 3 Test the System Utility card

LD 135 Load program

STAT SUTL Get the status of the System Utility card

TEST SUTL Test the System Utility card

- 4 Test system redundancy and media devices:

LD 137 Load program

TEST RDUN Test redundancy

- 5 Clear the display and minor alarms on both Call Servers:

LD 135 Load program

CDSP Clear the displays on the cores

CMAJ Clear major alarms

CMIN ALL Clear minor alarms

- 6 Check dial tone.
- 7 Check applications (CallPilot, Symposium, Meridian Mail, etc.)

End of Procedure

Switch call processing

Procedure 12

Switching call processing

- | | |
|---------------|---|
| LD 135 | Load program |
| SCPU | Switch call processing from Call Server
x to Call Server x |

End of Procedure

Procedure 13

Testing the Call Server

From the active Call Server , perform these tests on the inactive Call Server:

- 1 Perform a redundancy sanity test:

LD 135	Load program
STAT CPU	Get status of CPU and memory
TEST CPU	Test the CPU

- 2 Check the LCD states.
 - a. Perform a visual check of the LCDs.
 - b. Test LCDs:

LD 135	Load program
DSPL ALL	

 - c. Check that the LCD display matches the software check.

3 Test the System Utility card:

LD 135	Load program
STAT SUTL	Get the status of the System Utility card
TEST SUTL	Test the System Utility card

4 Test system redundancy and media devices:

LD 137	Load program
TEST RDUN	Test redundancy
****	Exit the program

5 Clear the display and minor alarms on both Call Servers:

LD 135	Load program
CDSP	Clear the displays on the Call Servers
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms

6 Check dial tone.**7** Check applications (CallPilot, Symposium, Meridian Mail, etc.)

End of Procedure

Switch call processing**Procedure 14****Switching call processing**

LD 135	Load program
SCPU	Switch call processing from the active Call Server the inactive Call Server

End of Procedure

Perform a customer backup data dump (upgraded release)

Procedure 15

Performing a data dump to backup the customer database:

- 1 Log in to the system.
- 2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

LD 43 Load the program

- 3 When "EDD000" appears on the terminal, enter:

EDD Begin the data dump



CAUTION — Service Interruption

Loss of Data

If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

The messages "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" appear when the data dump is complete.

- 4 Issue the DAT command to ensure all database backups are current.
- 5 Exit the program.

******** Exit the program



The upgrade is now complete.

Upgrading to CP PIV

Contents

This section contains information on the following topics:

Introduction	81
Preparing for upgrade	81
Performing the upgrade	109
Completing the upgrade	175

Introduction

This chapter provides instructions for upgrading a CS 1000E CP PII source platform to a CS 1000E CP PIV target platform.

Preparing for upgrade

This document implements a “source- to-target” approach to performing an upgrade. It is important to correctly identify the source platform, target platform, and maintenance window required to perform the upgrade.



IMPORTANT!

This upgrade requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

This chapter features check boxes indicating what condition the system should be in at that stage of the upgrade. If the system is not in the proper condition steps should be taken to correct this.

This section is written to maintain Dial Tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 7 below:

Table 7
Prepare for upgrade steps

Procedure Step	Page
Plan upgrade	82
Upgrade Checklists	83
Prepare	83
Connect a terminal	84
Print site data	85
Perform a template audit	88
Back up the database (data dump)	89
Transferring the database from floppy disk to CF card (customer database media converter tool)	91
Making the RMD bootable	105

Plan upgrade

Planning for an upgrade involves the following tasks:

- Conduct a site inspection to determine proper power and grounding.
- Review the site profile to determine proper foot space if adding new columns or modules.
- Identify all applications (CallPilot, SCCS, IP, Meridian Mail, etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.
- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.
- Download a copy of the CP PIV customer database media converter tool. This tool is used to transfer the customer database from floppy disk to CF card.
- Prepare a contingency plan for backing out of the upgrade.

**DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

Upgrade Checklists

Upgrade checklists can be found in the “Upgrade checklists” chapter on [page 255](#). Engineers may print this section in order to facilitate the upgrade.

Prepare

**IMPORTANT!**

In a Campus configuration, as both cores may be physically separate, it is important to plan for required attendance at both core sites at some point in the upgrade.

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see Table 1 on [page 31](#)).

- Determine and note current patch or Dep lists installed at the source platform.
- Determine required patch or Dep lists at the target platform for all system-patchable components (Call Server, Voice Gateway Media Cards, Signaling Servers and so on).
- Determine the required patches or DEP lists installed on all applications (CallPilot, Symposium Call Center Server, Meridian Mail, OTM, and so on).
- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.
- Perform an inventory on required software and hardware.
- Secure the source software and key code.
- Secure the target software and key code.
- Verify the new key code using the DKA program.
- Print site data.

Connect a terminal

Procedure 16 **Connecting a terminal**

A maintenance terminal is required to access the Call Servers during the upgrade procedure.

- 1** Connect a terminal to the COM 1 port on the faceplate of CP PII card of the *inactive* Call Server.
- 2** The settings for the terminal are:
 - a.** 9600 Baud
 - b.** 7 data

- c. space parity
- d. 1 stop bit
- e. full duplex
- f. XOFF

End of Procedure

Print site data

Print site data to preserve a record of the system configuration (Table 8 on [page 85](#)). Verify that all information is correct. Make corrections as necessary.

Note: Items marked with an asterisk (*) are required. Other items are recommended for a total system status.

Table 8
Print site data (Part 1 of 4)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>

Table 8
Print site data (Part 2 of 4)

Site data	Print command	
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue, ROM and tape ID	LD 22	
	REQ	ISS
	REQ	ROM
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV

Table 8
Print site data (Part 3 of 4)

Site data	Print command	
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)


Table 8
Print site data (Part 4 of 4)

Site data	Print command
Superloops and XPEs	LD 97
	REQ
	TYPE
	SUPL
	CHG
	SUPL
	Vxxx
	V stands for a virtual superloop and xxx is the number of the virtual superloop.
	xxx = 0-252 in multiples of four for MG 1000E
	xxx = 96-112 in multiples of four for MG 1000T (See Table 29)
Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.	

Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.

Note: The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.



CAUTION

Loss of Data

Do not abort this overlay until the audit is complete. If the overlay is interrupted, data will be corrupted.

LD 01 The audit begins as soon as LD 01 is entered.

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

**TEMPLATE 0001 USER COUNT LOW CHECKSUM
OK**

**TEMPLATE 0002 USER COUNT CHECKSUM
HIGH OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

**TEMPLATE 0001 USER COUNT OK CHECKSUM
OK**

•

•

**TEMPLATE 0120 USER COUNT OK CHECKSUM
OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

To back up system data, perform a data dump to save all system memory to the hard disk.

Procedure 17 Performing a data dump

- 1** Log into the system.
- 2** Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

LD 43 Load program

- 3 When “EDD000” appears on the terminal, enter:

EDD Begin the data dump



CAUTION

Loss of Data

If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

- 4 The messages “DATADUMP COMPLETE” and “DATABASE BACKUP COMPLETE” will appear once the data dump is complete.

**** Exit program

- 5 Remove and label the floppy disk.



IMPORTANT!

Database backup information should be preserved for a minimum of 5 days.

End of Procedure

Transferring the database to CF card

There are two ways to transfer a customer database from floppy disk to CF card. To transfer using the customer database media converter tool, see Procedure 18 on [page 91](#). To transfer using Windows explorer, see Procedure 19 on [page 97](#).

Transferring the database from floppy disk to CF card (customer database media converter tool)

The floppy disk that contains the backed up customer database needs to be transferred to a Compact Flash (CF) card. Nortel recommends using the extra CF card included with the Software Install Kit.



IMPORTANT!

This upgrade requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

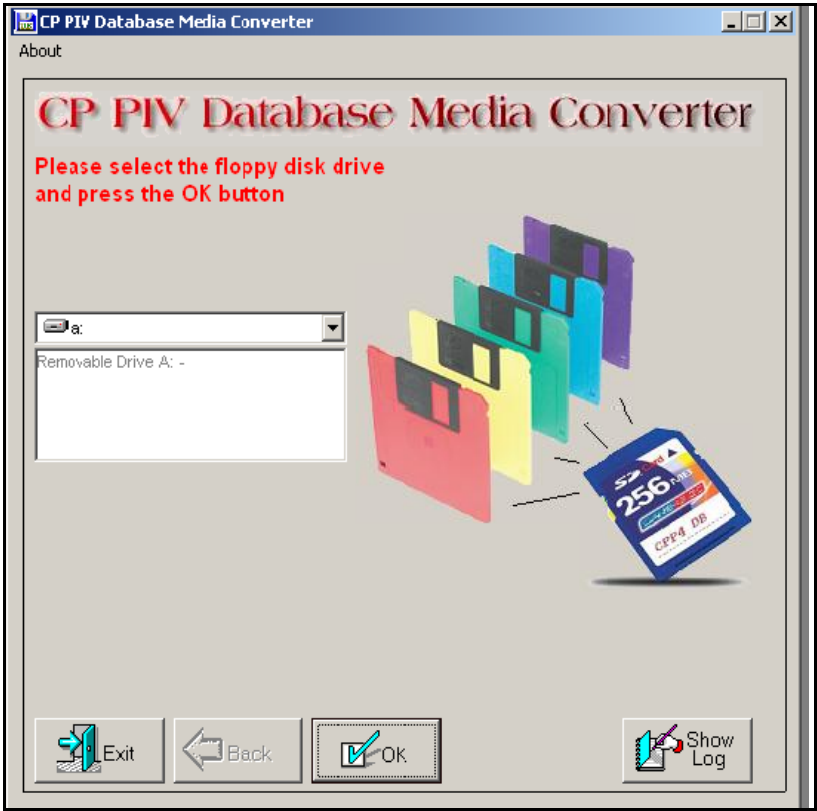
Procedure 18

Transferring the customer database from floppy disk to CF

Note: This procedure requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

- 1 Insert the floppy disk containing the backed up customer database from Procedure 17 on [page 89](#).
- 2 Insert a CF card (there is one blank one included in the Software Install Kit) into the CF reader or PCMCIA CF adaptor.
- 3 Start the customer database media converter tool. The first screen (Figure 3 on [page 92](#)) prompts you to select the correct drive letter for the floppy disk drive.

Figure 3
Select the floppy disk drive



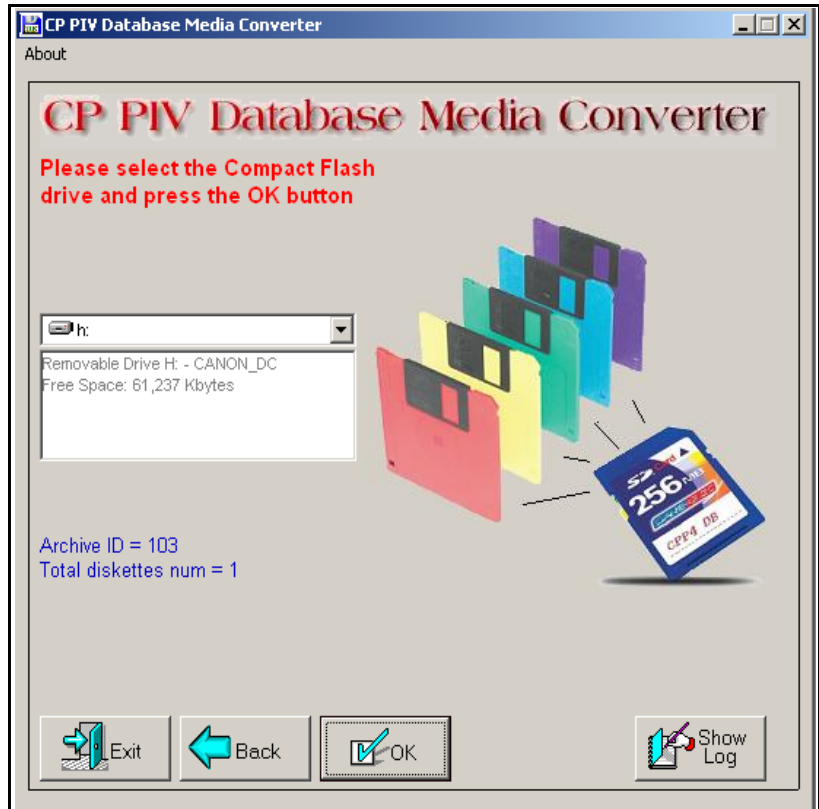
- 4 The utility then prompts you to insert the the floppy disk (diskette 1) and click OK (see Figure 4 on [page 93](#)).

Figure 4
Insert diskette 1



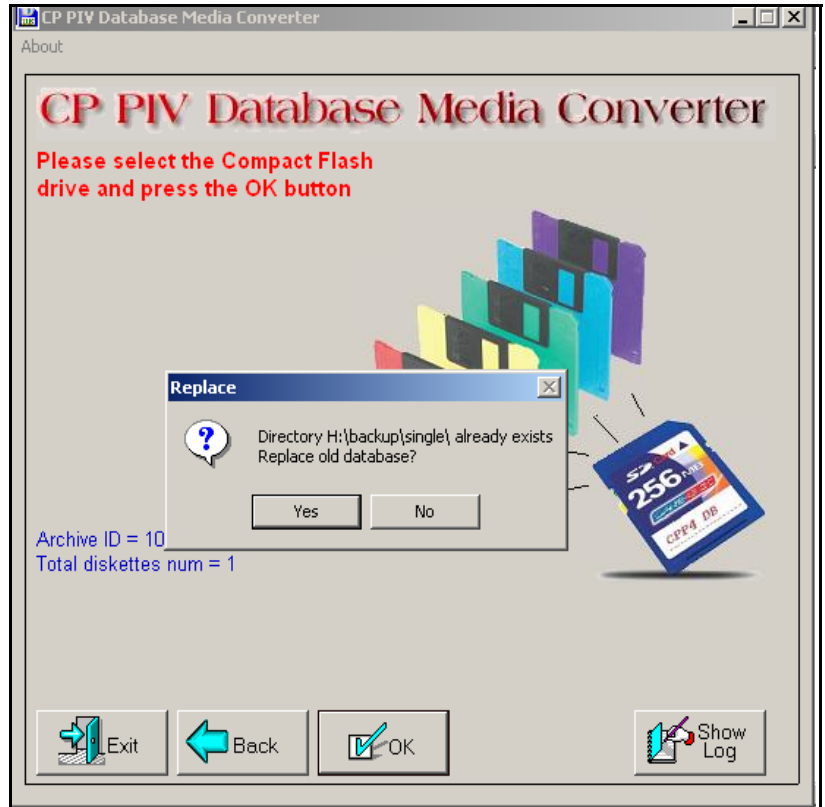
- 5 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 5 on [page 94](#)).

Figure 5
Select the CF drive



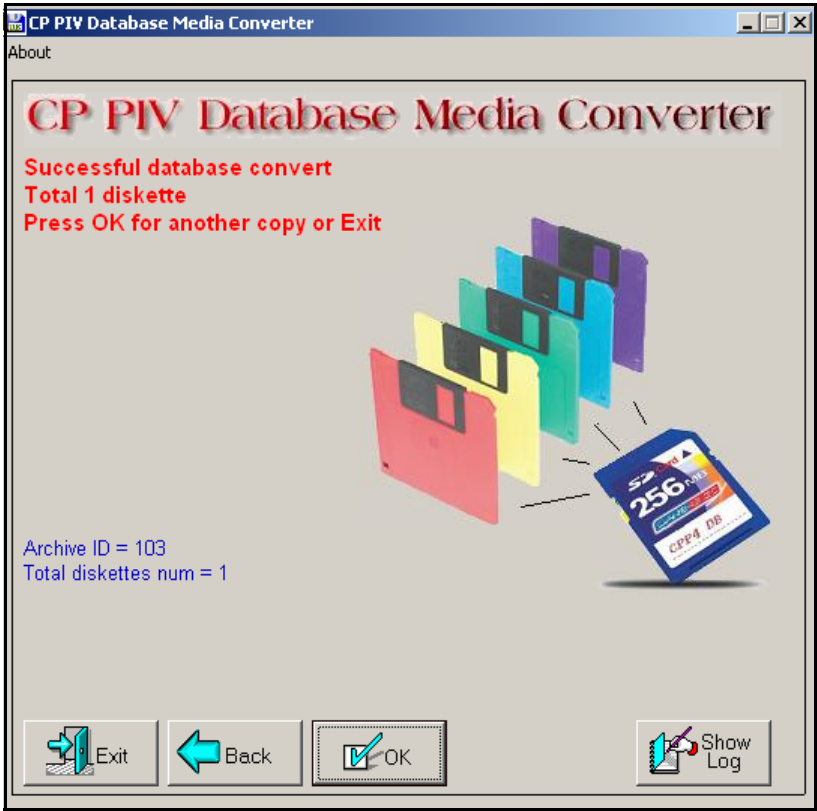
- 6** At this point, 2 options are available:
- a.** If the CF card already contains a previously backed-up database, a dialog box appears (see Figure 6 on [page 95](#)). Click yes to replace old database.
 - b.** If the CF card is blank, the database is backed up to the CF card.

Figure 6
Replace database on CF drive



- 7 The utility completes the transfer to CF and prompts you to copy another or EXIT (see Figure 6 on [page 95](#)).

Figure 7
Copy another or exit



————— **End of Procedure** —————

Transferring the database from floppy disk to CF (Windows explorer)

The floppy disk that contains the backed up customer database needs to be transferred to a **Compact Flash (CF)** card. Nortel recommends using the extra CF card included with the Software Install Kit.



IMPORTANT!

This upgrade requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

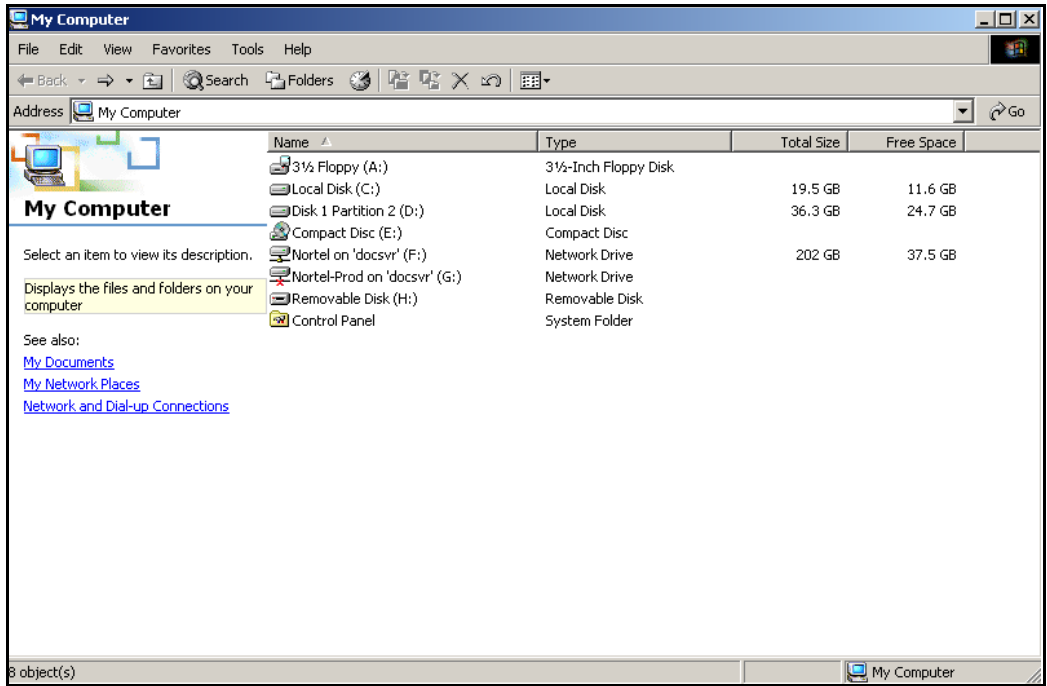
Procedure 19

Transferring the customer database from floppy disk to CF (Windows explorer)

Note: This procedure requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

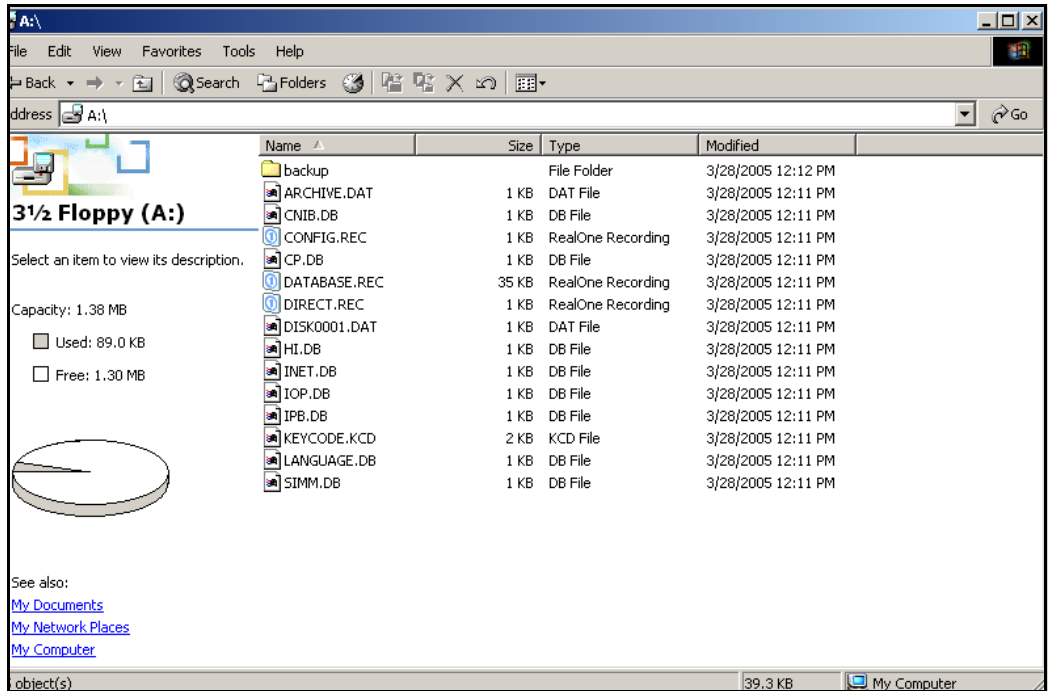
- 1 Insert the floppy disk containing the backed up customer database from Procedure 17 on [page 89](#).
- 2 Insert a CF card (there is one blank disk included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
- 3 Double click on the My Computer icon on your Windows desktop. A list of all drives on your PC appears. See Figure 8 on [page 98](#).

Figure 8
My Computer



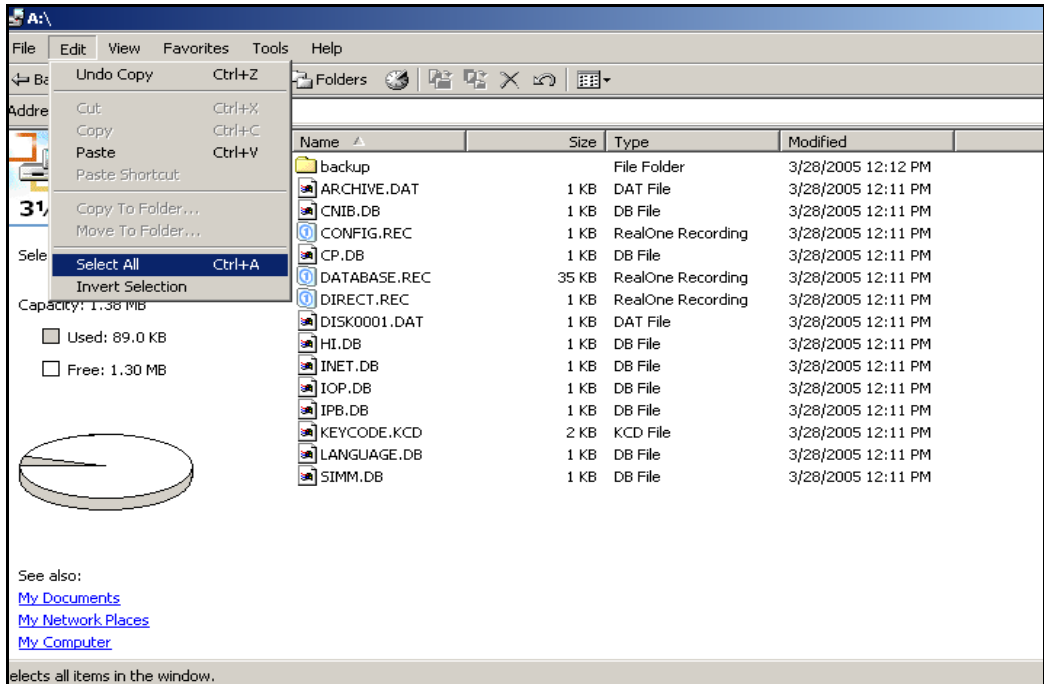
- 4 Double click on the 3 1/2 Floppy icon to list the contents of the floppy disk. See Figure 9.

Figure 9
Floppy Disk contents



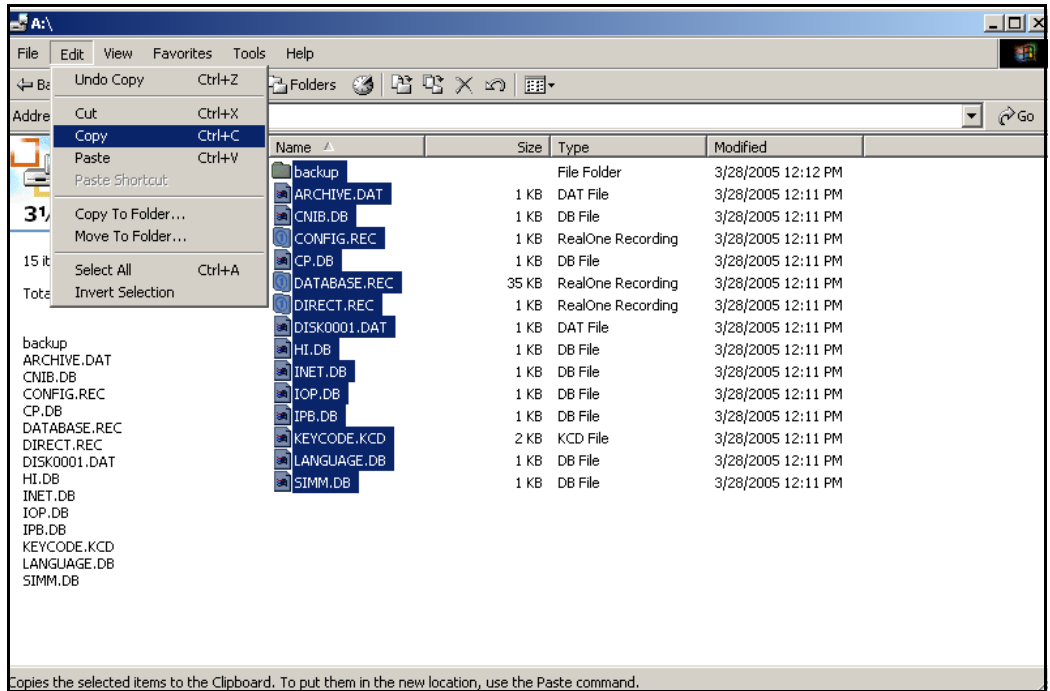
5 Choose **Edit, Select All** See Figure 10 on [page 100](#).

Figure 10
Edit, Select All



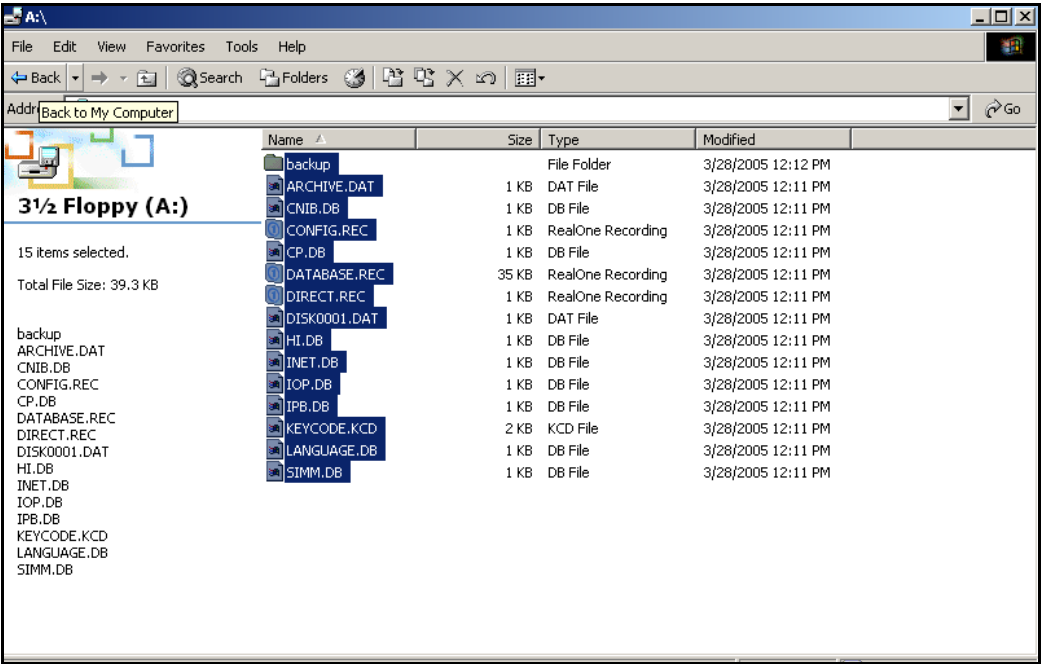
6 Choose **Edit, Copy** See Figure 11.

Figure 11
Edit, Copy



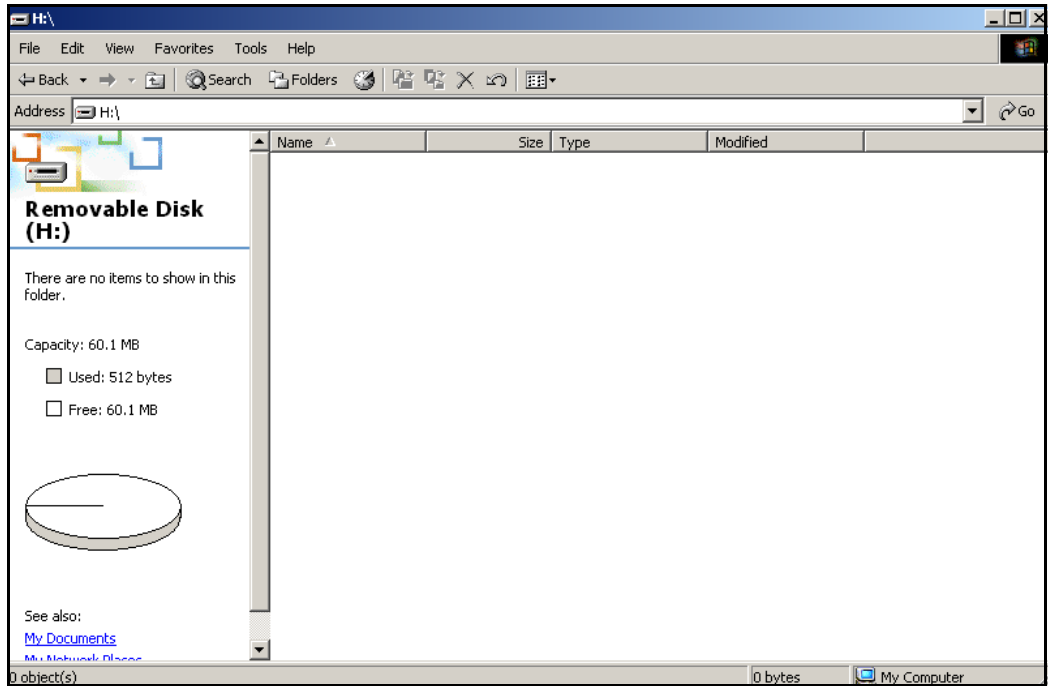
- 7 Click on the Back button in the upper left hand corner (see Figure 12 on [page 102](#)). This returns you to your original My Computer window.

Figure 12
Back button



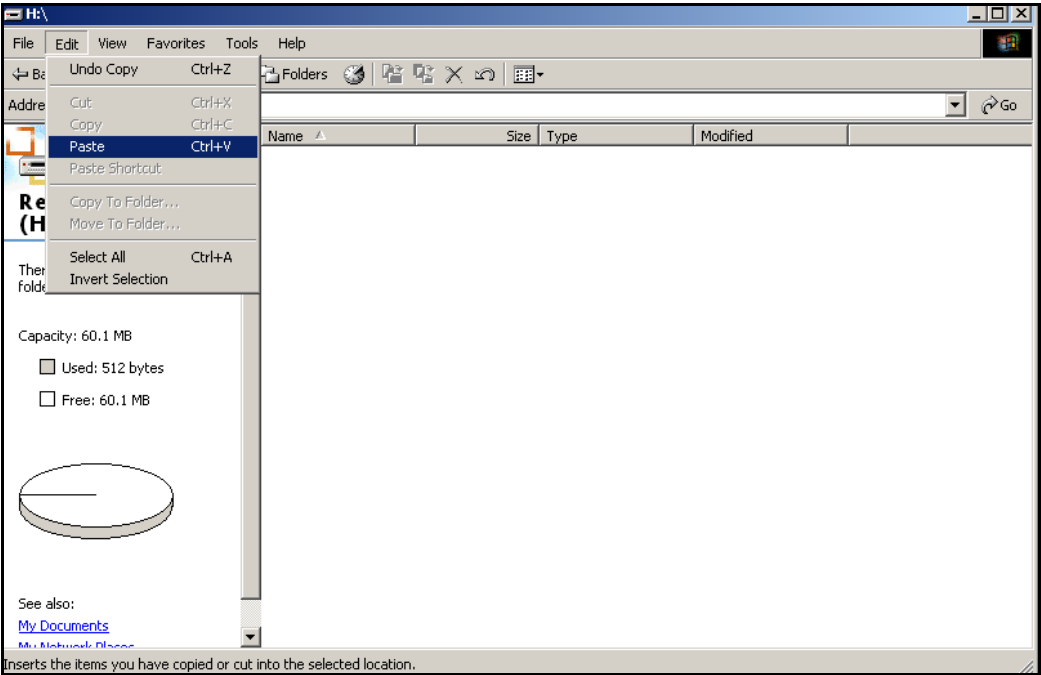
- 8 Double click on the Removable Disk (X:) icon. This lists the contenis of the CF card. The CF card should be blank. See Figure 13.

Figure 13
Contents of the CF card



- 9 Choose **Edit, Paste**. All files are transferred to the CF card. See Figure 14 on [page 104](#).

Figure 14
Edit, Paste



- 10 All files are still retained on the original floppy disk. Remove the floppy disk and store in a safe place for future reference.

End of Procedure

Making the RMD bootable



CAUTION — Data Loss

The PC utility used in the following procedure (mkbootrmd.exe) does not validate whether the drive letter entered is a valid RMD CF card. You must enter the correct RMD drive letter when prompted or risk formatting the incorrect drive.

Note: This utility is supported by all versions of Microsoft Windows.

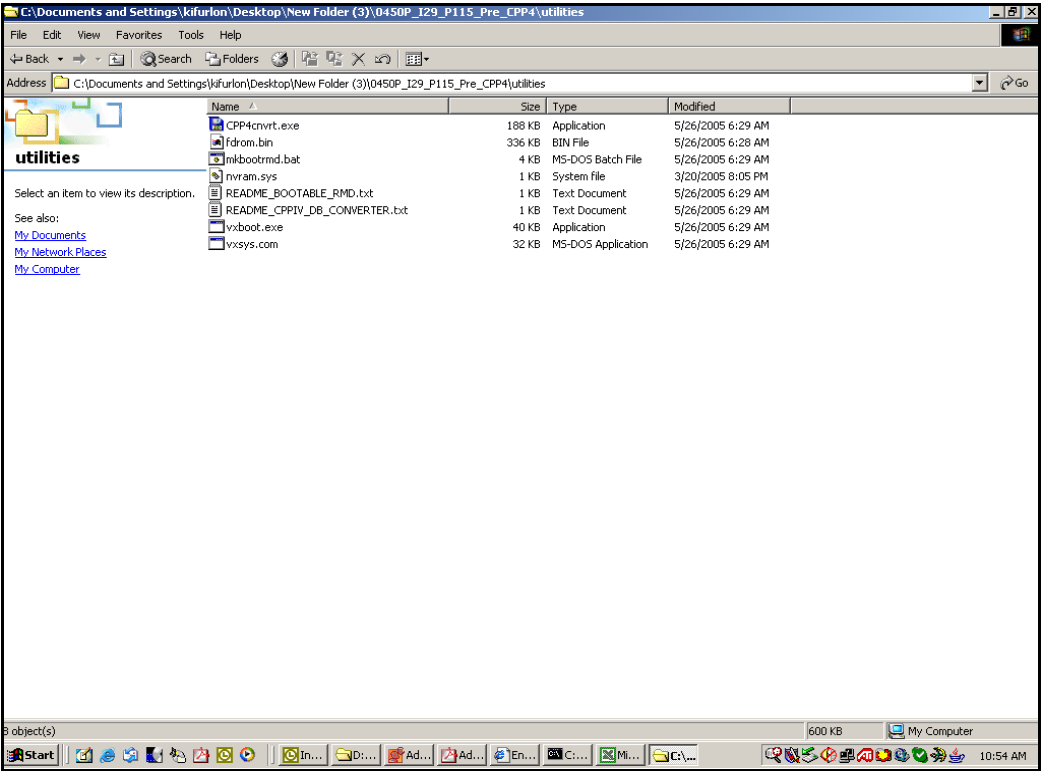
The installation RMD CF card must come pre-formatted and bootable from Nortel . Consumer CF cards are not bootable by default and must be made bootable as outlined in Procedure 20 on [page 105](#).

Procedure 20

Making the RMD bootable

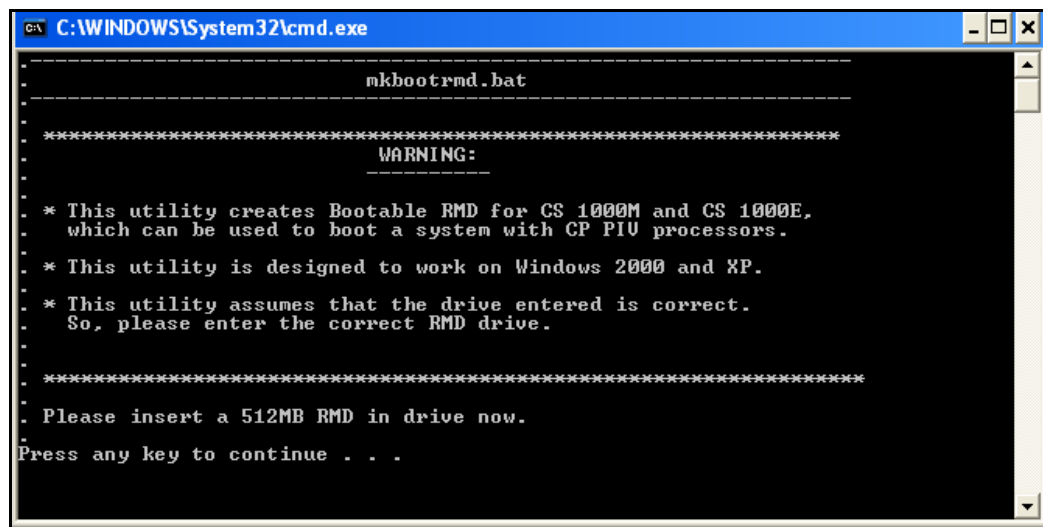
- 1 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the utilities folder. See Figure 15 on [page 106](#)

Figure 15
Utilities folder



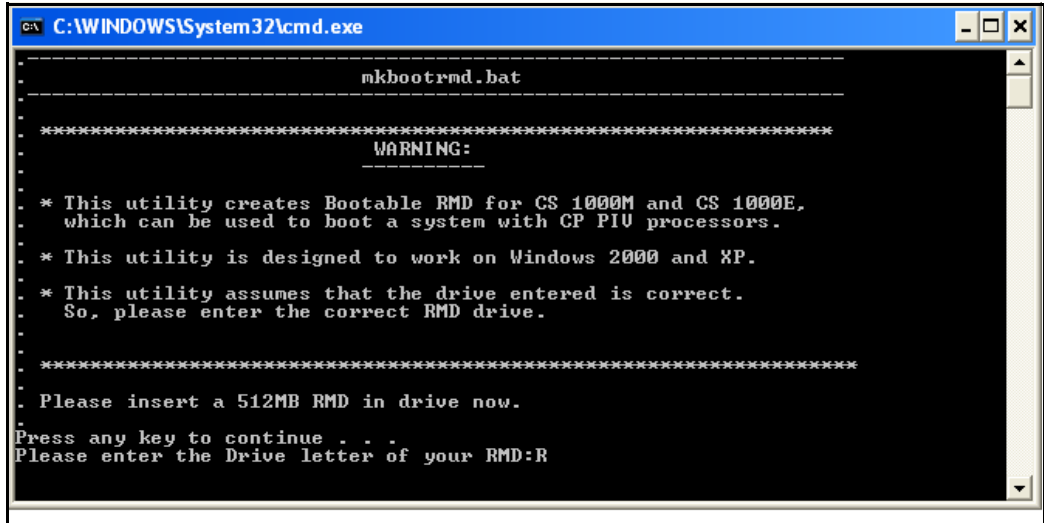
- 3 Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 16).

Figure 16
mkbootrmd.bat



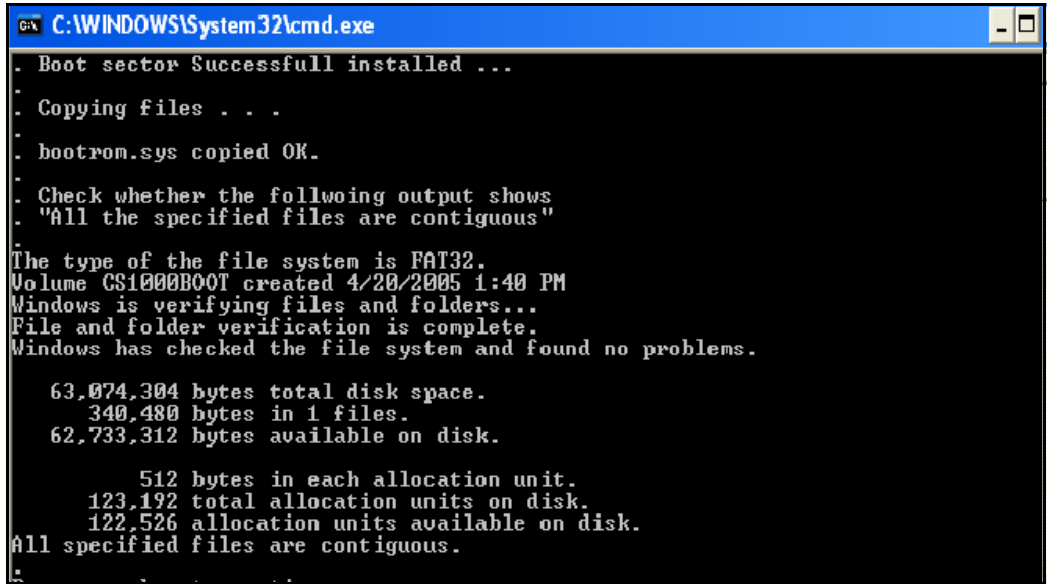
- 4 Enter the correct drive letter of the RMD (see Figure 17).

Figure 17
mkbootrmd.bat



- 5 The boot sector files (bootrom.sys and nvram.sys) are successfully copied making the CF card bootable (see Figure 18).

Figure 18
Boot sector successfully installed



```
C:\WINDOWS\System32\cmd.exe
. Boot sector Successfull installed ...
. Copying files . . .
. bootrom.sys copied OK.
. Check whether the follwoing output shows
. "All the specified files are contiguous"
The type of the file system is FAT32.
Volume CS1000000T created 4/20/2005 1:40 PM
Windows is verifying files and folders...
File and folder verification is complete.
Windows has checked the file system and found no problems.

  63,074,304 bytes total disk space.
    340,480 bytes in 1 files.
  62,733,312 bytes available on disk.

    512 bytes in each allocation unit.
  123,192 total allocation units on disk.
   122,526 allocation units available on disk.
All specified files are contiguous.
```

End of Procedure

Performing the upgrade

Review upgrade requirements

This section describes the *minimum* hardware and software required for CP PIV. Additional equipment can also be installed during the upgrade. Verify that *all* hardware and software has been received.

Before the upgrade, check that items on the order form are also on the packing slip. Check that all items been received. If any items are missing, contact your

supplier for replacements before you begin the upgrade.



WARNING

Service Interruption

DO NOT proceed with the upgrade if any of the required items are missing. All items must be received to complete the upgrade.

Check required software



IMPORTANT!

This upgrade requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

Compact Flash Software Install Kit (CP PIV)

The Compact Flash Software Install Kit contains the following items:

- One CF (512 MByte) card containing:
 - Install Software files
 - CS 1000 Release 4.5 software
 - Dep. Lists (PEPs)
 - Key code File

- One blank CF card for database backup
- One Nortel CS 1000 Release 4.5 Documentation CD

**IMPORTANT!**

Systems and components delivered to customer sites may include pre-installed software. However, the pre-installed software versions are typically older and are included only for manufacturing and order management purposes. **Do not attempt to operate the system with the pre-installed software.** The latest software must be downloaded from the Nortel Software Download web site and installed as part of the upgrade process.

Check required hardware

Table 9 lists the hardware required for the upgrade.

Table 9
Hardware requirements for Meridian 1 Option 61C CP PIV upgrade

Order number	Description	Quantity per system
NT4N39	Call Processor Pentium IV	2
NTDU68AA	Drive Carrier Card blank faceplate replacement	2

Figure 19 on [page 112](#) shows the CP PIV processor card side view. Figure 20 on [page 113](#) shows the CP PIV processor card front view. Figure 21 on [page 114](#) shows the CP PIV Drive Carrier Card blank faceplate replacement.

Figure 19
CP PIV card (side)

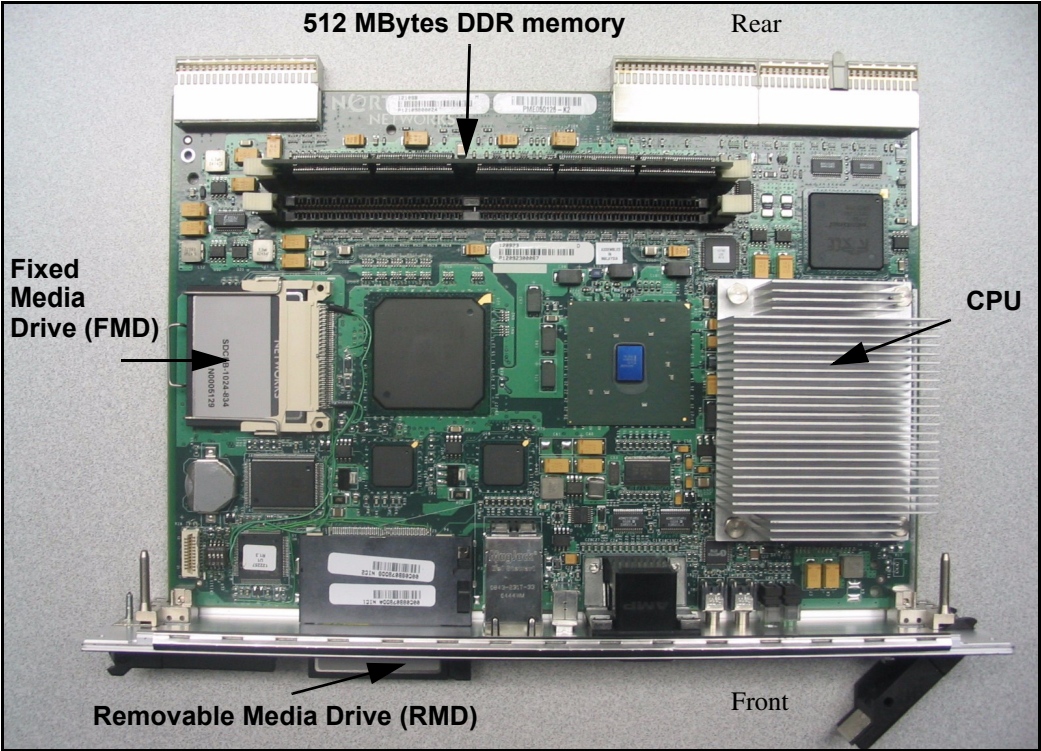


Figure 20
CP PIV card (front)

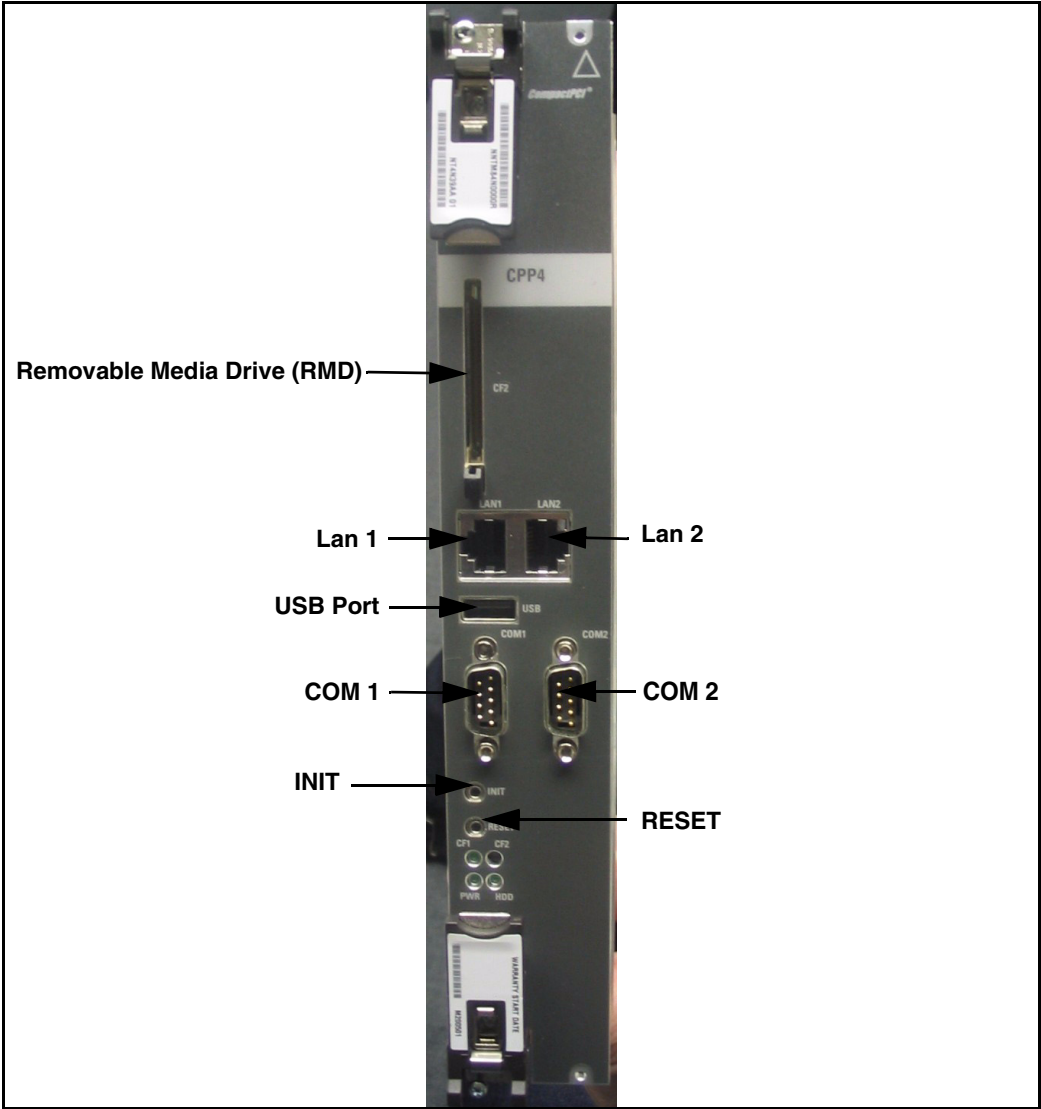


Figure 21
CS 1000E CP PIV Drive Carrier Card blank faceplate replacement



Verify CP PIV hardware

Verifying CP PIV card location

The NT4N39 CP PIV card is located in the CP slot (see Figure 20 on [page 113](#)).

The NTDU68AA blank faceplate is located at the slot next to the CP PIV card.

Remove equipment from Call Server 1

Procedure 21

Checking that Call Server 0 is active

To upgrade Call Server 1, verify that Call Server 0 is the active side performing call processing:

- 1 Verify that Call Server 0 is active.

LD 135 Load program

STAT CPU Get the status of the CPUs

- 2 If Core 1 is active, make Core 0 active:

SCPU Switch to Call Server 0 (if necessary)

******** Exit program

End of Procedure

Procedure 22
Splitting the Call Servers

- 1 In Call Server 0, enter the SPLIT command from LD 135.

LD 135	Load program
SPLIT	Split the Call Servers
****	Exit program



The system is now in split mode, with call processing on Call Server 0.

End of Procedure

Remove Call Server 1 CP PII card and Drive Carrier Card

Procedure 23
Removing the Call Server 1 CP PII Processor and Drive Carrier Card

- 1 Disconnect and label the LAN1 and LAN 2 cables from the Call Server 1 CP PII card faceplate. See Figure 22 on [page 118](#).
- 2 Disconnect and label the COM 1 and COM 2 cables from the Call Server 1 CP PII card faceplate. See Figure 22 on [page 118](#).
- 3 Unscrew and unlatch the Call Server 1 CP PII card. See Figure 22 on [page 118](#).
- 4 Remove the Call Server 1 CP PII card from its slot.

- 5 Unscrew, unlatch and remove the Drive Carrier Card from its slot. See Figure 23 on [page 119](#). Retain the Drive Carrier Card (and database backup) in a safe and secure location until the successful completion of this upgrade.

**IMPORTANT!**

Database backup information, the Drive Carrier Card and original CP PII card should be preserved for a minimum of 5 days.

End of Procedure

Figure 22
CP PII faceplate connections

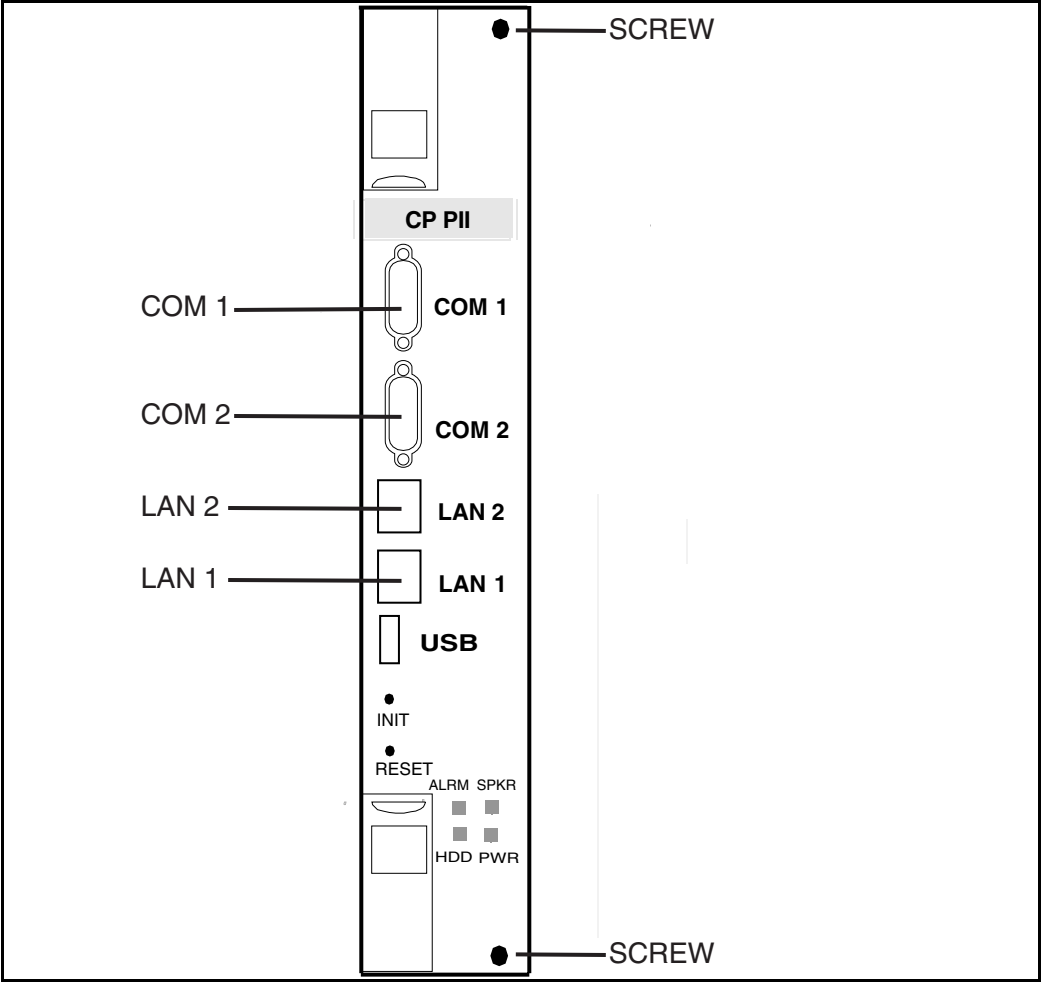


Figure 23
Drive Carrier Card

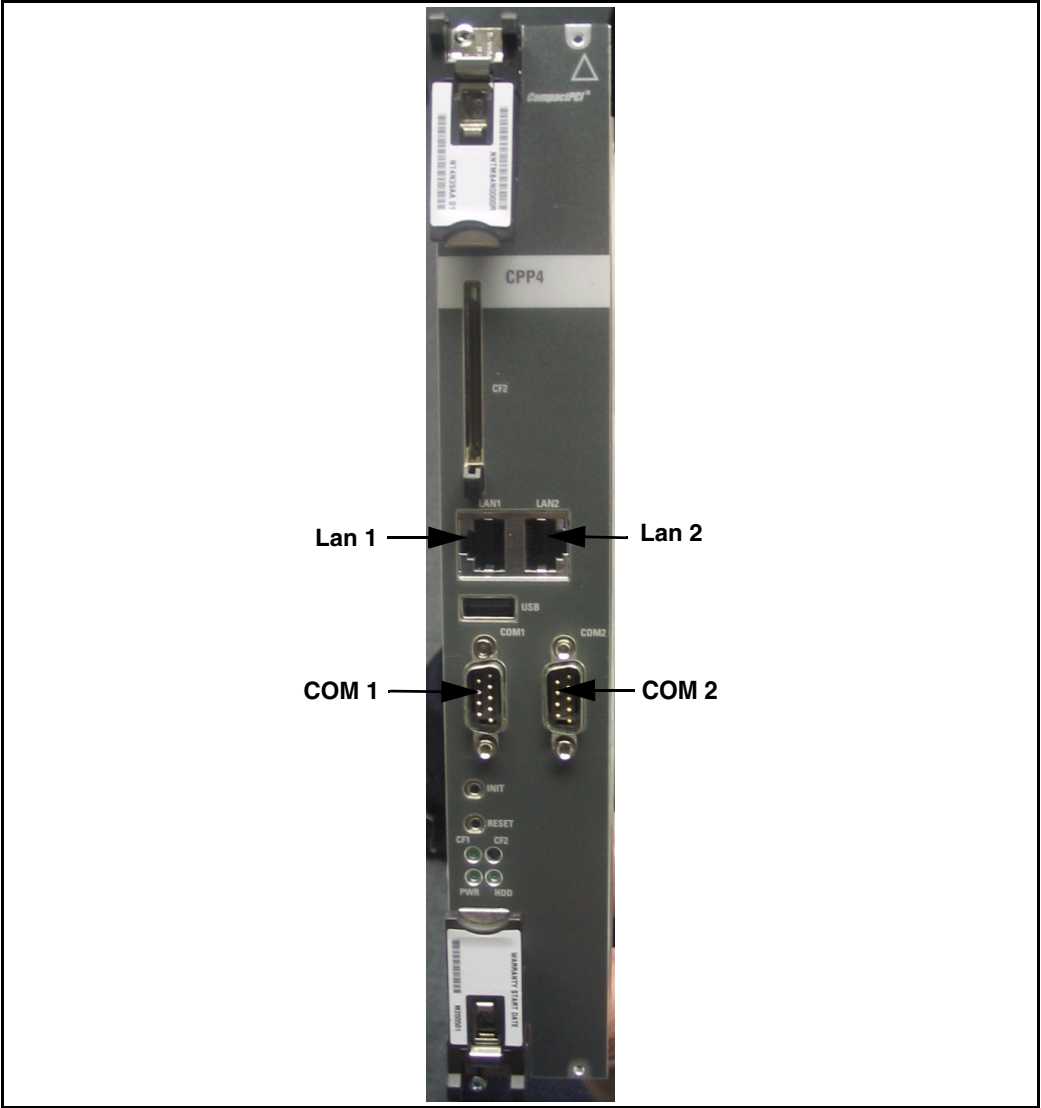
Install Call Server 1 CP PIV card and blank faceplate

Procedure 24

Installing Call Server 1 CP PIV Procesor and blank faceplate

- 1** insert the drive replacement card into the empty Drive Carrier Card slot using the supplied screws.
- 2** Insert the CP PIV card into the empty CP slot in Call Server 1. Seat the card and secure the latches and screws.
- 3** Attach the COM 1 and COM 2 cables to the CP PIV card faceplate. See Figure 24 on [page 120](#).

Figure 24
CP PIV faceplate connections



- 4 Attach the LAN 1 and LAN 2 cables to the CP PIV card faceplate at this point in the upgrade.

End of Procedure

CS 1000 Release 4.5 upgrade

Upgrading the software

Procedure 25 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

Procedure 25

Installing the software

- 1 Check that a terminal is now connected to COM 1.
- 2 Insert the RMD into the CF card slot.

- 3 Press the manual RESET button on the CP PIV card faceplate.
- 4 Enter <CR> at the Install Tool Menu.
- 5 The system attempts to validate and format the FMD partitions. The following format will occur only if the on-board 1 GByte FMD is blank.

```
>Obtaining and checking system configuration ...
>Validate hard disk partitions
    Validate number of hard drive partitions
and size ...
    Number of partitions  0:
    Disk check failed: three partitions
expected
INST0010 Unable to validate Hard disk partition
"/u"
    errNo : 0xd0001
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/p"
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/e"
    Please press <CR> when ready ...
```

The Fix Media Device on Core x is blank.

Install cannot continue unless the FMD is partitioned.

Note: INSTALL WILL REBOOT AFTER THIS PROCEDURE AND

FIX MEDIA WILL BE EMPTY AFTER YOU PARTITION IT.

INSTALL REMOVABLE MEDIA MUST BE IN THE DRIVE AT THIS TIME.

Please enter:

<CR> -> <a> - Partition the Fix Media Device.

Enter choice>

>Repartitioning Fix Media Device ...

fdiskPartCreate(0x12d5ff0c, 1, 4, 0x10)

Size in sectors = 0x8000

Low boundary = 0

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 2, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x7fc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 3, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x9ffc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 4, 11, 0x130)

Size in sectors = 0x98000

```
Low boundary = 0x137fc1
High boundary = 0x1e8bdf
>Fix Media Device repartition completed
>Formatting FMD ...
Mounting msdos fs /boot on /dev/hda1...
fdiskDevCreate(/dev/hda1)
/dev/hda1: partTablePtr = 0x12d5ff0c
Found partition 1, nodePtr = 0x12d30a4c
Partition 1 = type MSDOS FAT16 <= 32MB, cbioPtr =
0x131eb2e8
Initializing new slave device 0x131eb2e8
Retrieved old volume params with %95 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 32

    2 FAT copies, 0 clusters, 245 sectors per FAT
    Sectors reserved 1, hidden 63, FAT sectors 490
    Root dir entries 512, sysId (null) , serial
number 3b691afd

    Label:"NO NAME      " ...

Disk with 32705 sectors of 512 bytes will be
formatted with:
Volume Parameters: FAT type: FAT16, sectors per
cluster 2

    2 FAT copies, 16240 clusters, 64 sectors per
FAT

    Sectors reserved 1, hidden 63, FAT sectors 128
    Root dir entries 512, sysId VXDOS16 , serial
number 3b691afd
```

```
Label:"                " ...

Mounting msdos fs /p on /dev/hda2...

fdiskDevCreate(/dev/hda2)

/dev/hda2: partTablePtr = 0x12d5ff0c

Found partition 2, nodePtr = 0x12d30a4c

Partition 2 = type Win95 FAT32, cbioPtr =
0x12d26ee8

Initializing new slave device 0x12d26ee8

Retrieved old volume params with %80 confidence:

Volume Parameters: FAT type: FAT16, sectors per
cluster 195

    -61 FAT copies, 0 clusters, 50115 sectors per
FAT

    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015

    Root dir entries -15421, sysId (null) , serial
number cfcfc3c3

    Label:"                " ...

Disk with 622592 sectors of 512 bytes will be
formatted with:

Volume Parameters: FAT type: FAT32, sectors per
cluster 8

    2 FAT copies, 77660 clusters, 608 sectors per
FAT

    Sectors reserved 32, hidden 63, FAT sectors
1216

    Root dir entries 0, sysId VX5DOS32, serial
number cfcfc3c3

    Label:"                " ... 0x12d22e7c
```

```
Mounting msdos fs /d on /dev/hda3...
fdiskDevCreate(/dev/hda3)
/dev/hda3: partTablePtr = 0x12d5ff0c
Found partition 3, nodePtr = 0x12d30a4c
Partition 3 = type Win95 FAT32, cbioPtr =
0x12d22e7c
Initializing new slave device 0x12d22e7c
Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195
    -61 FAT copies, 0 clusters, 50115 sectors per
FAT
    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015
    Root dir entries -15421, sysId (null) , serial
number cffbc3c3
    Label:"          " ...
;CPP4 reboot automatically
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys
                Selecting nvram file from 2
sources
Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive
    0 [F]
Reading boot parameters from /boot/nvram.sys
Press any key to stop auto-boot...
```

6 The system then enters the Main Menu for keycode authorization.

```

                M A I N      M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu
        <t> - To Tools menu.
        <q> - Quit.

Enter Choice> <u>

```

The system searches for available keycode files in the “keycode” directory on the RMD. If no keycode file is found, the system displays the following menu:

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

No keycode files are available on the removable
media.

Please replace the RMD containing the keycode
file(s).

Please enter:

        <CR> -> <a> - RMD is now in the drive.
        <q> - Quit.

Enter choice>

```

At this point, either replace the RMD or quit the installation. If you select option "<q> - Quit.", the system requires confirmation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

You selected to quit. Please confirm.

Please enter:

    <CR> -> <y> - Yes, quit.

    <n> - No, DON'T quit.

Enter choice>

```

If “y” (quit) is selected, the system prints “INST0127 Keycode file is corrupted. Check Keycode file.” and returns to the installation main menu.

After accessing the RMD containing the valid keycode(s), press <CR>. The system displays the keycode file(s) available as in the following example:

```

The following keycode files are available on the
removable media:

Name                               Size   Date       Time
-----
<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min
<2> - KCport60430m.kcd   1114 mon-d-year hr:min
<q> - Quit

Enter choice> 2

```

Note: A maximum of 20 keycode files can be stored under the “keycode” directory on the RMD. The keycode files must have the same extension “.kcd”.

- 7 Select the keycode to be used on the system. The system validates the selected keycode and displays the software release and machine type authorized.

```
Validating keycode ...  
  
Copying "/cf2/keycode/KCport60430m.kcd" to "/u/  
keycode" -  
  
Copy OK: 1114 bytes copied  
  
The provided keycode authorizes the install of  
xxxx software (all subissues) for machine type  
xxxx (CPP4 processor on xxxx).
```

Note: The software release displayed depends on the keycode file content. The system requests keycode validation.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please confirm that this keycode matches the
System S/W on the RMD.

Please enter:

<CR> -> <y> - Yes, the keycode matches.
Go on to Install Menu.

<n> - No, the keycode does not match.
Try another keycode.

Enter choice>

- 8 If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. Select option "".

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
=====
```

I N S T A L L M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

 - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> ****

- 9** The system requires the insertion of the RMD containing the software to be installed.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please insert the Removable Media Device into the drive on Core x.

Please enter:

 <CR> -> <a> - RMD is now in drive.
Continue with s/w checking.

 <q> - Quit.

Enter choice> **<CR>**

- 10** If the RMD containing the software is already in the drive, select option "<a> - RMD is now in drive. Continue with s/w checking." (or simply press <CR>) to continue. If the RMD is not yet in the drive, insert it and then press <CR>.

- 11 The system displays the release of the software found on RMD under the “swload” directory and requests confirmation to continue the installation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

The RMD contains System S/W version xxxx.

Please enter:

        <CR> -> <y> - Yes, this is the correct
version. Continue.

        <n> - No, this is not the correct version.
Try another RMD or a different keycode.

Enter choice> <CR>

```

Note: If the RMD contains the correct software release, select option “<y> - Yes, this is the correct version. Continue.” (or simply press <CR>) to continue. If the software release is not correct and you want to replace the RMD, insert the correct RMD in the drive and then press <CR>. If you want to replace the keycode, select option “<n> - No, this is not the correct version”.

- 12 The Dependency List menus appear.

```

Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists
installation

        <n> - No, Continue without Dependency Lists
installation

Enter choice> y

>Processing the install control file ...

>Installing release xxxx

```

13 The Installation Status Summary appears.

INSTALLATION STATUS SUMMARY				

=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
SW: RMD to FMD	yes		install for rel XXXXX	
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
Dependency Lists	yes			
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
IPMG Software	yes		install for rel XXXXX	
Option	Choice	Status	Comment	
=====+=====+=====+=====				
DATABASE	yes			
Option	Choice	Status	Comment	
=====+=====+=====+=====				
CP-BOOTROM	yes			

- 14 Enter <CR> to confirm and continue installation.

Note: After entering yes below, the system copies the software from RMD to FMD (the files copied are listed).

```
Please enter:

<CR> -> <y> - Yes, start installation.

           <n> - No, stop installation. Return to the
Main Menu.

           Enter choice>

>Checking system configuration

You selected to install Software release: XXXX on
the new system.

This will create all necessary directories and
pre-allocate files on the hard disk.

You may continue with software install or quit
now and leave your software unchanged.

Please enter:

           <CR> -> <a> - Continue with new system
install.

           <q> - Quit.

           Enter choice>
```

- 15** The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
*****
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

*****
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

- 16** Successful installation confirmation appears, enter <CR> to continue.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.

Please press <CR> when ready ...
```

- 17 The customer database installation from RMD is employed when upgrading CP PII systems. Select option "<a> - Install CUSTOMER database." from the database installation main menu.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You will now perform the database installation.
Please enter:

      <CR> -> <a> - Install CUSTOMER database.

(The Removable Media Device containing the
customer database must be in the drive.

      <b> - Install DEFAULT database.

(The System S/W media must be in drive.)

      <c> - Transfer the previous system
database.(The floppy disk containing the customer
database must be in the floppy drive of the MMDU
pack.

      <e> - Check the database that exists on
the Fixed Media Device.

      <q> - Quit.

Enter choice> a or <CR>
```

The system verifies which customer databases are available on the RMD under directory 'backup' and displays them.

```
The following databases are available on the
removable media:

      <CR> -> <s> - Single database
      created: mon-day-year hour:min

      <q>-Quit

Enter choice> s or <CR>
```


18 Continue with database installation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You selected to transfer single database from RMD
to FMD on Core x.

The database will be converted from release xxxx.

If you quit now, the database will be left
unchanged.

Please enter:

          <CR> -> <a> - Continue with database
install.

          <q> - Quit.

Enter choice> a or <CR>

```

The installation summary screen appears. Verify successful installation and enter <CR> when ready.

```

-----
                    INSTALLATION STATUS SUMMARY
-----
+-----+-----+-----+-----+
| option | choice | status | comment |
+-----+-----+-----+-----+
| Sw: RMD to FMD | yes | OK | install for rel 04xxx |
+-----+-----+-----+-----+
| Dependency Lists | yes | OK | |
+-----+-----+-----+-----+
| AUTO-CSU Feature | no | | AUTO-CSU Disabled |
+-----+-----+-----+-----+
| IPMG Software: | no | | |
+-----+-----+-----+-----+
| Database | yes | OK | conversion from xxxx |
+-----+-----+-----+-----+
| CP-BOOTROM | yes | OK | |
+-----+-----+-----+-----+

Please press <CR> when ready ...

```

- 19** Upon returning to the main install menu, enter **q** to quit.

```

                I N S T A L L   M E N U

    The Software Installation Tool will
    install or upgrade Succession Enterprise System
    Software, Database and the CP-BOOTROM. You will be
    prompted throughout the installation and given the
    opportunity to quit at any time.

    Please enter:

    <CR> -> <a> - To install Software, CP-BOOTROM.
           <b> - To install Software, Database,
    CP-BOOTROM.
           <c> - To install Database only.
           <d> - To install CP-BOOTROM only.
           <t> - To go to the Tools menu.
           <k> - To install Keycode only.

           For Feature Expansion, use OVL143.

           <p> - To install 3900 set Languages.
           <q> - Quit.

    Enter Choice> q
```

- 20** The system then prompts you to confirm and reboot. Enter <CR> to quit. Enter <CR> again to reboot.

```
You selected to quit. Please confirm.

    Please enter:

<CR> -> <y> - Yes, quit.

        <n> - No, DON'T quit.

    Enter choice> <CR>

You selected to quit the Install Tool.

You may reboot the system or return to the Main
Menu.

-----

DO NOT REBOOT USING BUTTON!!!

-----

    Please enter:

<CR> -> <a> - Reboot the system.

        <m> - Return to the Main menu.

    Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```

At this point the system reloads and initializes.

End of Procedure

Verify the upgraded database

Procedure 26

Verifying the upgraded database

- 1 Print ISSP (system software issue and patches)

LD 22 Load program

REQ ISSP

******** Exit program

- 2 Print the system configuration record in LD 22 and compare the output with the pre-upgraded configuration record.

LD 22 Load program

REQ PRT

TYPE CFN

******** Exit program

- 3 Print the SLT in LD 22. This output provides used and unused ISM parameters. Compare with pre-upgrade SLT output.

LD 22 Load program

REQ SLT

******** Exit program

- 4 Print the customer data block(s) in LD 21.

LD 21	Load program
REQ	PRT
TYPE	CDB
CUST	xx
****	Exit program

Reconfigure I/O ports and call registers

Procedure 27

Reconfiguring I/O ports and call registers

- 1 Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 4500 and 1000 respectively). If changes are required, reconfigure the values in LD 17:

LD 17	Load program
CHG	
CFN	
PARM YES	
500B 1000	Use 1000 as a minimum value
NCR 20000	Use 20000 as a minimum value
****	Exit program

- 2 Print the Configuration Record to confirm the changes made above:

LD 22	Load program
REQ PRT	Set the print Option
TYPE CFN	Print the configuration
****	Exit program

End of Procedure



IMPORTANT!

TO maintain logging of events during the upgrade, you need to access tty on both Call Servers. Nortel recommends having a dedicated terminal on each Call Server.



At this point, all applications must be shut down (CallPilot, Symposium, and so on).

Switch call processing to Call Server 1

**CAUTION****Service Interruption**

The following procedure interrupts call processing. All active calls are lost.

Procedure 28**Switching call processing to Call Server 1**

- 1 Enter LD 135 on Call Server 0 and issue the CUTOVR command. Call processing switches to Call Server 1 and service is interrupted.

LD 135

CUTOVR Transfer call processing from active Call Server to standby Call Server

**** Exit program

- 2 After Call Server 1 initializes, log in to Call Server 1 and verify that the cutover was successful and that all hardware is operational. Perform acceptance testing as required.

End of Procedure

Test Call Server 1

Procedure 29

Checking that Call Server 1 is active

To upgrade Call Server 0, verify that Call Server 1 is the active side performing call processing:

- 1 Verify that Call Server 0 is active.

LD 135 Load program

STAT CPU Get the status of the CPUs

- 2 If Call Server 0 is active, make Call Server 1 active:

SCPU Switch to Call Server 1 (if necessary)

******** Exit program

End of Procedure



Call processing should be active on Call Server 1.

Procedure 30**Testing Call Server 1**

- 1 Check dial-tone.
- 2 Stat D-channels, network cards and print the status of all IPMGs. Refer to *Software Input/Output: Maintenance* (553-3001-511) and *Software Input/Output: Administration* (553-3001-311).
- 3 Make internal, external and network calls.
- 4 Check attendant console activity.
- 5 Check IP Peer networking for incoming and outgoing calls.
- 6 Check applications (CallPilot, Symposium, Meridian Mail, and so on).

Remove equipment from Call Server 0**Procedure 31****Checking that Call Server 1 is active**

To upgrade Call Server 0, verify that Call Server 1 is the active side performing call processing:

- 1 Verify that Call Server 1 is active.

LD 135 Load program

STAT CPU Get the status of the CPUs

- 2 If Core 0 is active, make Core 1 active:

SCPU Switch to Call Server 1 (if necessary)

******** Exit program

End of Procedure

Remove Call Server 0 CP PII card and Drive Carrier Card

Procedure 32

Removing the Call Server 0 CP PII Processor and Drive Carrier Card

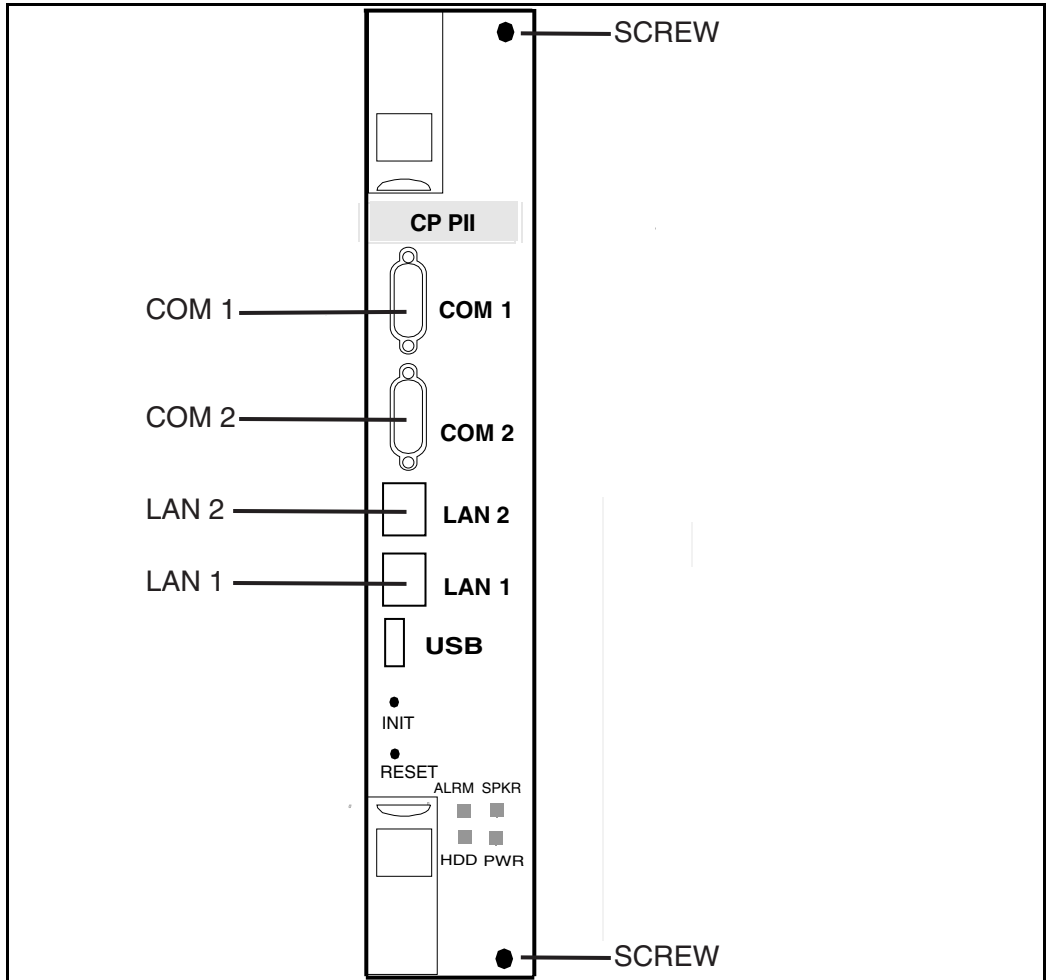
- 1** Disconnect and label the LAN1 and LAN 2 cables from the Call Server 0 CP PII card faceplate. See Figure 25 on [page 147](#).
- 2** Unscrew and unlatch the Call Server 0 CP PII card. See Figure 25 on [page 147](#).
- 3** Remove the Call Server 0 CP PII card from its slot.
- 4** Unlatch and remove the Drive Carrier Card from its slot.
- 5** Retain the Drive Carrier Card (and database backup) in a safe and secure location until the successful completion of this upgrade.



IMPORTANT!

Database backup information, the Drive Carrier Card and original CP PII card should be preserved for a minimum of 5 days.

Figure 25
CP PII faceplate connections



End of Procedure

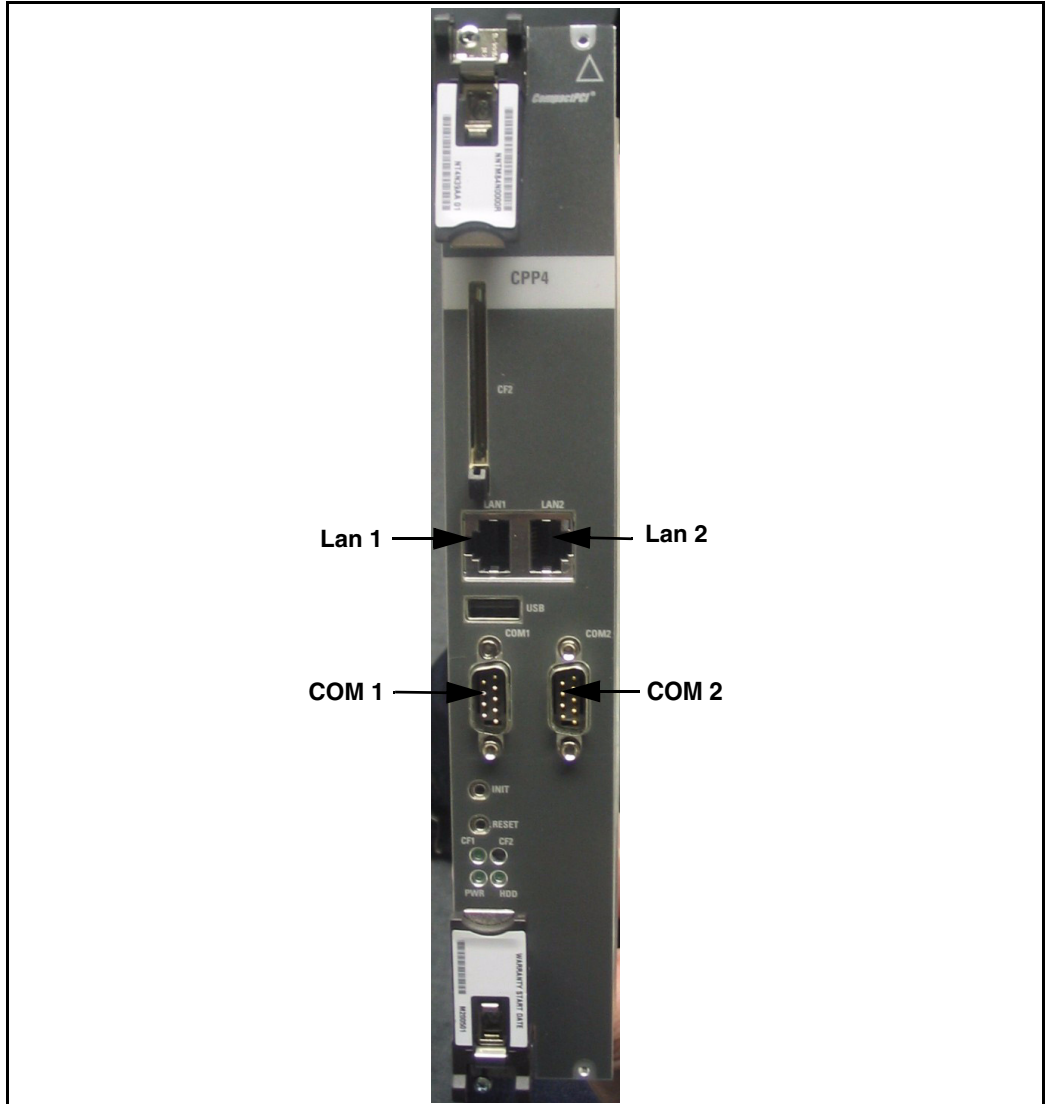
Install Call Server 0 CP PIV card and blank faceplate

Procedure 33

Installing Call Server 0 CP PIV Processor and blank faceplate

- 1** Attach the blank faceplate to the empty Drive Carrier Card slot using the supplied screws.
- 2** Insert the CP PIV card into the empty CP slot in Call Server 0. Seat the card and secure the latches and screws.
- 3** Attach the COM 1 and COM 2 cables to the CP PIV card faceplate. See Figure 26 on [page 149](#).
- 4** Do not attach the LAN 1 and LAN 2 cables to the CP PIV card faceplate at this point in the upgrade. These cables are attached once both Call Servers are upgraded.

Figure 26
CP PIV faceplate connections



————— End of Procedure —————

CS 1000 Release 4.5 upgrade

Upgrading the software

Procedure 25 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

Procedure 34

Upgrading the software

- 1** Check that a terminal is now connected to COM 1.
- 2** Insert the RMD into the CF card slot.

- 3 Press the manual RESET button on the CP PIV card faceplate.
- 4 Enter <CR> at the Install Tool Menu.
- 5 The system attempts to validate and format the FMD partitions. The following format will occur only if the on-board 1 GByte FMD is blank.

```
>Obtaining and checking system configuration ...
>Validate hard disk partitions
    Validate number of hard drive partitions
and size ...
    Number of partitions  0:
    Disk check failed: three partitions
expected
INST0010 Unable to validate Hard disk partition
"/u"
    errNo : 0xd0001
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/p"
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/e"
    Please press <CR> when ready ...
```

The Fix Media Device on Core x is blank.

Install cannot continue unless the FMD is partitioned.

Note: INSTALL WILL REBOOT AFTER THIS PROCEDURE AND

FIX MEDIA WILL BE EMPTY AFTER YOU PARTITION IT.

INSTALL REMOVABLE MEDIA MUST BE IN THE DRIVE AT THIS TIME.

Please enter:

<CR> -> <a> - Partition the Fix Media Device.

Enter choice>

>Repartitioning Fix Media Device ...

fdiskPartCreate(0x12d5ff0c, 1, 4, 0x10)

Size in sectors = 0x8000

Low boundary = 0

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 2, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x7fc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 3, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x9ffc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 4, 11, 0x130)

Size in sectors = 0x98000


```
Low boundary = 0x137fc1
High boundary = 0x1e8bdf
>Fix Media Device repartition completed
>Formatting FMD ...
Mounting msdos fs /boot on /dev/hda1...
fdiskDevCreate(/dev/hda1)
/dev/hda1: partTablePtr = 0x12d5ff0c
Found partition 1, nodePtr = 0x12d30a4c
Partition 1 = type MSDOS FAT16 <= 32MB, cbioPtr =
0x131eb2e8
Initializing new slave device 0x131eb2e8
Retrieved old volume params with %95 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 32
    2 FAT copies, 0 clusters, 245 sectors per FAT
    Sectors reserved 1, hidden 63, FAT sectors 490
    Root dir entries 512, sysId (null) , serial
number 3b691afd
    Label:"NO NAME      " ...
Disk with 32705 sectors of 512 bytes will be
formatted with:
Volume Parameters: FAT type: FAT16, sectors per
cluster 2
    2 FAT copies, 16240 clusters, 64 sectors per
FAT
    Sectors reserved 1, hidden 63, FAT sectors 128
    Root dir entries 512, sysId VXDOS16 , serial
number 3b691afd
```

```

Label:"                " ...

Mounting msdos fs /p on /dev/hda2...

fdiskDevCreate(/dev/hda2)

/dev/hda2: partTablePtr = 0x12d5ff0c

Found partition 2, nodePtr = 0x12d30a4c

Partition 2 = type Win95 FAT32, cbioPtr =
0x12d26ee8

Initializing new slave device 0x12d26ee8

Retrieved old volume params with %80 confidence:

Volume Parameters: FAT type: FAT16, sectors per
cluster 195

    -61 FAT copies, 0 clusters, 50115 sectors per
FAT

    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015

    Root dir entries -15421, sysId (null) , serial
number cfcfc3c3

    Label:"                " ...

Disk with 622592 sectors of 512 bytes will be
formatted with:

Volume Parameters: FAT type: FAT32, sectors per
cluster 8

    2 FAT copies, 77660 clusters, 608 sectors per
FAT

    Sectors reserved 32, hidden 63, FAT sectors
1216

    Root dir entries 0, sysId VX5DOS32, serial
number cfcfc3c3

    Label:"                " ... 0x12d22e7c

```

```
Mounting msdos fs /d on /dev/hda3...
fdiskDevCreate(/dev/hda3)
/dev/hda3: partTablePtr = 0x12d5ff0c
Found partition 3, nodePtr = 0x12d30a4c
Partition 3 = type Win95 FAT32, cbioPtr =
0x12d22e7c
Initializing new slave device 0x12d22e7c
Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195
    -61 FAT copies, 0 clusters, 50115 sectors per
FAT
    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015
    Root dir entries -15421, sysId (null) , serial
number cffbc3c3
    Label:"          " ...
;CPP4 reboot automatically
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys
                Selecting nvram file from 2
sources
Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive
    0 [F]
Reading boot parameters from /boot/nvram.sys
Press any key to stop auto-boot...
```

6 The system then enters the Main Menu for keycode authorization.

```

                M A I N      M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu
        <t> - To Tools menu.
        <q> - Quit.

Enter Choice> <u>

```

The system searches for available keycode files in the “keycode” directory on the RMD. If no keycode file is found, the system displays the following menu:

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

No keycode files are available on the removable
media.

Please replace the RMD containing the keycode
file(s).

Please enter:

        <CR> -> <a> - RMD is now in the drive.
        <q> - Quit.

Enter choice>

```

At this point, either replace the RMD or quit the installation. If you select option "<q> - Quit.", the system requires confirmation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

You selected to quit. Please confirm.

Please enter:

    <CR> -> <y> - Yes, quit.

    <n> - No, DON'T quit.

Enter choice>

```

If "y" (quit) is selected, the system prints "INST0127 Keycode file is corrupted. Check Keycode file." and returns to the installation main menu.

After accessing the RMD containing the valid keycode(s), press <CR>. The system displays the keycode file(s) available as in the following example:

```

The following keycode files are available on the
removable media:

Name                               Size   Date       Time
-----
<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min
<2> - KCport60430m.kcd  1114 mon-d-year hr:min
<q> - Quit

Enter choice> 2

```

Note: A maximum of 20 keycode files can be stored under the "keycode" directory on the RMD. The keycode files must have the same extension ".kcd".

- 7 Select the keycode to be used on the system. The system validates the selected keycode and displays the software release and machine type authorized.

```
Validating keycode ...

Copying "/cf2/keycode/KCport60430m.kcd" to "/u/
keycode" -

Copy OK: 1114 bytes copied

The provided keycode authorizes the install of
xxxx software (all subissues) for machine type
xxxx (CPP4 processor on xxxx).
```

Note: The software release displayed depends on the keycode file content. The system requests keycode validation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Please confirm that this keycode matches the
System S/W on the RMD.

Please enter:

           <CR> -> <y> - Yes, the keycode matches.
Go on to Install Menu.

           <n> - No, the keycode does not match.
Try another keycode.

Enter choice>
```

- 8 If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. Select option "".

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
=====
```

I N S T A L L M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

 - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> ****

- 9 The system requires the insertion of the RMD containing the software to be installed.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please insert the Removable Media Device into the
drive on Core x.

Please enter:

 <CR> -> <a> - RMD is now in drive.
Continue with s/w checking.

 <q> - Quit.

Enter choice> **<CR>**

- 10 If the RMD containing the software is already in the drive, select option “<a> - RMD is now in drive. Continue with s/w checking.” (or simply press <CR>) to continue. If the RMD is not yet in the drive, insert it and then press <CR>.

- 11 The system displays the release of the software found on RMD under the “swload” directory and requests confirmation to continue the installation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

The RMD contains System S/W version xxxx.

Please enter:

    <CR> -> <y> - Yes, this is the correct
version. Continue.

    <n> - No, this is not the correct version.
Try another RMD or a different keycode.

Enter choice> <CR>

```

Note: If the RMD contains the correct software release, select option “<y> - Yes, this is the correct version. Continue.” (or simply press <CR>) to continue. If the software release is not correct and you want to replace the RMD, insert the correct RMD in the drive and then press <CR>. If you want to replace the keycode, select option “<n> - No, this is not the correct version”.

- 12 The Dependency List menus appear.

```

Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists
installation

    <n> - No, Continue without Dependency Lists
installation

Enter choice> y

>Processing the install control file ...

>Installing release xxxx

```

13 The Installation Status Summary appears.

INSTALLATION STATUS SUMMARY				

=====+=====+=====+=====				
	Option		Choice	Status Comment
=====+=====+=====+=====				
	SW: RMD to FMD		yes	install for rel XXXXX
=====+=====+=====+=====				
	Option		Choice	Status Comment
=====+=====+=====+=====				
	Dependency Lists		yes	
=====+=====+=====+=====				
	Option		Choice	Status Comment
=====+=====+=====+=====				
	IPMG Software		yes	install for rel XXXXX
	Option		Choice	Status Comment
=====+=====+=====+=====				
	DATABASE		yes	
	Option		Choice	Status Comment
=====+=====+=====+=====				
	CP-BOOTROM		yes	

- 14 Enter <CR> to confirm and continue installation.

Note: After entering yes below, the system copies the software from RMD to FMD (the files copied are listed).

```
Please enter:

<CR> -> <y> - Yes, start installation.

        <n> - No, stop installation. Return to the
Main Menu.


        Enter choice>

>Checking system configuration

You selected to install Software release: XXXX on
the new system.

This will create all necessary directories and
pre-allocate files on the hard disk.

You may continue with software install or quit
now and leave your software unchanged.

Please enter:

        <CR> -> <a> - Continue with new system
install.

        <q> - Quit.

        Enter choice>
```

- 15** The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
*****
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

*****
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

- 16** Successful installation confirmation appears, enter <CR> to continue.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.

Please press <CR> when ready ...
```

- 17 The customer database installation from RMD is employed when upgrading CP PII systems. Select option "<a> - Install CUSTOMER database." from the database installation main menu.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You will now perform the database installation.

Please enter:

        <CR> -> <a> - Install CUSTOMER database.

(The Removable Media Device containing the
customer database must be in the drive.

        <b> - Install DEFAULT database.

(The System S/W media must be in drive.)

        <c> - Transfer the previous system
database.(The floppy disk containing the customer
database must be in the floppy drive of the MMDU
pack.

        <e> - Check the database that exists on
the Fixed Media Device.

        <q> - Quit.

Enter choice> a or <CR>

```

The system verifies which customer databases are available on the RMD under directory 'backup' and displays them.

```

The following databases are available on the
removable media:

        <CR> -> <s> - Single database
        created: mon-day-year hour:min

        <q>-Quit

Enter choice> s or <CR>

```

18 Continue with database installation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You selected to transfer single database from RMD
to FMD on Core x.

The database will be converted from release xxxx.

If you quit now, the database will be left
unchanged.

Please enter:

          <CR> -> <a> - Continue with database
install.

          <q> - Quit.

Enter choice> a or <CR>
```

The installtion summary screen appears. Verify successful installation and enter <CR> when ready.

```
-----
                        INSTALLATION STATUS SUMMARY
-----

+-----+-----+-----+-----+
| option | choice | status | comment |
+-----+-----+-----+-----+
| Sw: RMD to FMD | yes | OK | install for rel 04xxx |
+-----+-----+-----+-----+
| Dependency Lists | yes | OK | |
+-----+-----+-----+-----+
| AUTO-CSU Feature | no | | AUTO-CSU Disabled |
+-----+-----+-----+-----+
| IPMG Software: | no | | |
+-----+-----+-----+-----+
| Database | yes | OK | conversion from xxxx |
+-----+-----+-----+-----+
| CP-BOOTROM | yes | OK | |
+-----+-----+-----+-----+

Please press <CR> when ready ...
```

- 19** Upon returning to the main install menu, enter **q** to quit.

```

      I N S T A L L   M E N U

      The Software Installation Tool will
      install or upgrade Succession Enterprise System
      Software, Database and the CP-BOOTROM. You will be
      prompted throughout the installation and given the
      opportunity to quit at any time.

      Please enter:

      <CR> -> <a> - To install Software, CP-BOOTROM.

      <b> - To install Software, Database,
      CP-BOOTROM.

      <c> - To install Database only.

      <d> - To install CP-BOOTROM only.

      <t> - To go to the Tools menu.

      <k> - To install Keycode only.

      For Feature Expansion, use OVL143.

      <p> - To install 3900 set Languages.

      <q> - Quit.

      Enter Choice> q
```

- 20 The system then prompts you to confirm and reboot. Enter <CR> to quit. Enter <CR> again to reboot.

```
You selected to quit. Please confirm.

    Please enter:

<CR> -> <y> - Yes, quit.

        <n> - No, DON'T quit.


    Enter choice> <CR>

You selected to quit the Install Tool.

You may reboot the system or return to the Main
Menu.


-----

DO NOT REBOOT USING BUTTON!!!

-----


    Please enter:

<CR> -> <a> - Reboot the system.

        <m> - Return to the Main menu.

    Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```


At this point the system reloads and initializes.

End of Procedure

Verify the upgraded database

Procedure 35

Verifying the upgraded database

- 1 Print ISSP (system software issue and patches). Ensure that the new release is now running on Call Server 0.

LD 22 Load program

REQ ISSP

******** Exit program



The Call Server 0 upgrade is complete.

Making the system redundant

At this point, Core/Net 0 is ready to be synchronized with Core/Net 1.

Procedure 36

Making the system redundant

- 1 Attach the LAN 1 and LAN 2 cables to the CP PIV faceplate connectors on Call Server 0 and Call Server 1.
- 2 Enter LD 135 and issue the JOIN command. The high speed pipe (HSP) status is now up. This begins the synchronization of the Call Servers.

LD 135 Load program

JOIN Join the 2 CPUs together to become redundant

- 3 Once the synchroization of memories and drives is complete, STAT the CPU and verify that the CPUs are in a true redundant state.

LD 135

STAT CPU Get status of CPU and memory

******** Exit the program

```
.stat cpu

cp 0 16 PASS -- STDBY

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH = 20
VERSION = Mar 3 2005, 16:26:40
Side = 0, DRAM SIZE = 512 MBytes

cp 1 16 PASS -- ENBL

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH = 20
VERSION = Mar 3 2005, 16:26:40
Side = 1, DRAM SIZE = 512 MBytes
```

- 4** Tier 1 and Tier 2 health of both Call Servers must be identical in order to successfully switch service from Call Server 1 to Call Server 0.

LD 135

STAT HEALTH Get status of CPU and memory

******** Exit the program

```
.stat health
Local (Side 0, Active, Redundant):
Components without TIER 1 Health contribution:
=====

    disp 0 15 1:In Service
    sio2 0 15 1:In Service
        cp 0 16:In Service
            ipb 0:In Service
TIER 1 Health Count Breakdown:
=====

    sio8 0 16 1: 0002
    sio8 0 16 2: 0002
        sutl 0 15: 0002
            strn 0 15: 0002
    xsmp 0 15 1: 0002
    cmdu 0 16 1: 0008
        eth 0 16 0: 0002
Local TIER 1 Health Total: 20
```

TIER 2 Health Count Breakdown:

=====

ELAN 16 IP : 47.11.138.150 Health = 2

ELAN 17 IP : 47.11.138.153 Health = 2

Local AML over ELAN Total Health:4

Local Total IPL Health = 6

IPL connection history:3 3 3 3 3 3 3 3 3 3 3 3 3
3 3 3 3 3 3

Local TIER 2 Health Total:10

Remote (Side 1, Inactive, Redundant):

Components without TIER 1 Health contribution:

disp 1 15 1:In Service

sio2 1 15 1:In Service

cp 1 16:In Service

ipb 1:In Service

TIER 1 Health Count Breakdown:

sio8 1 16 1: 0002

sio8 1 16 2: 0002

sutl 1 15: 0002

strn 1 15: 0002

xsmp 1 15 1: 0002

cmdu 1 16 1: 0008

eth 1 16 0: 0002

Remote TIER 1 Health Total: 20

```
TIER 2 Health Count Breakdown:

=====

ELAN 16 IP : 47.11.138.150 Health = 2
ELAN 17 IP : 47.11.138.153 Health = 2


Remote AML over ELAN Total Health:4
Remote Total IPL health = 6

Remote TIER 2 Health Total:10
```

5 Get status of links to the Media Gateways (STAT IPL).

LD 135

STAT IPL	Get status of MG 1000E (IPMG)
	Media Gateway 1: LINK UP
	Media Gateway 2: LINK UP
	Media Gateway 3: LINK UP
	Media Gateway 4: LINK UP
 ****	 Exit the program



The system is now in full redundant mode with Call Server 1 active.

End of Procedure

Completing the upgrade

LD 137 modifications

The CMDU/MMDU commands are not applicable to CP PIV. Instead, the following commands are introduced in LD 137.

- STAT FMD
display text: **Status of both Fixed Media Devices (FMD)**
command parameter: none
- STAT FMD
display text: **Status of the specified Fixed Media Device**
command parameter: “core #” with values of 0 or 1
- STAT RMD
display text: **Status of both Removable Media Devices (RMD)**
command parameter: none
- STAT RMD
display text: **Status of the specified Removable Media Device**
command parameter: “core #” with values of 0 or 1

Testing the Call Servers

Procedure 37

Testing Call Server 0

At this point in the upgrade, Call Server 0 is tested from active Call Server 1. Upon successful completion of these tests, call processing is switched and the same tests are performed on Call Server 1 from active Call Server 0. As a final step, call processing is then switched again to Call Server 1.

From active Call Server 1, perform the following tests on Call Server 0:

- 1** Perform a redundancy sanity test:

LD 135

STAT CPU Get status of CPU and memory

TEST CPU Test the CPU

- 2** Check the LCD states

a. Perform a visual check of the LCDs.

b. Test and LCDs:

LD 135

DSPL ALL

c. Check that the LCD display matches the software check.

- 3** Test the System Utility card

LD 135 Load program

STAT SUTL Get the status of the System Utility card

TEST SUTL Test the System Utility card

- 4** Test system redundancy and media devices:

LD 137 Load program

TEST RDUN Test redundancy

DATA RDUN Test database integrity

STAT FMD Status of one or both Fixed Media Devices
(FMD)

STAT RMD Status of one or both Removable Media Devices
(RMD)

5 Clear the display and minor alarms on both Call Servers:

LD 135 Load program

CDSP Clear the displays on the cores

CMAJ Clear major alarms

CMIN ALL Clear minor alarms

6 Check dial tone.

7 Check applications (CallPilot, Symposium, Meridian Mail, etc.)

End of Procedure

Switching call processing

Procedure 38

Switching call processing

LD 135 Load program

SCPU Switch call processing from Call Server
1 to Call Server 0



Call Server 0 is now the active CP.

End of Procedure

Procedure 39
Testing Call Server 1

From active Call Server 0, perform these tests on Call Server 1:

- 1** Perform a redundancy sanity test:

LD 135	Load program
STAT CPU	Get status of CPU and memory
TEST CPU	Test the CPU

- 2** Check the LCD states.

a. Perform a visual check of the LCDs.

b. Test LCDs:

LD 135	Load program
DSPL ALL	

c. Check that the LCD display matches the software check.

- 3** Test the System Utility card:

LD 135	Load program
STAT SUTL	Get the status of the System Utility card
TEST SUTL	Test the System Utility card

- 4** Test system redundancy and media devices:

LD 137	Load program
TEST RDUN	Test redundancy
DATA RDUN	Test database integrity
STAT FMD	Status of one or both Fixed Media Devices (FMD)

STAT RMD Status of one or both Removable Media Devices (RMD)

******** Exit the program

5 Clear the display and minor alarms on both Call Servers:

LD 135 Load program

CDSP Clear the displays on the Call Servers

CMAJ Clear major alarms

CMIN ALL Clear minor alarms

6 Check dial tone.

7 Check applications (CallPilot, Symposium, Meridian Mail, etc.)

End of Procedure

Switching call processing

Procedure 40

Switching call processing

LD 135 Load program

SCPU Switch call processing from Call Server 0 to Call Server 1



Call Server 1 is now the active CP.

End of Procedure

Performing a customer backup data dump (upgraded release)

Procedure 41

Performing a data dump to backup the customer database:

- 1 Log into the system.
- 2 Insert a CF card into the active Call Server RMD slot to back up the database.
- 3 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

LD 43 Load program.

. EDD

- 4 When "EDD000" appears on the terminal, enter:

EDD Begin the data dump.



CAUTION

Loss of Data

If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

- 5 When "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" appear on the terminal, enter:

******** Exit program



The upgrade is now complete.

Signaling Server upgrade and reconfiguration

Contents

This section contains information on the following topics:

Introduction	181
Upgrading from previous releases.	182
Upgrading from Succession Release 3.0	182
Upgrading from CS 1000 Release 4.0	182
Upgrading the Signaling Server software	182
Before you begin	183
Performing the upgrade	183
Unpacking Help files for Virtual Terminal Emulator	190
Reconfiguring the Signaling Server	191
Reinstalling the previous release of software	203

Introduction

This chapter explains how to use the Signaling Server Install Tool to upgrade the Signaling Server software and reconfigure the Signaling Server. It also explains how to reinstall the previous version of Signaling Server software.

Upgrading from previous releases

Upgrading from Succession Release 3.0

If you are upgrading from Succession Release 3.0, you must migrate your H.323 Gatekeeper to the NRS as part of the upgrade.

Use the process and procedures in *Signaling Server: Installation and Configuration* (553-3001-212) to perform both the migration and the Signaling Server upgrade.

IMPORTANT!

If you are upgrading from Succession Release 3.0, do not use the procedures in this section unless directed to do so by the process described in *Signaling Server: Installation and Configuration* (553-3001-212).

Upgrading from CS 1000 Release 4.0

If you are upgrading from CS 1000 Release 4.0, you must back up the NRS database before upgrading the software. For instructions, see *IP Peer Networking: Installation and Configuration* (553-3001-213). You back up your existing IP configuration during the upgrade procedure (Procedure 42 on [page 183](#)).

Upgrading the Signaling Server software

IMPORTANT!

The Signaling Server is out-of-service during software upgrade.

Before you begin

Before upgrading the software, you must do the following:

- Connect and power up the Signaling Server — use *Signaling Server: Installation and Configuration* (553-3001-212).
- Back up the database if you are upgrading from CS 1000 Release 4.0. See *IP Peer Networking: Installation and Configuration* (553-3001-213) for instructions.
- Obtain the latest version of the Signaling Server Software Install CD-ROM — see *Signaling Server: Installation and Configuration* (553-3001-212).

Performing the upgrade

Use Procedure 42 to upgrade the Signaling Server software. If you are upgrading from CS 1000 Release 4.0, you must back up the NRS database before starting the upgrade procedure. For instruction on backing up the NRS database, see *IP Peer Networking: Installation and Configuration* (553-3001-213).

Procedure 42 **Upgrading the Signaling Server software**

The Signaling Server requires 512 MB of RAM for CS 1000 Release 4.0 and later. If necessary, see *Signaling Server: Installation and Configuration* (553-3001-212) to upgrade the RAM before beginning this procedure.

If you are upgrading from CS 1000 Release 4.0, you must back up the NRS database. See *IP Peer Networking: Installation and Configuration* (553-3001-213) for instructions.

- 1 Insert the Software CD-ROM into the Signaling Server CD drive, and press the **RST** button on the front panel to cold-reboot the Signaling Server.

Note: The Software CD-ROM should be bootable. If not, create a boot floppy using the files in the `/mkboot` directory on the Signaling Server Software CD-ROM.

- 2 Enter **c** at the boot menu shown in Figure 27 on [page 184](#).

Note: Enter **c** within ten seconds to ensure that the Signaling Server boots to the upgraded software on the CD-ROM.

Figure 27
Upgrade boot sequence

```
ISP1100 System Boot
Copyright 2002-2005 Nortel Networks, Inc.

CPU: PC PENTIUM
Version: x
BSP version: 1.2/0
Creation date: Apr 22 2005, 15:44:38
ataDrv 1.0: ATAPI Drive Found
Controller 1 drive 0
Controller 1 drive 1
ATAPI Controller 1 #drives found = 1
Read boot parameters from:
[C]DROM
[H]ard Disk
5 [H]
```

The following message appears:

```
tRootTask: Error reading system configuration file
tRootTask: Can't open oml.cfg file

Loading /cd0/load/inst.out
```

- 3** When the Install Tool banner appears, press <CR> to perform system checks and begin software installation.

The system verifies the file systems.

The following message appears:

```
WARNING: Make sure the NRS database is already
backed up. At this point, you should quit if you
don't have a NRS database backup. Option <a> will
only allow you to backup the IP configuration, and
the hard disk will be partitioned and all unsaved
data will be lost.
```


Figure 28
Copy IP configuration

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
IP configuration backup only when upgrading from release 4.0
and earlier to release 4.5 and after, or hit <b> to continue.

Please insert a DOS formatted blank diskette in the floppy drive.

      Please enter:
<CR> -> <a> - Diskette is now in the floppy drive.
          Continue.
      <b> - Continue without copying IP configuration
      <q> - Quit.

Enter Choice>

```

4 Do one of the following:

- If you want to back up the IP configuration, insert a blank floppy disk in the floppy drive (ensure that the floppy is not write-protected) and enter **a** at the menu shown in Figure 28.

Do one of the following:

- If the following message displays, followed by the menu in Figure 28 again, the backup operation failed. Go to step 5 on [page 187](#):

```

Change volume Id from 0x0 to 0x320d2
Please Wait

Failed to copy the IP configuration
The floppy is write-protected.

```

- If the following message displays, followed by the menu in Figure 29, the backup succeeded. Remove the floppy from the drive and change it to write-protected. Go to step 7 on [page 187](#):

```

/p/ - Volume is OK

Please wait

/f0/ - Volume is OK
/u/ - Volume is OK

Change volume Id from 0x0 to 0x125b

Done backing up IP configuration to the floppy

Keep the floppy write-protected throughout the rest of the
upgrade procedure to ensure the integrity of its data.
```

Figure 29
First boot of a new system

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

The filesystems verification failed! (This is normal for a new
system.)

The hard disk must be (re)partitioned and (re)initialized. This will
erase all data on the hard disk. The system will then reboot and
the Install Tool will restart.

Please enter:
<CR> -> <a> - Partition and initialize the hard disk, then reboot.

Enter Choice> a
```

- If you want to continue without backing up the IP configuration, enter **b** at the menu shown in Figure 28 on [page 185](#).

The system asks for confirmation:

```

IP configuration will be lost. Are you sure you
want to continue?
```

Enter **b** at the menu shown in Figure 28 on [page 185](#) to confirm that you want to continue. Go to step 6 on [page 187](#).

- If you want to quit the upgrade and restore the previous release of software, remove the Install Tool CD and the floppy from the drives and enter **q** at the menu shown in Figure 28 on [page 185](#). Go to step 12 on [page 190](#).

5 Reset the write permission on the floppy and try again:

- a.** Remove the floppy from the drive and slide the permission tab up and down.
- b.** Go back to step 4 on [page 185](#).

6 When the Install Tool banner appears, press <CR> to perform system checks and begin software installation.

The system verifies the file systems. The disk check reports:

```
Filesystems verification succeeded.
```

The menu shown in Figure 29 on [page 186](#) appears.

7 Enter **a** at the menu shown in Figure 29 on [page 186](#).

The following messages appear:

```
Testing hard disk ...
Testing partition /u (4194241 blocks) ...
xxx% complete
```

```
Testing partition /p (4194241 blocks) ...
xxx% complete
```

```
Hard disk testing succeeded.
```

```
Where xxx = 0 to 100.
```

If the physical check did not pass, contact your technical support group.

The Install Tool Main Menu displays (see Figure 30 on [page 188](#)).

Figure 30
Install Tool Main Menu

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

                M A I N      M E N U

The Install Tool will install Signaling Server software and related
files. You will be prompted throughout the installation.

    Please enter:
<CR> -> <a> - To perform a complete installation/upgrade (Signaling
          Server s/w, Internet Telephone f/w, Voice Gateway Media
          Card l/w, basic Signaling Server configuration).
        <b> - To install/upgrade Signaling Server software only.
        <c> - To copy Internet Telephone firmware only.
        <d> - To copy Voice Gateway Media Card loadware only.
        <e> - To perform basic Signaling Server configuration only.
        <t> - To go to the Tools Menu.
        <q> - Quit.

Enter Choice>

```

8 Do one of the following:

- Enter **a** to upgrade the Signaling Server software, IP Phone firmware, and Voice Gateway Media Card loadware.
- Enter **b** to upgrade only the Signaling Server software.

The following sample lines appear:

```

Copying "/cd0/sse30047.p3/disk.sys" to "/u/disk.sys".
Processing the install control file ...
"/cd0/sse30047.p3/install.dat" parsed.

```

9 Enter **y** to start the upgrade.

A series of screens show the progress of the upgrade. The system then echoes the ELAN network interface MAC address.

For future reference, the ELAN MAC address is:
"00:02:b3:c5:51:c6".

This address is found on the face of the Signaling Server, on the right-hand side when the bezel door is open.

When the upgrade is complete, one of the following occurs:

- If the IP configuration was not backed up prior to the upgrade, the Status Summary screen is displayed. Go to step 10.
- If the IP configuration was backed up prior to the upgrade, the menu shown in is displayed. Go to step 11.

Figure 31
Restore IP configuration

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please insert the database diskette in the floppy drive
to restore the IP configuration to the hard disk.

      Please enter:
<CR> -> <a> - Diskette is now in the floppy drive.
          Continue.
      <b> - Continue without restoring the IP configuration
      <q> - Quit.

Enter Choice>
```

10 Press <CR> to exit to the Main Menu, then go to step 12 on [page 190](#).

11 Do one of the following:

- To restore the IP configuration from the floppy, insert the write-protected floppy in the floppy drive, and enter **a** at the menu shown in Figure 31.
- To continue the upgrade without restoring the IP configuration, enter **b** or **q** at the menu shown in Figure 31. You will have to manually re-enter the IP configuration.

- 12 Enter **q** at the Main Menu to exit the upgrade process.
- 13 Enter **q** to exit the Install Tool.
- 14 Remove the CD-ROM from the drive and reboot the system.

End of Procedure

If you are upgrading from Succession 3.0, you must reconfigure the Signaling Server to obtain and configure the NRS. If you do not reconfigure the Signaling Server, you cannot use a SIP Redirect Server. Use the steps in Procedure 43 to reconfigure the Signaling Server.

If you are upgrading from CS 1000 Release 4.0, and you did not back up your original IP configuration, either when upgrading the software (see Procedure 42 on [page 183](#)) or directly from the Tools menu (see *Signaling Server: Installation and Configuration* (553-3001-212)), you must manually reconfigure the Signaling Server. Use the steps in Procedure 43 to reconfigure the Signaling Server.

Unpacking Help files for Virtual Terminal Emulator

Help files for the Virtual Terminal Emulator (VTE) component of Element Manager are copied to the Signaling Server as compressed files during installation of the Signaling Server software.

Unpacking the Help files is optional. However, they can be unpacked at any time after the Signaling Server software is installed. See *Signaling Server: Installation and Configuration* (553-3001-212) to unpack the files.

IMPORTANT!

Unpacking the Help files takes approximately 20 to 30 minutes. Nortel recommends that you unpack the files during a service outage.

Refer to *Element Manager: System Administration* (553-3001-332) for more information on Element Manager and the Virtual Terminal Emulator.

Reconfiguring the Signaling Server

Use the Signaling Server Install Tool to reconfigure the Signaling Server.

Procedure 43

Reconfiguring the Signaling Server

- 1 From your Planning and Engineering group, obtain the following network and IP Telephony data for this Signaling Server:
 - node ID for the IP Telephony node
 - node IP address for the IP Telephony node
 - hostname for the Signaling Server
 - ELAN network interface IP address, subnet mask, and gateway
 - TLAN network interface IP address, subnet mask, and gateway
 - ELAN network interface IP address of the Call Server
 - Gatekeeper role (refer to *IP Peer Networking: Installation and Configuration* (553-3001-213) for details on the Gatekeeper)
 - primary and alternate Gatekeeper IP addresses for this networked system (refer to *IP Peer Networking: Installation and Configuration* (553-3001-213))
 - NRS role (refer to *IP Peer Networking: Installation and Configuration* (553-3001-213) for details on NRS)
- 2 At the Main Menu (Figure 32), enter **e** to reconfigure the Signaling Server.
 - If the nrsconf.xml file does not exist (and the nrsdflt.xml file does exist), the menu shown in Figure 33 on [page 193](#) is displayed. Go to step 3 on [page 192](#).
 - If the nrsconf.xml file does exist, go to step 5 on [page 194](#).

Figure 32
Install Tool Main Menu

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

                M A I N      M E N U

The Install Tool will install Signaling Server software and related
files. You will be prompted throughout the installation.

Please enter:
<CR> -> <a> - To perform a complete installation/upgrade (Signaling
          Server s/w, Internet Telephone f/w, Voice Gateway Media
          Card l/w, basic Signaling Server configuration).
        <b> - To install/upgrade Signaling Server software only.
        <c> - To copy Internet Telephone firmware only.
        <d> - To copy Voice Gateway Media Card loadware only.
        <e> - To perform basic Signaling Server configuration only.
        <t> - To go to the Tools Menu.
        <q> - Quit.

Enter Choice>
```

- 3** Create the NRS configuration file (nrsconf.xml) using the menu shown in Figure 33 on [page 193](#).
 - Select **a** to have the system automatically generate the NRS configuration file (nrsconf.xml) based on the existing configuration of the Signaling Server.
 - Select **b** to create the new configuration file by reconfiguring the Signaling Server. Go to step 5 on [page 194](#).

Figure 33
NRS configuration file

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

The Install Tool has detected that the NRS configuration file does
not exist.

    Please enter:

<CR> -> <a> - To automatically generate the NRS configuration file
          based on your existing system configuration.
        <b> - To reconfigure this Signaling Server, which will create
          new system configuration files.
        <q> - Quit.

Enter Choice>

```

- 4 Press <CR> at the Installation Status screen (Figure 34) to return to the Main Menu, and then go to step 13 on [page 203](#).

Figure 34
Installation Status

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

-----
                    INSTALLATION STATUS SUMMARY
-----

+=====+=====+=====+=====+
| Option | Choice | Status | Comment |
+=====+=====+=====+=====+
| software | no | | |
+-----+-----+-----+-----+
| firmware | no | | |
+-----+-----+-----+-----+
| loadware | no | | |
+-----+-----+-----+-----+
| configuration | yes | ok | NRS FILE CONVERSION |
+-----+-----+-----+-----+

Please press <CR> when ready ...

```

5 Configure the Signaling Server as Leader or Follower. See Figure 35.

- Enter **a** at the prompt to set this Signaling Server as Leader.
- Enter **b** at the prompt to set this Signaling Server as Follower. Go to step 9 on [page 198](#).

Figure 35
Leader/Follower Signaling Server configuration

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
Note: This step will over-write all existing configuration parameters
      on this Signaling Server.
Please select the role of this Signaling Server.

If this Signaling Server will be a Leader then its data networking
and IP Telephony parameters must be entered now. (This will pre-
configure the IP Telephony node files.)

If this Signaling Server will be a Follower then its data networking
and IP Telephony parameters must be configured through Element
Manager later.

      Please enter:
<CR> -> <a> - Set this Signaling Server as a Leader.
      <b> - Set this Signaling Server as a Follower.
      <q> - Quit.

      Enter Choice>
```

- 6 Configure the application configuration for this Signaling Server. See Figure 36.
 - If the Set TPS, Virtual Trunk TPS, and optional Network Routing Service (NRS) applications are to be enabled on this Signaling Server, enter **a** at the prompt to configure this Signaling Server as a co-resident Signaling Server.
 - If only the NRS is to be enabled on this Signaling Server:
 - If this Signaling Server is to be associated with a Call Server, enter **a** at the prompt to configure this Signaling Server as a co-resident Signaling Server. After you finished installing the Signaling Server software, you can disable the Line TPS and Virtual Trunk TPS in Element Manager (refer to *Element Manager: System Administration* (553-3001-332)).
 - If this Signaling Server is not to be associated with a Call Server, enter **b** at the prompt to set this Signaling Server as a stand-alone Signaling Server.

Figure 36
Application configuration

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
Please select the application configuration for this Signaling Server.

Please enter:
<CR> -> <a> - Co-resident (LTPS + VTRK + NRS).
        <b> - Stand-alone (NRS only - no Call Server).
        <q> - Quit.

Enter Choice>
```

- 7 Select the NRS to be provided by this Signaling Server. See Figure 37 for a co-resident Signaling Server or Figure 38 on [page 197](#) for a stand-alone Signaling Server.
- Enter **a** if this Signaling Server will provide an H.323 Gatekeeper and a SIP Redirect/Proxy Server.
 - Enter **b** if this Signaling Server will provide only an H.323 Gatekeeper.
 - Enter **c** if this Signaling Server will provide only a SIP Redirect/Proxy Server.
 - Enter **d** if this Signaling Server is a Leader Signaling Server and will not provide an NRS. Go to step 9 on [page 198](#).

Refer to *IP Peer Networking: Installation and Configuration* (553-3001-213) for more information on the NRS.

Figure 37
Network Routing Service (NRS) — co-resident Signaling Server

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please select the Network Routing Service (NRS) configuration for this
Signaling Server.

      Please enter:
<CR> -> <a> - H.323 Gatekeeper and SIP Redirect/Proxy Server.
      <b> - H.323 Gatekeeper only.
      <c> - SIP Redirect/Proxy Server only.
      <d> - None.

      Enter Choice>
```

Figure 38
Network Routing Service (NRS) — stand-alone Signaling Server

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please select the Network Routing Service (NRS) configuration for this
Signaling Server.

Please enter:
<CR> -> <a> - H.323 Gatekeeper and SIP Redirect/Proxy Server.
        <b> - H.323 Gatekeeper only.
        <c> - SIP Redirect/Proxy Server only.

Enter Choice>
```

- 8** Select the type of NRS to be provided by this Signaling Server. See Figure 39 for a co-resident Signaling Server. See Figure 40 on [page 198](#) for a stand-alone Signaling Server.
- If this Signaling Server is to be the Primary NRS, enter **a**.
 - If this Signaling Server is to be the Alternate NRS, enter **b**.
 - If this Signaling Server is not a stand-alone Signaling Server and is to be the Failsafe NRS, enter **c**.

Refer to *IP Peer Networking: Installation and Configuration* (553-3001-213) for more information on the NRS.

Figure 39
NRS type — co-resident Signaling Server

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please select the type of Network Routing Service (NRS) for this
Signaling Server.

Please enter:
<CR> -> <a> - Primary.
        <b> - Alternate.
        <c> - Failsafe.

Enter Choice>
```

Figure 40
NRS type — stand-alone Signaling Server

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please select the type of Network Routing Service (NRS) for this
Signaling Server.

      Please enter:
<CR> -> <a> - Primary.
      <b> - Alternate.

      Enter Choice>
```

9 Enter the data networking and IP telephony parameters for the Signaling Server as prompted.

- If this is a Leader Signaling Server, enter the parameters for the Node, ELAN network interface, TLAN network interface, and Call Server as required. See Figure 41 on [page 199](#). For the Call Server:
 - If installing the Signaling Server at an office that is not a branch office, enter the ELAN network interface IP address of the Call Server.
 - If installing the Signaling Server at a branch office, enter the ELAN network interface IP address of the MG 1000B Core.
- If this is a Follower Signaling Server, enter the Hostname of the Leader Signaling Server. See Figure 42 on [page 199](#). Then go to step 11 on [page 201](#).
- If this is a stand-alone Signaling Server and not associated with a Call Server (that is, **b** was selected in step 6 on [page 195](#)), enter the TLAN network interface parameters as required. The Call Server IP address is automatically set to 0.0.0.0. See Figure 43 on [page 200](#). Then go to step 10 on [page 200](#).

The IP information applies to a temporary IP Telephony node. This ensures that the existing node is not impacted. This also preconfigures the IP Telephony node files. In *Signaling Server: Installation and Configuration* (553-3001-212) the node files are imported to Element Manager for further configuration.

Note: IP addresses shown in Figures 41 to 43 starting on [page 199](#) are examples.

Figure 41
Leader Signaling Server

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please enter the data networking and IP Telephony parameters for
this Leader Signaling Server.

Node ID           : 276

Hostname          : SS_Node276_Ldr

ELAN IP           : 192.168.10.20
ELAN subnet mask: 255.255.255.0
ELAN gateway IP  : 192.168.10.1

TLAN IP           : 192.168.20.20
TLAN subnet mask: 255.255.255.0
TLAN gateway IP  : 192.168.20.1

Node IP           : 192.168.10.20

Call Server IP    : 192.168.10.10
```

Figure 42
Follower Signaling Server configuration

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

This Follower Signaling Server will obtain its data network and IP
telephony configuration from the Leader Signaling Server at boot.

To identify this Signaling Server, please enter a Hostname.

Hostname : SS_Node276_Ldr
```

Figure 43
Stand-alone Signaling Server

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please define the data networking parameters for this Standalone
Signaling Server. Note that the ELAN parameters are necessary for
management access (e.g. SNMP).

Hostname           : SS_SA

ELAN IP            : 192.168.10.20
ELAN subnet mask: 255.255.255.0
ELAN gateway IP   : 192.168.10.1

TLAN IP            : 192.168.20.20
TLAN subnet mask: 255.255.255.0
TLAN gateway IP   : 192.168.20.1

```

- 10** Enter the Primary NRS IP address or the Alternate NRS IP address depending on the option entered in step 7 on [page 196](#) or step 8 on [page 197](#).
 - If **a** was entered in step 8, you can enter the address of the Alternate NRS if you know it, but it is not required. See Figure 45 on [page 201](#).
 - If **b** was entered in step 8, enter the address of the Primary NRS. See Figure 44 on [page 201](#).
 - If **c** was entered in step 8:
 - Enter the address of the Primary NRS. See Figure 44 on [page 201](#).
 - Enter the address of the Alternate NRS. See Figure 45 on [page 201](#).
 - If **d** was entered in step 7:
 - Enter the address of the Primary NRS (optional). See Figure 44 on [page 201](#).
 - If you did enter the address of the Primary NRS, enter the address of the Alternate NRS (also optional). See Figure 45 on [page 201](#).

The Gatekeeper configuration can be updated later using Element Manager.

Figure 44
Primary NRS IP address

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please enter the Primary NRS IP Address:

Primary NRS IP   :
```

Figure 45
Alternate NRS IP address

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please enter the Alternate NRS IP Address:

Alternate NRS IP :
```

11 Enter **y** to confirm the parameters. See Figure 46 on [page 202](#).

The example in Figure 46 is for a Leader Signaling Server configured with an Alternate H.323 and SIP NRS. The confirmation screens for a Follower and stand-alone Signaling Server are similar, showing the same list of parameters, specifically:

- The screen for the Follower Signaling Server displays only the value for the Hostname parameter; all other values are blank.
- The screen for the stand-alone Signaling Server displays values for the Hostname, ELAN network interface, TLAN network interface, and NRS parameters. The Node ID field is set to 0. The Call Server IP field is set to 0.0.0.0.

Figure 46
IP Telephony parameter configuration

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
```

```
=====
```

```
You have entered the following parameters for this Leader  
Signaling Server:
```

```
Node ID           : 276  
Hostname          : SS_Node276_Ldr  
ELAN IP           : 192.168.20.100  
ELAN subnet mask : 255.255.255.0  
ELAN gateway IP  : 192.168.10.1  
TLAN IP          : 192.168.20.20  
TLAN subnet mask : 255.255.255.0  
TLAN gateway IP  : 192.168.20.1  
Node IP          : 192.168.20.100  
Call Server IP   : 192.168.10.10  
NRS configuration: Alternate GK + SIP  
Primary NRS IP   : 192.168.20.10  
Alternate NRS IP : 192.168.20.24
```

```
      Please enter:
```

```
<CR> -> <y> - Yes, these parameters are correct.  
      <n> - No, these parameters are not correct.
```

```
      Enter Choice>
```

- 12** Press <CR> at the Installation Status screen (Figure 47 on [page 203](#)) to return to the Main Menu.

Figure 47
Installation Status

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

-----
                INSTALLATION STATUS SUMMARY
-----

+=====+=====+=====+=====+
|  Option  | Choice | Status |          Comment          |
+=====+=====+=====+=====+
| software  |   no   |        |                            |
+-----+-----+-----+-----+
| firmware  |   no   |        |                            |
+-----+-----+-----+-----+
| loadware  |   no   |        |                            |
+-----+-----+-----+-----+
| configuration | yes   |   ok   | Set as Leader/Follower    |
+-----+-----+-----+-----+

Please press <CR> when ready ...
```

- 13** Enter **q** at the Main Menu to quit the installation process.
- 14** Remove all disks from the disk drives.
- 15** Enter **q** to Quit the Install Tool and reboot the system.

End of Procedure

Reinstalling the previous release of software

Use Procedure 44 on [page 204](#) to reinstall the previous release of software.

Note: , You must first clear the boot sector. A utility in the Tools Menu is provided to do this (see *Signaling Server: Installation and Configuration* (553-3001-212)).

Procedure 44
Reinstalling the previous software release

- 1 Enter **t** at the Install Tool **Main Menu**.

The **Tools Menu** opens, as shown in Figure 48.

Figure 48
Tools menu

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
                                T O O L S   M E N U

This is the Tools Menu. Please select one of the options below.

Please enter:
<CR> -> <a> - To set system date and time.
        <b> - To re-partition and re-initialize the hard disk.
        <c> - To reset the Administrator login and password.
        <d> - To test the hard disk.
        <e> - To change the web server security flag.
        <f> - To initialize unprotected (/u) partition.
        <g> - Clear the boot sector to allow re-installation of the
        .      previous release.
        <h> - Backup the IP configuration from the hard disk to the
        floppy.
        <i> - Copy the IP configuration from the floppy to the
        hard disk.
        <m> - To return to the Main Menu.

Enter Choice>
```

- 2 Enter **g** to **Clear the boot sector to allow the re-installation of the previous release**.

When the boot sector is cleared, the following message displays:

The boot sector is cleared.
Insert the installation CD and restart the system.

- 3** Insert the Signaling Server Install Tool CD for the previous release, and install the software accordingly.

End of Procedure

Upgrading the Media Gateway 1000T

Contents

This section contains information on the following topics:

Introduction	208
Things to know	209
Software installation program	209
bootROM	210
Alternate MG 1000T Core and survivability	210
MG 1000T customer database	210
IP Telephony node files	212
Upgrade the MG 1000T Core software.	212
Task summary	212
Things to know	213
Perform a data dump on the MG 1000T Core	213
Upgrade the MG 1000T Core software	214
Upgrade the feature set and License parameters	224
Upgrade the MG 1000T Expansion(s)	225
Things to know	225
Upgrade or reinstall MG 1000T Expansion software.	226
Test the upgrade	229

Introduction

This chapter describes how to upgrade the Media Gateway 1000T (MG 1000T) platform to CS 1000 Release 4.5 software. This includes upgrading the MG 1000T Core and MG 1000T Expansion(s). While they both use the same software upgrade files and delivery media, there are differences in software prompts and responses in the installation programs for each component.

The upgrade must be completed on the MG 1000T Core and every MG 1000T Expansion in the system. To upgrade the MG 1000T Core, see “Upgrade the MG 1000T Core software” on [page 212](#). To upgrade an MG 1000T Expansion, see “Upgrade the MG 1000T Expansion(s)” on [page 225](#).

To perform an upgrade to the system using a Software Delivery card (PC Card), see Procedure 46 “Upgrading the MG 1000T Core software” on [page 214](#).

IMPORTANT!

- The MG 1000T Core and IP Line nodes within a single system must be upgraded simultaneously to CS 1000 Release 4.5.
- CS 1000 Release 4.5 software is not backwards-compatible with Meridian 1 X11 Release 25.40 and IP Line 3.0 within a single system.
- CS 1000 Release 4.5 software is backwards-compatible with base features of Succession 1000 Release 2.0 and Meridian 1 X11 Release 25.40 at the network level.

IMPORTANT!

Upgrade the MG 1000T Core software before the MG 1000T Expansions. Ensure that the MG 1000T Core upgrade is complete and the MG 1000T Core is up and running before loading the MG 1000T Expansions. Note that MG 1000T Expansions can be installed in any order.

Things to know

Software installation program

The Software Installation Program provides a menu-driven method of selecting from the different options of installing, modifying, or upgrading the following:

- Software
- Feature set (packages)
- License parameters

The Software Installation Program does not check the prerequisites and interactions of added packages.

The Software Installation Program also provides utilities to:

- upgrade IP daughterboard software
- upgrade boot ROM
- archive, restore or install a database
- review installation data
- back up data
- undo an installation in progress

The Software Installation Program has the following additional options:

- **Set system time and date:** The system time and date is usually set before installation. This makes sure that all flash drive files have the correct creation date.
- **Confirm Upgrade Information:** This option allows you to review the selected installation options. Use the “Confirm Upgrade Information” after the system validates the keycodes, but before the installation is complete.
- **Clear Upgrade Information:** If the installation terminates after entering the keycodes, but before the installation is complete, abort the installation with the “Clear Upgrade Information” option.

For detailed procedures and information on system utilities available through the Installation and Upgrade options, see “System upgrade utilities” on [page 261](#).

bootROM

bootROM on the existing NTDK34FA or NTDK34GA Small System Controller (SSC) card must be version r09 or later on the MG 1000T Core. The bootROM on the MG 1000T Expansion SSC must be version r08 or later.

The standard software installation automatically updates the bootROM. To manually update the bootROM, follow Procedure 59 "Upgrading bootROM on the SSC card" on [page 265](#).

Alternate MG 1000T Core and survivability

To learn more about survivability, database synchronization, and protection commands, read the chapters on the Alternate MG 1000T Core and survivability in *Communication Server 1000S: Planning and Engineering* (553-3031-120) and *Communication Server 1000E: Installation and Configuration* (553-3041-210).

Survivability configuration for MG 1000T Expansions maintains the same functionality as Succession 3.0 software for defining the system settings, switchover time, and automatic switchback. Consult *Communication Server 1000E: Installation and Configuration* (553-3041-210) for more information.

MG 1000T customer database

Make sure the most recent system backup or archive is available before starting the upgrade procedure. A backup can be required depending on the upgrade procedure. For example, a backup is mandatory when installing from a pre-programmed software daughterboard.

The Software Installation Program and its Utilities menu allows the installation of a customer database from one of the following sources:

- Pre-configured database ([page 211](#))

- Archived database ([page 211](#))
- Remote restored database ([page 211](#))
- Backed up Database ([page 212](#))

Pre-configured database

The Software Delivery card can include several pre-configured databases and their associated feature sets, such as for the MG 1000B installation. In addition, a minimal database is provided that contains basic system configuration information with no customer data.

To use a pre-configured database, define the database in an off-site lab environment and save (archive) it to a Software Delivery card until needed. Then load it to the system using the Software Delivery card.

Archived database

The Software Installation program enables users to archive various databases for later use at CS 1000E sites. It allows multiple databases to be configured off-site for ready-to-use installation at customer sites.

To archive a database on the Software Delivery card, define the database and perform a data dump on the SSC card.

Note: Off-site programming of databases is subject to all security keycode restrictions. The off-site system must either use the Security Device installed in the CS 1000E at the customer site, or must have its own keycodes for the feature set used.

For archive procedures, see “System upgrade utilities” on [page 261](#).

Remote restored database

If information is corrupt on the database, revert to the database on the backup flash drive. Alternatively, revert to a previous version of the database contained in the Customer Configuration Backup and Restore (CCBR) file, or revert or port over a database from the Software Delivery card.

A database can be remotely restored using the LD 143 (Customer Configuration Backup and Restore) remote restore command. The command sequence required in LD 143 is prompted as follows:

```
>LD 143
XRT
```

For more information on restoring databases, see “Restore a database” on [page 269](#).

Backed up Database

The Backed up Database option enables administrators to install the copy on the backup flash drive. It is provided to:

- recover a database if the database on the primary flash drive becomes corrupted
- restore the database after a system software update

See “System upgrade utilities” on [page 261](#).

IP Telephony node files

With a CS 1000 Release 4.5 software upgrade, there are new IP Telephony node database files on the MG 1000T Core. These node files are backed up during a system data dump using the EDD command in LD 43. For more information about these files, refer to *IP Line: Description, Installation, and Operation* (553-3001-365).

Upgrade the MG 1000T Core software

Task summary

The following list reviews the steps needed to upgrade from one software release to another for the MG 1000T Core:

- 1 Install the Software Delivery card and start the Software Installation Program.
- 2 Verify the feature set and packages.

- 3 Select a database.
- 4 Verify or change the License parameters.
- 5 Validate the keycodes; the software then installs.
- 6 Reboot the system.

Things to know

The Software Installation Program must run from maintenance terminal port 0 on card 0 of the MG 1000T Core. Make sure the terminal or workstation is connected to this port.



WARNING

Before and after an upgrade, perform a data dump on the MG 1000T Core.

Perform a data dump on the MG 1000T Core

Follow the steps in Procedure 45 to back up the existing database. This is a routine operation.

Procedure 45

Performing a data dump on the MG 1000T Core

- 1 Enter LD 43 in a CLI window.
- 2 Enter command **EDD**.

End of Procedure

Upgrade the MG 1000T Core software

This procedure assumes that the system is running and a maintenance terminal is connected. The Link LEDs on the IP daughterboards should be lit and green.

IMPORTANT!

Both before and after an upgrade, perform a data dump on the MG 1000T Core (Procedure 45 on [page 213](#)). As well, perform a database archive (Procedure 60 on [page 266](#)) to back up the database.



WARNING

Do not format the Software Delivery card through Windows or DOS. The file allocation size does not match that of the Voice Gateway Media Card. Use the operating system of the card itself to format the Software Delivery card. Alternatively, simply delete the old files on the Software Delivery Card.

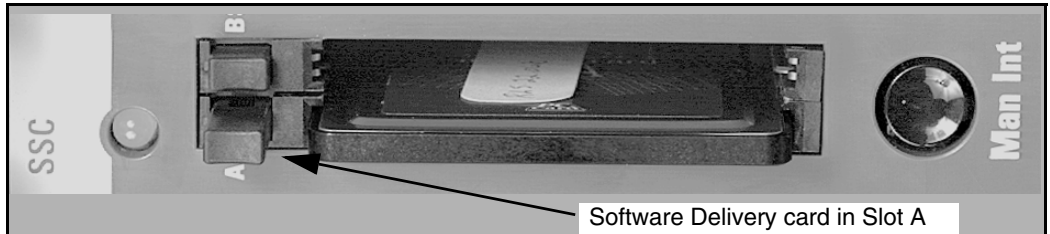
Follow the steps in Procedure 46 to upgrade the MG 1000T Core software.

Procedure 46

Upgrading the MG 1000T Core software

- 1 Disable all D-channels (DCH) in LD 96.
- 2 Disable any AML links in LD 48.
- 3 Install the Software Delivery card in the faceplate socket of the SSC card on the MG 1000T Core.
 - a. Insert the card in slot A in the Software Delivery card socket of the SSC card.
 - b. Carefully press on the Software Delivery card until it seats tightly. Refer to Figure 49 on [page 215](#) for the correct position of the Software Delivery card.

Figure 49
Software Delivery card slot location



- 4 Start the Software Installation Program.
 - a. Reboot the MG 1000T Core (reseat the SSC card or power off/on the MG 1000T Core power).
 - b. Choose one of the following:
 - i. Press **Ctrl+I** at the prompt to invoke the Installation program, or
 - ii. Enter the following command in LD 143:

```
>LD 143
```

UPGRADE

The system displays the Software Installation Main Menu.

Call Server Software Installation Main Menu:

```
1. New Install or Upgrade from Option 11/11E - From
   Software Daughterboard
2. System Upgrade
3. Utilities
4. New System Installation - From Software Delivery
   card
[q]uit, [p]revious, [m]ain menu, [h] help or [?],
<cr> - redisplay
```

- 5 Choose one of the following:
 - a. When upgrading with a Software Delivery card, select item 2, **"System Upgrade"**. Proceed to Step 6.
 - b. When upgrading with a pre-programmed software daughterboard, select item 1, **"New Install or Upgrade - From Software Daughterboard"**. Treat the upgrade as a new install.

The New Install - From Software Daughterboard menu displays this response:

CS 1000 Enterprise Software Rls 4.x will be installed.

Proceed to step 8 on [page 217](#).

6 Make a selection in the Upgrade menu, which appears as follows:

Select type of upgrade to be performed:

1. Option 11/11E Upgrade

2. New Software Upgrade

3. Feature/Parameter Upgrade

[q]uit, [p]revious, [m]ain menu, [h]elp or [?], <cr> -
redisplay

- a. To upgrade the system software, select item 2.
- b. To upgrade only the feature set and License parameters (see "Upgrade the feature set and License parameters" on [page 224](#)) select item 3.

7 The system displays:

*** LAST SYSTEM DATABASE BACKUP DATE: WED FEB 25
17:32:40 2004 ***

If you wish to backup system database please abort
now and go to LD43 to perform EDD.

Do you wish to archive the database? (y/n/[a]bort):

- a. Select **a** to abort and perform the system database backup in LD 43.
- a. Select **y** to archive the database.
- b. Select **n** to not archive the database and proceed to the next step.

The system displays:

*** NOTE: The following questions require
information on the Keycode Data Sheet. Please have
it available. ***

CS 1000 Enterprise Software Rls 4.x will be
installed.

8 Select the feature set to enable.

Note: The feature set selected must match the ones provided with key codes on the keycode data sheet. The Feature Set names shown below are examples only.

The system displays:

Select Feature Set You Wish to Enable:

1. S1000 N. America Business Services-L1 (ntm400cd)
 2. S1000 N. America Enhanced Business Services-L2 (ntm400dd)
 3. S1000 N. America Adv. Call Centre Services-L3A (ntm400ed)
 4. S1000 N. America Adv. Networking Services-L3B (ntm400fd)
 5. S1000 N. America Premium Network Services-L4 (ntm400gd)
 6. S1000 CALA Business Services-L1 (ntm400hd)
 7. S1000 CALA Enhanced Business Services-L2 (ntm400id)
 8. S1000 CALA Adv. Call Centre Services-L3A (ntm400jd)
 9. S1000 CALA Adv. Networking Services-L3B (ntm400kd)
 10. S1000 CALA Premium Network Services-L4 (ntm400ld)
- [q]uit, [p]revious, [m]ain menu, [h]elp or [?], <cr> - redisplay

Enter selection:

Select the Feature Set to enable.

Note: The feature set selected must match that provided with the keycodes.

9 The system displays:

Do you wish to install Dependency Lists? (y/n/
[a]bort) :

Enter choice>

Enter **n** to skip Dependency Lists and continue with the installation.

10 The system displays the Add Packages menu.

Do you wish to add packages? (y/n/[a]bort):

Indicate if there are packages to add.

- a. Select **y** to add packages.
- b. Select **n** to not add packages and proceed to the next step.

Summary of packages selected (example only):
0-2 4-5 7-14-23-29 32-64 67 70-77 79-81 83
86-93.....

Enter additional packages: <cr> to continue

Note 1: The additional packages must have matching keycodes.

11 Confirm the feature set and packages. The following is an example.

Your Feature Set Selection is: S1000 N. America Adv.
Call Centre-L3A

Additional Packages selected: 215-235

Summary of Packages selected is:

0-2 4-5 7-14 16-25 28-29 32-64 67 70-77 79-83 86-93 95
100-104 107-111 113-116 118-120 122-125 127-129
131-133 135 137-141 167

...

...

215-235

Is this selection correct?

n <cr> (no)

y <cr> (yes)

a <cr> (abort, return to main menu)

If the response was **n**, return to step 8 on [page 217](#).

If the response was **y**, continue.

12 Select Database to Install:

1. Pre-Configured database - S1000 N. America Adv. Call Centre-L3A
2. Basic Configuration
3. Archived database
4. Quick Config for Demo only

[q]uit, [p]revious, [m]ain menu, [h]elp or [?], <cr>
redisplay

- a. To install from a pre-programmed software daughterboard, select item 2, **"Basic Configuration"**. This installs the system with a basic database, allowing you to then restore the backed up database at the end of the installation.

IMPORTANT

When installing from a pre-programmed daughterboard, "Basic Configuration" must be selected at this point. If this is not done, the system starts a data dump (EDD) after loading the new software, and overwrites the customer data stored on the CPU.

- b. To import an archived database from a Software Delivery card, select item 3, **"Archived database"**.

13 Review and make changes to the License parameters, if required.

The MG 1000T Core displays the current License parameters as follows (example only):

License Parameters will be set to:

TNS	(2500)
ACDN	(300)
AST	(1)
LTID	(0)
RAN CON	(0)
RAN RTE	(500)
MUS CON	(0)
BRAND	(2)
ACD AGENTS	(10)
ANALOGUE TELEPHONES	(0)
ATTENDANT CONSOLES	(2500)
BRI DSL	(150)
CLASS TELEPHONES	(0)

```
DATA PORTS                ( 2500)
DIGITAL TELEPHONES        (    0)
IP USERS                   (    0)
BASIC IP USERS             (    0)
PHANTOM PORTS             ( 2500)
DECT USERS                 (    0)
DECT VISITOR USERS        (    0)
ITG ISDN TRUNKS           (    0)
TRADITIONAL TRUNKS        ( 2500)
TMDI D-CHANNELS           (   64)

SURVIVABILITY              (    1)
PCA                        (    0)
H.323 ACCESS PORTS        (    0)
SIP ACCESS PORTS          (    0)
```

Do you wish to change any License parameter? (y/n/[a]bort):

- a. Select **n** to accept License parameter(s).
- b. Select **y** to change License parameter(s).

Note: If the feature set is not changed, the parameters displayed remain as the current License parameters. The License parameters selected must match those provided with the keycodes.

14 Verify the AUX ID.

The default AUX ID is the security ID provided with the system.

Security ID: xxxxxxxx

Current AUX ID: xxxxxxxx

Do you wish to change the AUX ID? (y/n/[a]bort):

Select the AUX ID option as provided with the keycodes.

15 Select the M3900 Language Set.

The system displays the Select M3900 Language Set menu.

```

Select M3900 Language Set:
1. Global 10 languages
2. Western Europe 10 languages
3. Eastern Europe 10 languages
4. North America 6 languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[q]uit, [p]revious, [m]ain menu, [h] help or [?], <cr>
- redisplay

```

Enter Selection:

Enter the item number that applies to the system.

- 16** Review and confirm the upgrade summary displayed. To access this information at any time, use Procedure 63 "Using the Current Installation Summary utility" on [page 272](#). The following is an example of an upgrade summary.

Software Upgrade Summary:

```

Security ID           : xxxxxxxx
Aux ID               : xxxxxxxx
Cabinet Type         : Call Server/MAIN
Feature Set          : S1000 N. America Adv. Call
Centre Services-L3A (ntm400ed)
Additional Pkgs       : none
Database             : Basic Configuration

S/W Release :      CS 1000 x.x
License Parameters

TNS              ( 2500)
ACDN             (   300)
AST              (    1)
LTID             (    0)
RAN CON          (    0)
RAN RTE          (   500)
MUS CON          (    0)
BRAND            (    2)
ACD AGENTS       (   10)
ANALOGUE TELEPHONES (    0)
ATTENDANT CONSOLES ( 2500)
BRI DSL          (   150)
CLASS TELEPHONES (    0)

```

```

DATA PORTS                ( 2500)
DIGITAL TELEPHONES        (    0)
IP USERS                   (    0)
BASIC IP USERS             (    0)
PHANTOM PORTS              ( 2500)
DECT USERS                 (    0)
DECT VISITOR USERS         (    0)
ITG ISDN TRUNKS            (    0)
TRADITIONAL TRUNKS         ( 2500)
TMDI D-CHANNELS            (   64)

SURVIVABILITY              (    1)
PCA                        (    0)
H.323 ACCESS PORTS         (    0)
SIP ACCESS PORTS           (    0)

M3900 Language Set         : 1. Global 10 languages

Is this correct? (y/n/[a]bort) : y

```

17 Enable or Disable Automatic Centralized Software Upgrade.

```

Enable Automatic Centralized Software Upgrade? (y/n/[a]bort)

```

If choosing **y**, go to Procedure 66 "Enabling Centralized Software Upgrade on the MG 1000E" on [page 283](#).

Note 1: This option enables Automatic Centralized Software Upgrade for upgrades to CS 1000 Release 4.5.

18 Enter the keycodes.

a. Enter keycodes when prompted.

```

Enter new Keycodes:
Key 1:xxxxxxxx
Key 2:xxxxxxxx
Key 3:xxxxxxxx

```

b. Look for the keycode validation message.

After entering the last keycode, the system displays a message indicating if the keycodes are successful or not. See the following message examples.

Example successful screen message:

```

Keycode validation successful

```

WARNING A system restart will be invoked as part of the software installation process".

Example unsuccessful screen message:

Keycode validation unsuccessful.

c. Choose one of the following:

i. If the **successful** message appears, go to step 19.

ii. If the **unsuccessful** message appears, repeat step 18.

After three unsuccessful keycode validation attempts, the following message appears:

Keycode validation unsuccessful.

Installation aborted...returning to main menu.

Contact your technical support group.

19 Complete the software upgrade.

Sample screen display:

*** WARNING *** A system restart will be invoked as part of the software upgrade process

Are you sure you wish to perform the upgrade? (y/n/[a]bort)

Enter **y <CR>**. The Software Installation Program finishes in approximately 15 minutes.

Note: If the only upgrade change was the feature set and License parameters, refer to "Upgrade the feature set and License parameters" on [page 224](#) for the end of the software installation.

20 Observe the screen after the installation program has been completed.

Sample Screen display:

Upgrade completed successfully.

Rebooting ...

The system reboots.

Example screen display:

```
TTY 00 SCH MTC BUG          17:50
OVL111 000 IDLE
```

If Automatic Centralized Software Upgrade was enabled, the MG 1000T Expansions now undergo the upgrade process.

- 21 If this procedure was performed using a pre-programmed software daughterboard, restore the customer's backup configuration files that were overwritten by Basic Configuration. See "Restore a database" on [page 269](#).

End of Procedure

Upgrade the feature set and License parameters

The Software Installation Program allows the addition of individual packages from the feature set and the changing of License parameters without upgrading or altering the software version. Since additions and changes are keycode-controlled, packages and License parameters must match those corresponding to the site's keycodes.

To perform the upgrade, initiate the upgrade Software Installation Menu from LD 143. Follow the steps in Procedure 46 "Upgrading the MG 1000T Core software" on [page 214](#). The pertinent steps for upgrading the feature set are outlined in the procedure.

At the end of the installation, the system displays:

Upgrade was completed successfully.

If the only change is to the License parameter values, a screen message states that the system does not need a SYSLOAD, or reboot. The system has put into operation the changes to the License values.

If the feature set is upgraded, the system must reboot (SYSLOAD). The message states:

Initiate a SYSLOAD to activate the upgrade.

The reboot does not need to occur immediately. The MG 1000T Core stores the information until the reboot. Because a restart interrupts service on the system, Nortel recommends performing a restart later when a service interruption is more convenient.

The software installation program then returns to LD 143 without affecting the system operation.

Upgrade the MG 1000T Expansion(s)

Things to know

MG 1000T Expansions always receive a new software installation, even in the case of upgrades. This is because the master copy of the database is stored on the MG 1000T Core and is upgraded during the MG 1000T Core upgrade. The database is subsequently synchronized to the MG 1000T Expansions.

IMPORTANT!

Install or upgrade the MG 1000T Core software before the MG 1000T Expansions. Ensure the MG 1000T Core installation or upgrade is complete and the MG 1000T Core is up and running before loading the MG 1000T Expansions. MG 1000T Expansions can be installed in any order.

To configure MG 1000T Expansions for survivability, see *Communication Server 1000S: Planning and Engineering* (553-3031-120) and *Communication Server 1000S: Installation and Configuration* (553-3031-210).

This section contains instructions for manually upgrading the MG 1000T Expansions. For information on performing centralized upgrade of MG 1000T Expansions, see Appendix C on [page 279](#).

There are two ways to install or upgrade the MG 1000T Expansion software:

- 1 a Software Delivery card (PC Card)
- 2 a pre-programmed daughterboard

Note: This procedure is performed from a maintenance terminal connected to port 0 on the MG 1000T Expansion.

Upgrade or reinstall MG 1000T Expansion software

Upgrade the MG 1000T Expansions in either of the following ways:

- all at one time, which requires multiple Software Delivery cards
- in sequential order, which takes longer, but takes only one MG 1000T Expansion out of service at a time

Steps 1 and 11 of the following procedure are included to minimize service disruption on an active system.

Follow the steps in Procedure 47 to upgrade or reinstall the MG 1000T Expansion software.

Procedure 47

Upgrading or reinstalling MG 1000T Expansion software

- 1 Force any MG 1000T Expansion configured for Survivability to operate in Survival mode.
 - a. Log into the MG 1000T Core and access LD 135.
 - b. Type the following command at the prompt:
SOTS n
Where n is the MG 1000T Expansion number. The MG 1000T Expansion reboots and restarts in Survival mode.
- 2 Ensure the Software Delivery card is inserted in Slot A on the SSC card of the MG 1000T Expansion.
- 3 Reboot the system and press **CTRL+I**.
- 4 The MG 1000T Installation Main Menu appears. Select item 1, "MG 1000T Installation - From Software Delivery card".
The system displays the Software Installation Main Menu.

SOFTWARE INSTALLATION PROGRAM

Verify

Security ID: xxxxxxxx

Media Gateway Software Installation Main Menu:

1. Media Gateway Installation - From Software Delivery Card

2. Utilities

[q]uit, [p]revious, [m]ain menu, [h]elp or [?], <cr> -
redisplay

Enter Selection: 1

Note 1: If there is no input for two minutes, the installation program attempts automatic configuration using BOOTP. Press <cr> to disable the timer and stay in the menu.

- 5** Choose **y** or **n** at the prompt for IP configuration. The system displays:

Do you wish to do IP configuration? (y/n/[a]bort):

- 6** Enter one of the following commands:

- a.** Enter **y**. Refer to *Communication Server 1000E: Installation and Configuration* (553-3041-210) for the steps required to configure the ELAN link.
- b.** Enter **n**. This maintains the current IP configuration. Go to step 8 on [page 228](#).

- 7** Select appropriate language set for the region.

The system displays the M3900 Language Set menu.

Select M3900 Language Set:

1. Global 10 languages
2. Western Europe 10 languages
3. Eastern Europe 10 languages
4. North America 6 languages
5. Spare Group A
6. Spare Group B

```
[q]uit, [p]revious, [m]ain menu, [h]elp or [?], <cr> -
redisplay
```

```
Enter Selection : 1
```

- 8 Complete the software installation. (This is similar to the MG 1000T Core installation).

When finished, the system displays:

```
CS 1000 Rls. x.x will be installed.
```

```
*** WARNING *** A system restart will be invoked
as part of the software installation process
```

```
Are you sure you wish to perform the installation? (y/
n/[a]bort):
```

- 9 Enter **y**. The Software Installation Program finishes in approximately 15 minutes.
- 10 Observe the screen after the installation program has been completed.

```
Installation completed successfully.
```

```
Rebooting ...
```

The system reboots.

Sample screen display:

```
TTY 00 SCH MTC BUG          17:50
OVL111 000 IDLE
```

Note: The MG 1000T Expansion configured for Survivability reboots in Survival mode.

- 11 Force any MG 1000T Expansion configured for Survivability back into Normal Mode.

- a. Log in to the MG 1000T Core and access LD 135.

- b. Type the following at the prompt:

```
SBFS n
```

The MG 1000T Expansion reboots and restarts in Normal mode.

- 12 Perform a data dump using LD 43 to synchronize the new customer database on the MG 1000T Core to the MG 1000T Expansions.

End of Procedure

Test the upgrade

Whether or not changes are made to the analog and trunk configurations in this upgrade, test the upgrade of the MG 1000T Core and any MG 1000T Expansion at this time by making calls over both IP and circuit-switched components.

Upgrading Voice Gateway Media Card and IP Phone loadware and firmware

Contents

This section contains information on the following topics:

Things to know	231
Task summary	232
Verify current loadware and firmware versions	232
Determine Voice Gateway Media Card loadware version.....	233
Determine the IP Phone firmware version	237
Obtain and upload loadware and firmware files	240
Upgrade the Voice Gateway Media Card loadware	243
Upgrade loadware using a Software Delivery card.	248
Upgrade the IP Phone firmware	250

Things to know

During the Signaling Server upgrade, the Install Tool copied Voice Gateway Media Card loadware files and IP Phone firmware files to the Signaling Server. Element Manager uses these files to upgrade the Voice Gateway Media Cards and to distribute the IP Phone firmware files to the other components in the IP Telephony nodes. This allows administrators to then upgrade the firmware on the IP Phones.

For more information about telephone operation during firmware download, see *IP Line: Description, Installation, and Operation* (553-3001-365) or *Branch Office: Installation and Configuration* (553-3001-214).

To upgrade loadware and software, be sure to have the Signaling Server CD-ROM from the Upgrades kit on hand.

If an Upgrade kit was not purchased, refer to *Signaling Server: Installation and Configuration* (553-3001-212) for information on how to create a Signaling Server CD-ROM.

Alternatively, download the software from the Nortel web site and upload new loadware and firmware from the management workstation to Element Manager. Refer to “Obtain and upload loadware and firmware files” on [page 240](#).

Task summary

To upgrade loadware and software, perform the following tasks:

- 1** Verify the Voice Gateway Media Card loadware and IP Phone firmware versions.
- 2** Upgrade the software on all of the Voice Gateway Media Cards from IP Line 3.x to IP Line 4.0.
- 3** Distribute the IP Phone firmware to all components (Signaling Server and Voice Gateway Media Cards) in an IP telephony node.

Verify current loadware and firmware versions

Write down the loadware and firmware version for each Voice Gateway Media Card. Compare the loadware and firmware version with the latest recommended software release on the Nortel web site.

If the card’s software and firmware are not up-to-date, upgrade the Voice Gateway Media Card with the latest software and firmware files.

Determine Voice Gateway Media Card loadware version

To determine the version of loadware on the Voice Gateway Media Card, follow the steps in Procedure 48, Procedure 49, or Procedure 50 on [page 236](#).

Procedure 48

Determining loadware version during boot sequence

- 1 Attach a serial cable from the workstation to the maintenance port of the Voice Gateway Media Card.
- 2 Reset the card.
- 3 Observe the boot sequence and look for a software version message similar to the following example:

```
Software Version:  
SSE-x.xx.xx_IPL-x.xx.xx_08_23_2003.2099
```

End of Procedure

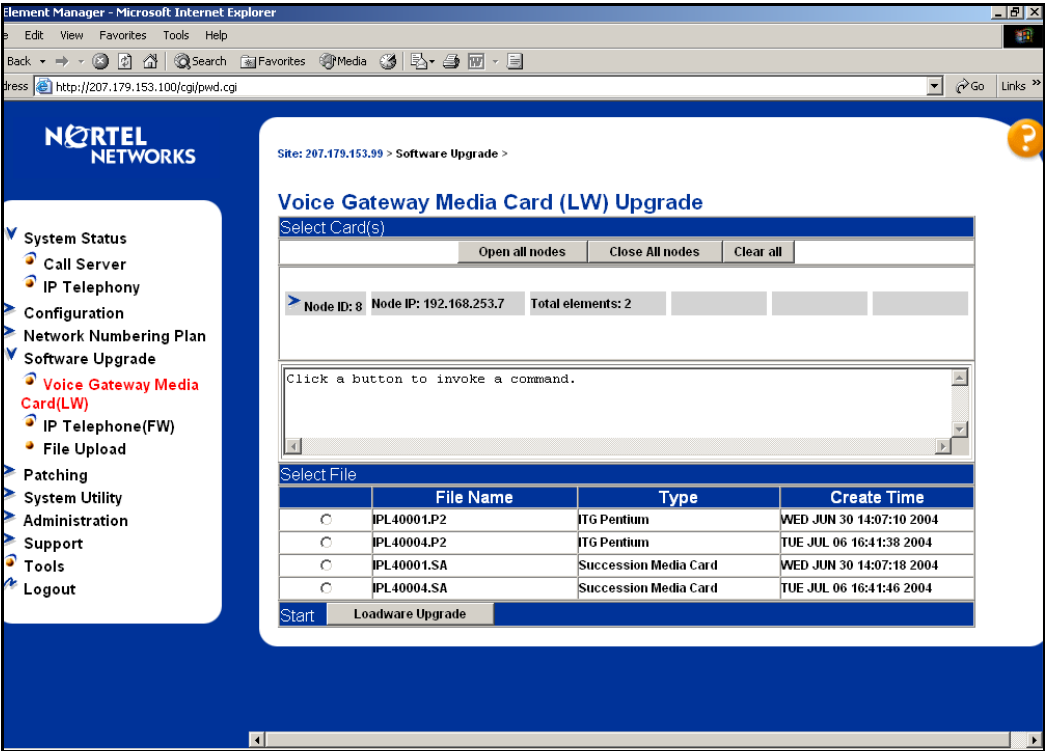
Procedure 49

Determining the loadware version through Element Manager

- 1 Click **Software Upgrade** from the Element Manager Navigation Tree.
- 2 Click **Voice Gateway Media Card (LW)** from the expanded Software Upgrade menu.

The **Voice Gateway Media Card (LW) Upgrade** page appears. See Figure 50 on [page 234](#).

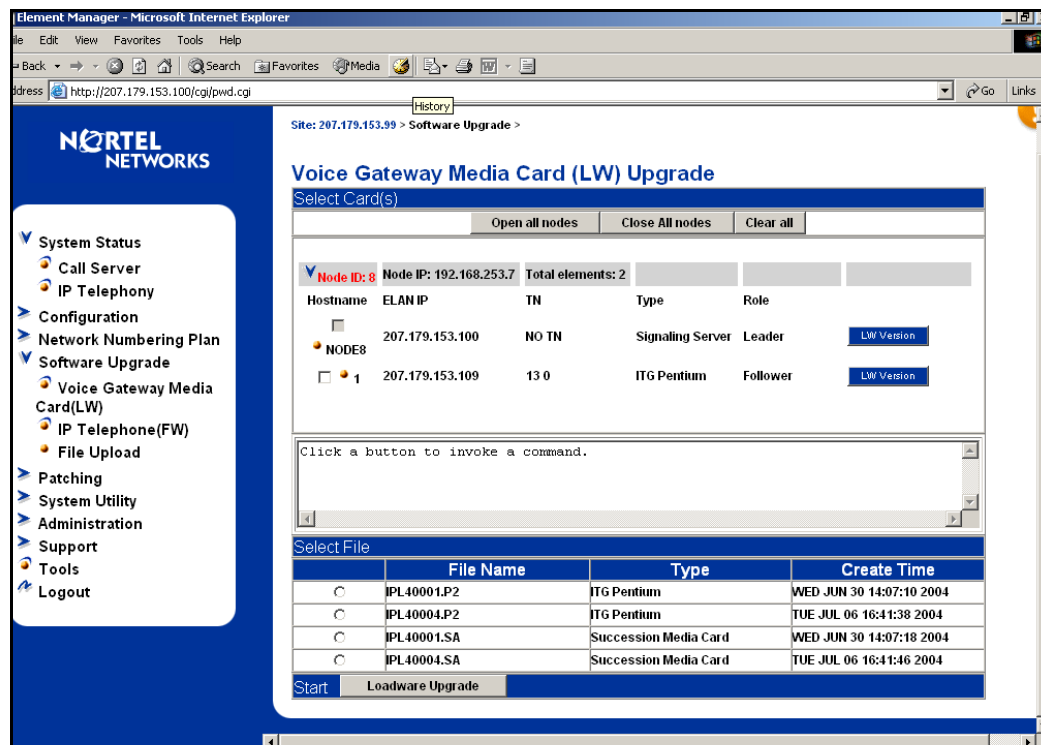
Figure 50
Voice Gateway Media Card (LW) Upgrade window



- 3 Expand a node and select a card in the node.

See Figure 51.

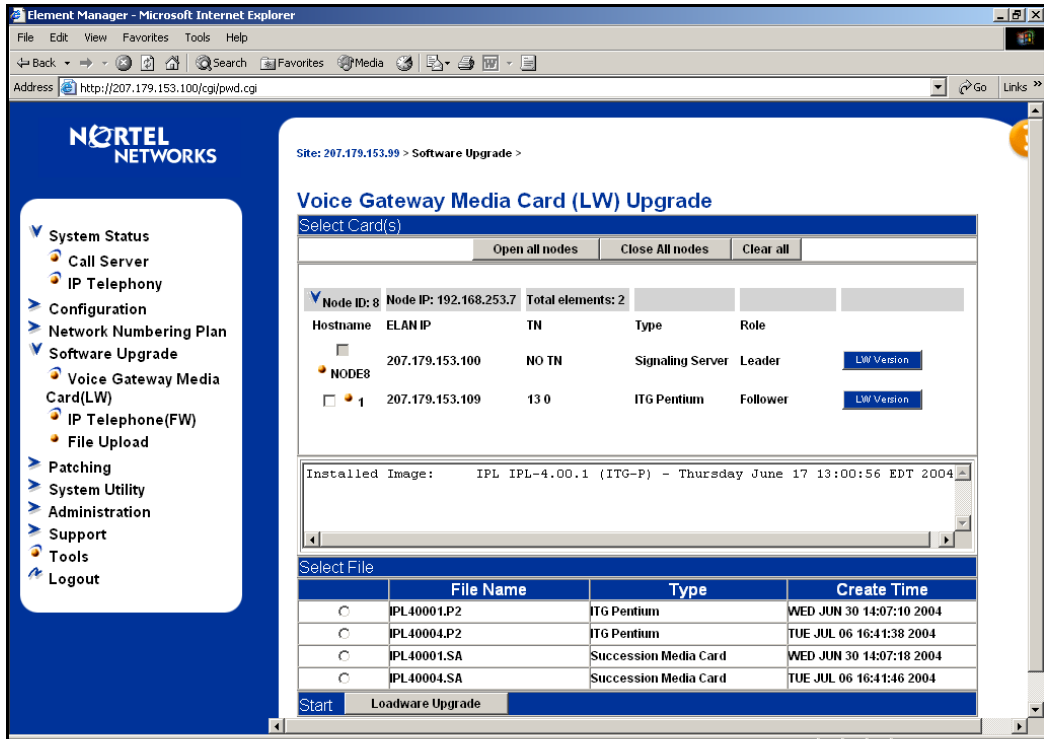
Figure 51
LW Version



- 4 Click the **LW Version** button located to the right of the card information.

The loadware version running on the card is displayed in the pane in the center of the Voice Gateway Media Card (LW) page, as shown in Figure 52 on [page 236](#).

Figure 52
Loadware version displayed



5 Note the loadware version for the card.

End of Procedure

Procedure 50

Determining the loadware version through the CLI

Detailed procedures can be found in *IP Line: Description, Installation, and Operation* (553-3001-365).

- 1 Telnet to a Voice Gateway Media Card.
- 2 Log in with a user name and password.

- 3 View the login banner, and look for a software version message similar to the following example:

```
Software Version:  
SSE-x.xx.xx_IPL-x.xx.xx_08_23_2003.2099.
```

- 4 Alternatively, view the syslog and look for a software version message.

Note: The Voice Gateway Media Card syslog is also available for viewing from Element Manager.

End of Procedure

Determine the IP Phone firmware version

To determine the version of the IP Phone firmware that is stored on the Voice Gateway Media Card, follow the steps in Procedure 51. To view the firmware version currently running on the IP Phones, use Procedure 52 on [page 240](#).

Procedure 51

Determining the IP Phone firmware version on a Voice Gateway Media Card

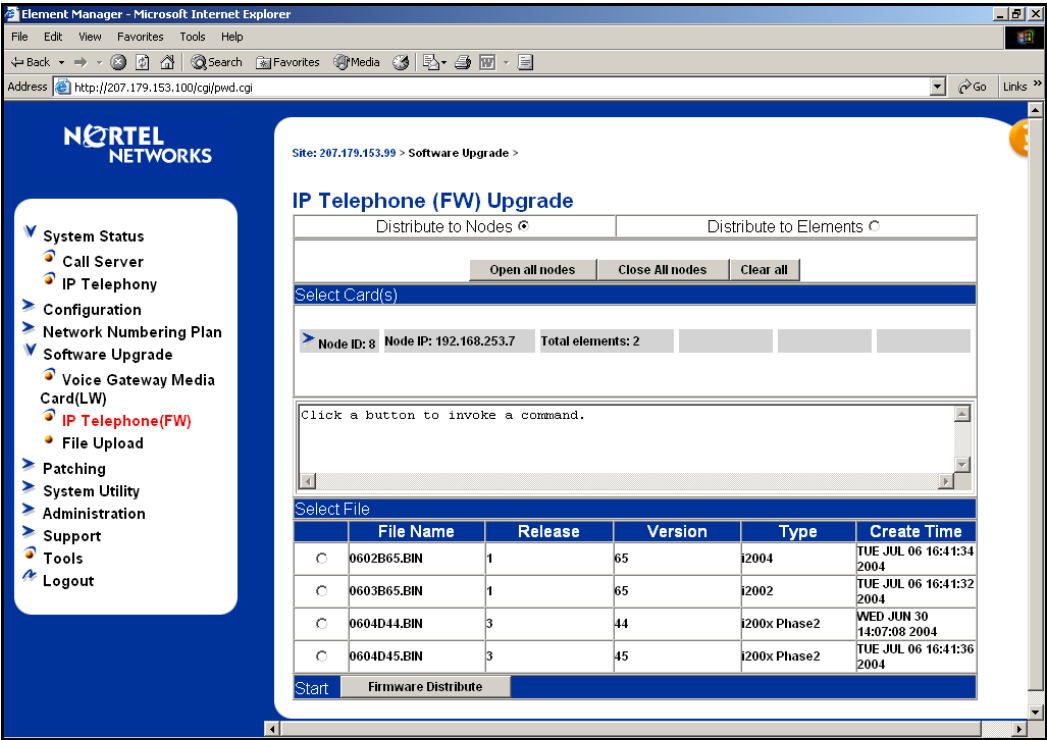
- 1 Click **Software Upgrade** from the Element Manager Navigation Tree.
- 2 Click **IP Telephone (FW)** from the expanded Software Version menu.

The **IP Telephone (FW) Upgrade** window opens. See Figure 53 on [page 238](#).

At the top of the screen, there are two radio buttons:

- a. **Distribute to Node** - disables all components which are not Leaders. Distribute to Node is the default since IP Line is responsible for distributing from the Leader to all Followers in a node.
- b. **Distribute to Elements** - enables all the components in case it is necessary to distribute the firmware to some components which have failed.

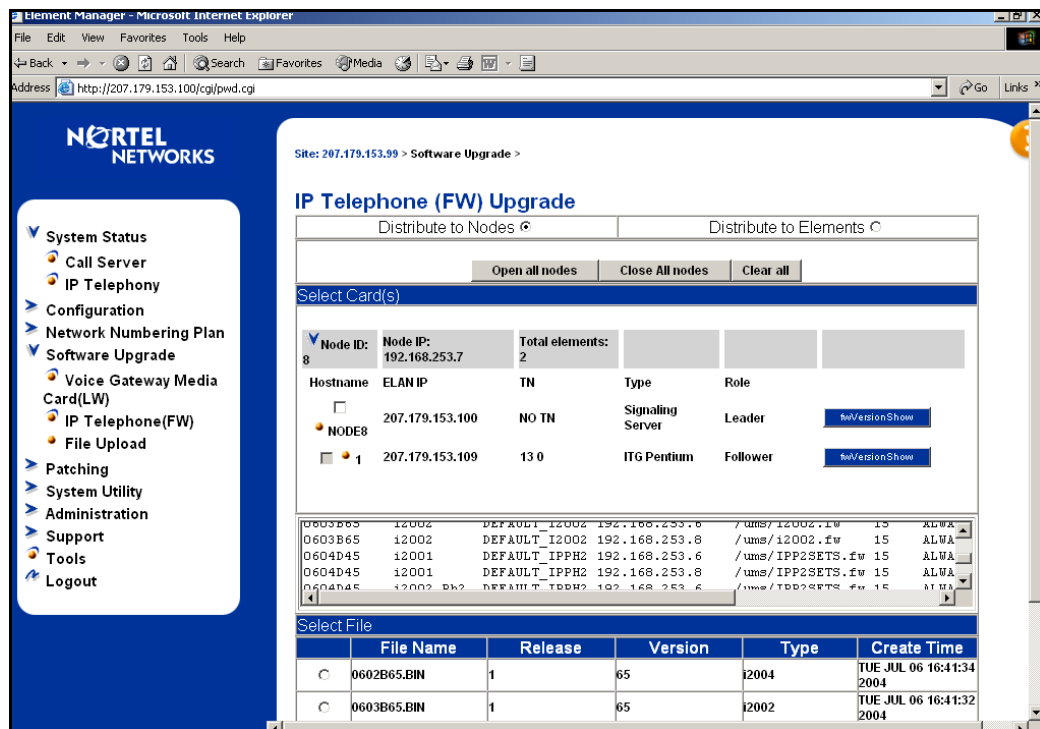
Figure 53
IP Telephone (FW) Upgrade window



- 3 Expand a node and select a card.

See Figure 54.

Figure 54
FWVersionShow



- 4 Click the **fwVersionShow** button located to the right of the card information. The firmware version running on the card is displayed in the pane in the center of the IP Telephone (FW) window.
- 5 Note the firmware version for the card.

End of Procedure

Procedure 52

Determining firmware version on an IP Phone

An alternative method to determine the IP Phone firmware version is through the keypad and display interface.

- 1 Press the **Configuration** key on the IP Phone (it looks like a small globe with arrows).
- 2 Press the down arrow key until the “**Set Info**” menu is reached. Press the **Select** key.
- 3 Press the down arrow key until “**FW Version**” is displayed.
- 4 Press the **Cancel** key to exit each menu.

End of Procedure

Obtain and upload loadware and firmware files

This information is provided in the event that a Signaling Server Software CD-ROM is not available. It provides information on how to download the necessary files from the Nortel Software Download web site to a management workstation, and how to upload the Voice Gateway Media Card loadware and IP Phone upgrade firmware from the management workstation to the Signaling Server.

Refer to “Obtaining software” on [page 277](#) for information on how to download the software to a management workstation.

Procedure 53 on [page 241](#) describes how to upload the Voice Gateway Media Card loadware and IP Phone firmware from the management workstation to the Signaling Server. Firmware and loadware upgrade files come with the Signaling Server Software CD-ROM included in the Upgrade kit, or from the Nortel Software Download web site.

If the latest Voice Gateway Media Card loadware and IP Phone firmware files were copied from the CD to the Signaling Server hard drive during the Signaling Server installation, there is no need to follow Procedure 53. The files appear in the Element Manager **Software Version > Voice Gateway Media Card LW** and **Software Version > IP Telephone FW** window. If the latest versions of the loadware and firmware are already installed on the

Signaling Server, then go to “Upgrading Voice Gateway Media Card loadware” on [page 243](#).

Follow the steps in Procedure 53 to upload the Voice Gateway Media Card loadware and IP Phone firmware from the management workstation to the Signaling Server.

To complete this procedure, use a management PC that is on the same network as the Signaling Server for Element Manager.

Procedure 53

Obtaining and uploading loadware and firmware

- 1 Obtain the latest software installation files for the Voice Gateway Media Card loadware and IP Phone firmware. Download the files from the Nortel Electronic Software Download site to the management PC, as described in “Obtaining software” on [page 277](#).

- 2 Locate the saved files and double-click the *.zip file.

The zipped file opens in a compression utility program and the decompressed files are listed.

For Phase 1 IP Phone 2004, the IP Phone firmware files have the format **‘0602BNN.BIN’**

For Phase 1 IP Phone 2002, the IP Phone firmware files have the format **‘0603BNN.BIN’**

For Phase 2 IP Phones 2001, 2002 and 2004, the IP Phone firmware files have the format **‘0604DNN.BIN’**

where:

06 is the design site location code

02 or 03 is the IP Phone type:

B is the release: {B = 1, C = 2, D = 3 ...}

xx is the firmware version

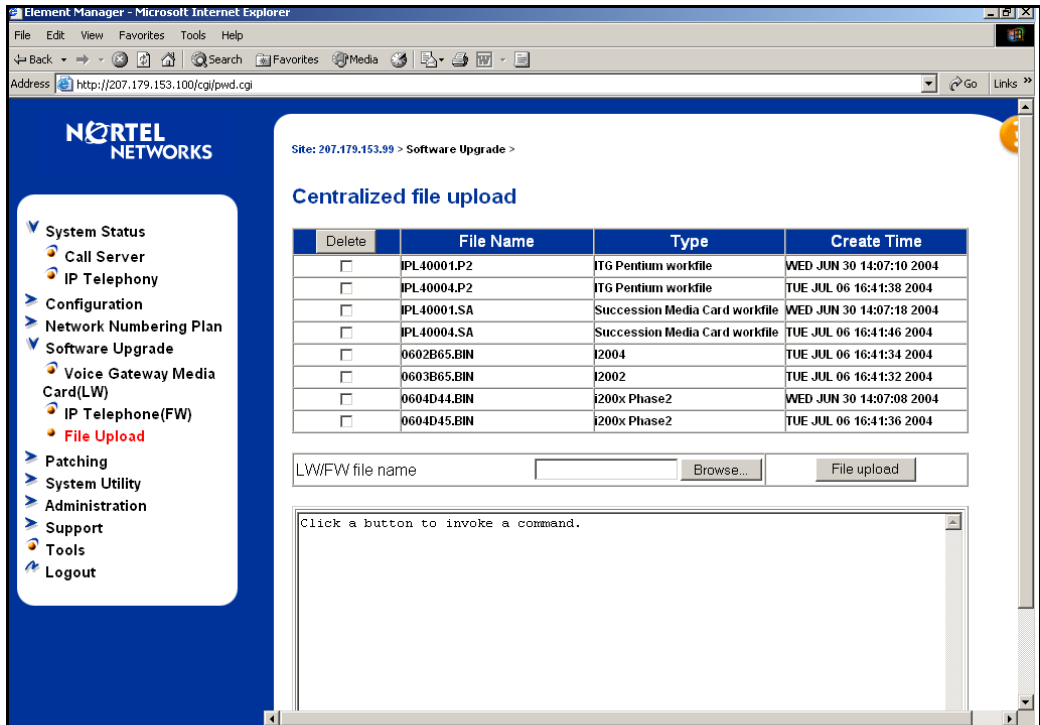
The Voice Gateway Media Card loadware files have the format **‘IPL400xx.p2’** and **‘IPL400xx.sa’**.

- 3 Log into Element Manager.

- 4 Using **Software Upgrade > File upload** (see Figure 55 on [page 242](#)), browse to the software files on the workstation and upload them to the Signaling Server.

Initially, the Voice Gateway Media Card loadware and IP Phone firmware files are stored in the Signaling Server's **/u/fw** directory.

Figure 55
Upload firmware, software, and loadware



Note 1: After uploading the file to Element Manager, the file remains on this Signaling Server.

Note 2: If there is more than one Signaling Server, the software files uploaded to a specific Signaling Server are not copied to another Signaling Server. It is unnecessary to copy files to other node components, as having a Leader Signaling Server enables central management.

End of Procedure

Upgrade the Voice Gateway Media Card loadware

This section describes how to upgrade Voice Gateway Media Card loadware from 3.x to a later version using Element Manager. The cards obtain their loadware from the Signaling Server.

Follow the steps in Procedure 54 to upgrade Voice Gateway Media Card loadware.

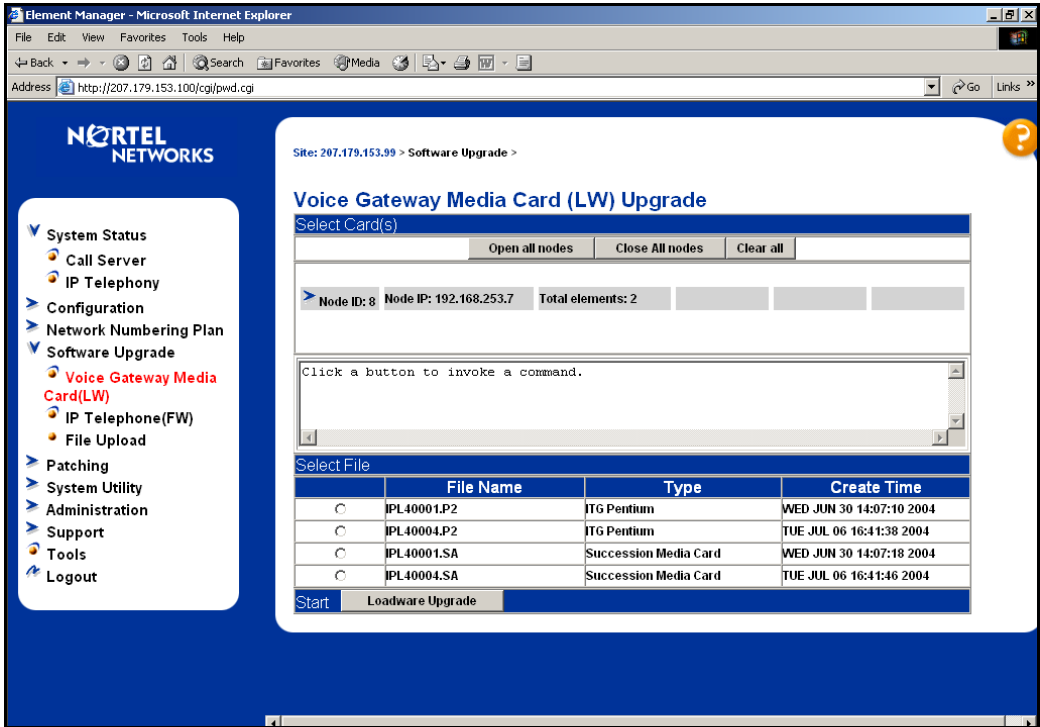
This procedure assumes the Voice Gateway Media Card upgrade loadware has already been uploaded to the Signaling Server. See “Obtain and upload loadware and firmware files” on [page 240](#).

Procedure 54

Upgrading Voice Gateway Media Card loadware

- 1** Log into Element Manager.
- 2** For the remote Voice Gateway Media Card upgrade, choose **Software Upgrade > Voice Gateway Media Card (LW)**.
- 3** The **Voice Gateway Media Card (LW) Upgrade** window opens. See Figure 56 on [page 244](#).

Figure 56
Voice Gateway Media Card (LW) upgrade



Note: Since components can run different versions of loadware, click the **LW Version** button for a given element to obtain the current loadware version.

- 4 Select the loadware file of the Voice Gateway Media Card for upgrade. The filename begins with “**IPL40**”. A sample list of files available is shown in Figure 56.
- 5 Open the node and select the Voice Gateway Media Cards to be upgraded. Select the same type of Voice Gateway Media Card as the loadware file.

For instance:

- a. If the loadware file has the extension “.p2”, only select ITG-P cards to upgrade.

- b. If the loadware file has the extension “.sa”, only select Media Cards to upgrade.

Note: The maximum number of Voice Gateway Media Cards or other components that can be upgraded at a time is four, as all files are simultaneously transferred by FTP.

- 6 Click the **Loadware Upgrade** button on the bottom of the Voice Gateway Media Card (LW) Upgrade window.
- 7 Click **OK** for the confirmation messages as shown in Figure 57.

A Loadware Upgrade Progress page is displayed, as shown in Figure 58 on [page 246](#). When the loadware upgrade is complete, a completion message appears as shown in Figure 59 on [page 246](#). Generally, it takes three minutes for each ITG-P 24-port card to upgrade, and one minute for each Media Card.

Figure 57
Work file

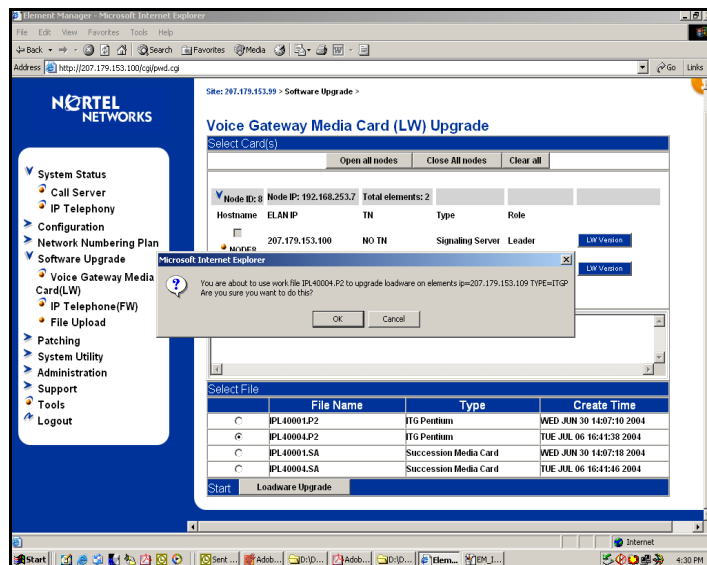


Figure 58

Loadware upgrade progress

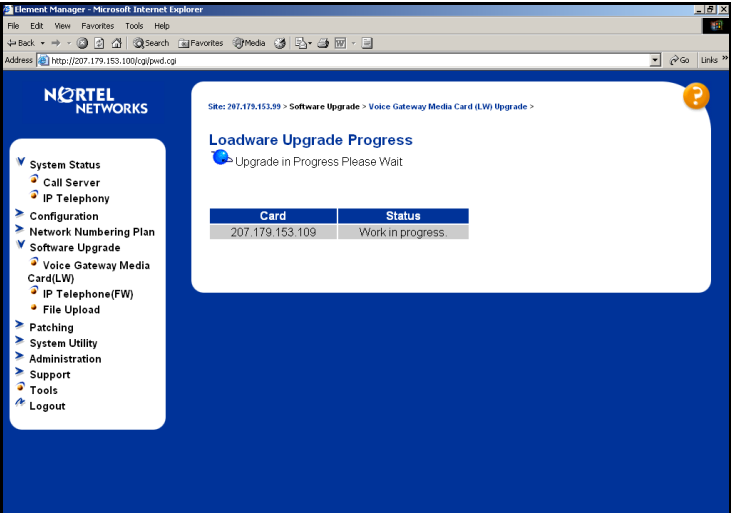
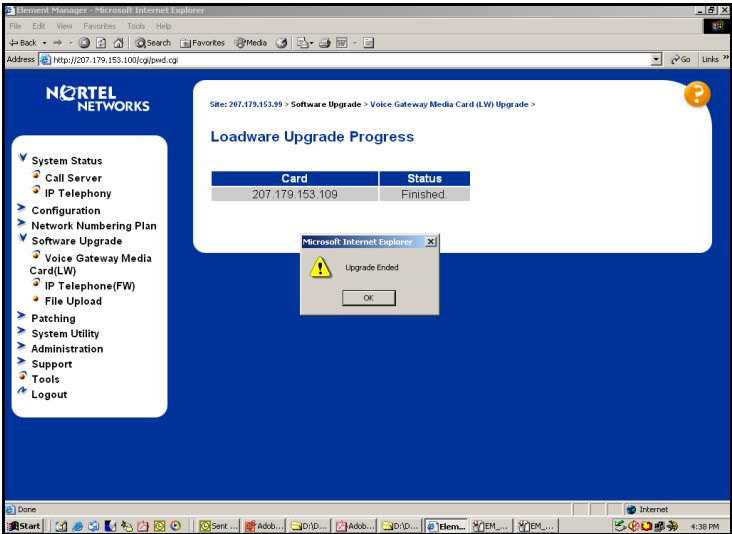


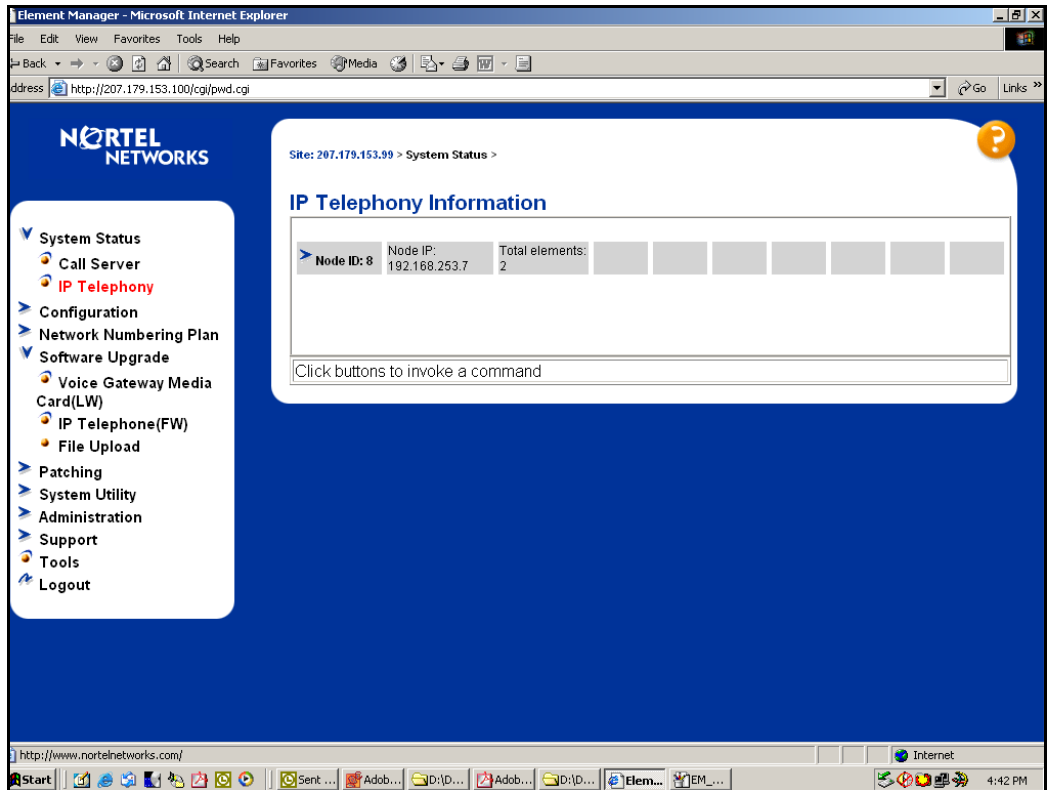
Figure 59

Loadware upgrade ended



- 8 If the card did not successfully receive the loadware, return to step 2 on [page 243](#). If the upgrade was successful, proceed to step 9.
- 9 Click **System Status > IP Telephony**. The **IP Telephony Information** window opens. See Figure 60.
- 10 Click the node to expand it.

Figure 60
IP Telephony information



- 11 Click the **Status** button of the Voice Gateway Media Card to be rebooted. Make sure that the display in the window pane (result box) says:
`xx.xxx.xxx.xxx: Disabled.`

If this is not displayed, disable the Voice Gateway Media Card. Refer to *IP Line: Description, Installation, and Operation* (553-3001-365). Repeat step 8 again.

- 12 Reboot the card by clicking the **Reset** button for the Voice Gateway Media Card in the IP Telephony Information window (**System Status > IP Telephony**).

See Figure 60 on [page 247](#).

- 13 Look at the faceplate display to determine when the card is finished booting.
- 14 Click the **Status** button for the Voice Gateway Media Card on the IP Telephony Information page.

The message in the window pane (result box) should say:

```
xx.xxx.xxx.xxx : Disabled.
```

- 15 Enable the Voice Gateway Media Card. Refer to *IP Line: Description, Installation, and Operation* (553-3001-365).
- 16 Click the **Status** button for the Voice Gateway Media Card in the IP Telephony Information window and make sure that the message in the window pane (result box) says:

```
xx.xxx.xxx.xxx: Enabled.
```
- 17 Repeat from step 9 on [page 247](#) to step 16 for each Voice Gateway Media Card that received the loadware upgrade.

After the card reboots, transfer IP Telephony node information using Element Manager. Refer to *IP Line: Description, Installation, and Operation* (553-3001-365).

End of Procedure

Upgrade loadware using a Software Delivery card

An alternative procedure to using Element Manager for the Voice Gateway Media Card loadware upgrade is using the advanced Command Line Interface (CLI) procedure to upload the files from a Software Delivery Card. For more detailed information, refer to *IP Line: Description, Installation, and Operation* (553-3001-365).

Follow the steps in Procedure 55 on [page 249](#) to upgrade the loadware using a Software Delivery Card.

This procedure assumes that the loadware was verified from the CLI as outlined in Procedure 48 on [page 233](#), where a serial cable connects the Voice Gateway Media Card to a workstation.

Procedure 55

Upgrading loadware using a Software Delivery card

- 1 Download the loadware, as described in “Obtaining software” on [page 277](#). For a first-time Voice Gateway Media Card upgrade after a system upgrade, use the files that are present on the Signaling Server Software CD-ROM.
- 2 Format a Software Delivery card (or delete the old files from the Software Delivery Card) and save the relevant loadware files to the card.

The Voice Gateway Media Card loadware files have the format ‘**IPL-----p2**’ for the double-slot ITG-P 24-port card and ‘**IPL-----sa**’ for the single-slot Media Card.

IMPORTANT!

Do not format the Software Delivery card through Windows or DOS. The file allocation size does not match that of the Voice Gateway Media Card. Use the operating system of the card itself to format the Software Delivery card. Alternatively, simply delete the old files on the Software Delivery Card.

- 3 Reset the card.
- 4 Observe the boot sequence and enter **jkl** when prompted. Be alert as this prompt times out within a few seconds.
- 5 Insert the Software Delivery Card into the Voice Gateway Media Card slot.
- 6 Enter the command:

```
copy "\A: /<filename>" , "/C: /exec"
```

where <filename> is the name of the file saved to the Software Delivery Card in step 2.

- 7 Remove the Software Delivery Card from the slot of the Voice Gateway Media Card.
- 8 Reset the card.
- 9 Watch the boot messages to confirm the loadware version. Check the release notes to confirm it is the initial version or later.

End of Procedure

Once the Voice Gateway Media Card loadware has been upgraded, verify whether or not the IP Phone firmware also requires an upgrade. Check the loadware release notes to determine which IP Phone firmware versions are compatible with the Voice Gateway Media Cards. If an upgrade is required, refer to “Upgrade the IP Phone firmware” on [page 250](#).

Upgrade the IP Phone firmware

This section describes how to distribute IP Phone firmware to the Signaling Server(s) and Voice Gateway Media Cards through Element Manager. However, performing this procedure does not upgrade the IP Phones directly.

To receive the firmware that is distributed to the Signaling Server(s) and Voice Gateway Media Cards, the IP Phones must be reset. Once reset, they register with the TPS and obtain the latest firmware upgrade.

The IP Phones can be reset manually or using the **umsUpgradeAll** command through the CLI on the Signaling Server. The **UmsUpgradeAll** command updates the firmware on all phones registered to the TPS. It also redirects the Virtual Office IP Phones to their home TPS and the MG 1000B IP Phones to their MG 1000B TPS to obtain the firmware upgrade.

Note: When a firmware upgrade is required for a MG 1000B system, install the firmware to the MG 1000B TPS before the Main Office TPS. Refer to *Branch Office: Installation and Configuration* (553-3001-214) for more information.

UFTP

Previously, IP Phones on Communication Server (CS) 1000 and Meridian 1 systems had their firmware downloaded using Trivial File Transfer Protocol (TFTP). Firewalls often have their well-known TFTP port (port 69) disabled to maintain security. When port 69 is blocked, IP Phones cannot obtain firmware downloads. This situation prevents the IP Phone from registering and coming into service.

In order to eliminate the file transfer problem with the firewalls and TFTP, CS 1000 Release 4.x implements a Unistim File Transfer Protocol (UFTP) download solution. UFTP shares the existing Unistim signaling port (5000) at the IP Phone and RUDP stream; it is a separate protocol on top of the RUDP layer.

UFTP enhances security, because it is a proprietary protocol, as opposed to TFTP which is an open protocol. It enables customers to improve their firewall security by closing port 69 to block TFPT in their firewall and policy-based switches and routers.

For the UFTP IP Phone firmware download to work, it is necessary to explicitly open port 5100 (Unistim signaling) and port 5105 (UFTP signaling).

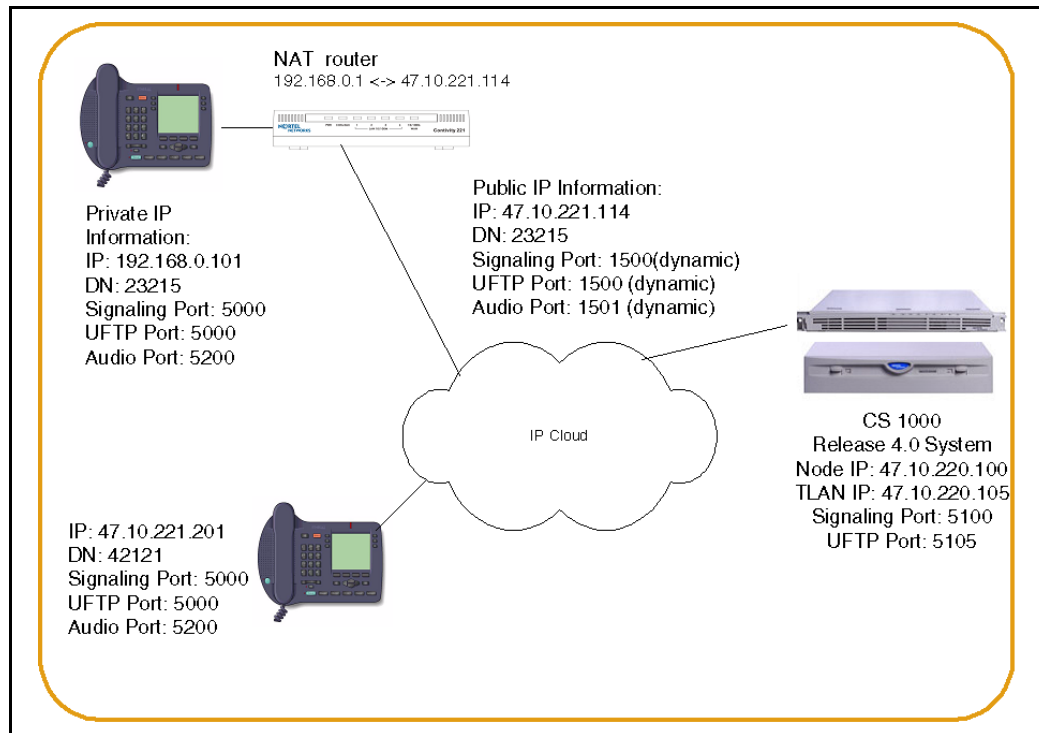
UFTP uses the same IP Phone UDP signaling port (port 5000) as the Unistim messages currently use for the IP Phone messages. UFTP uses port 5105 as the UFTP server port to communicate between the IP Phone and the UFTP server. Both of these ports can be safely enabled by firewalls. See Table 10.

Table 10
Source/destination port usage on either side of the connection

Port	IP Phone signaling	IP Phone UFTP	UFTP Server
Source port	5000 (see note)	5000 (see note)	5105
Destination port	5100	5105	5000 (see note)

If the IP Phone is behind a Network Address Translation (NAT) device, then a different public signaling port is used. The public signaling port is assigned dynamically. See Figure 61 on [page 252](#).

Figure 61
Using NAT with UFTP

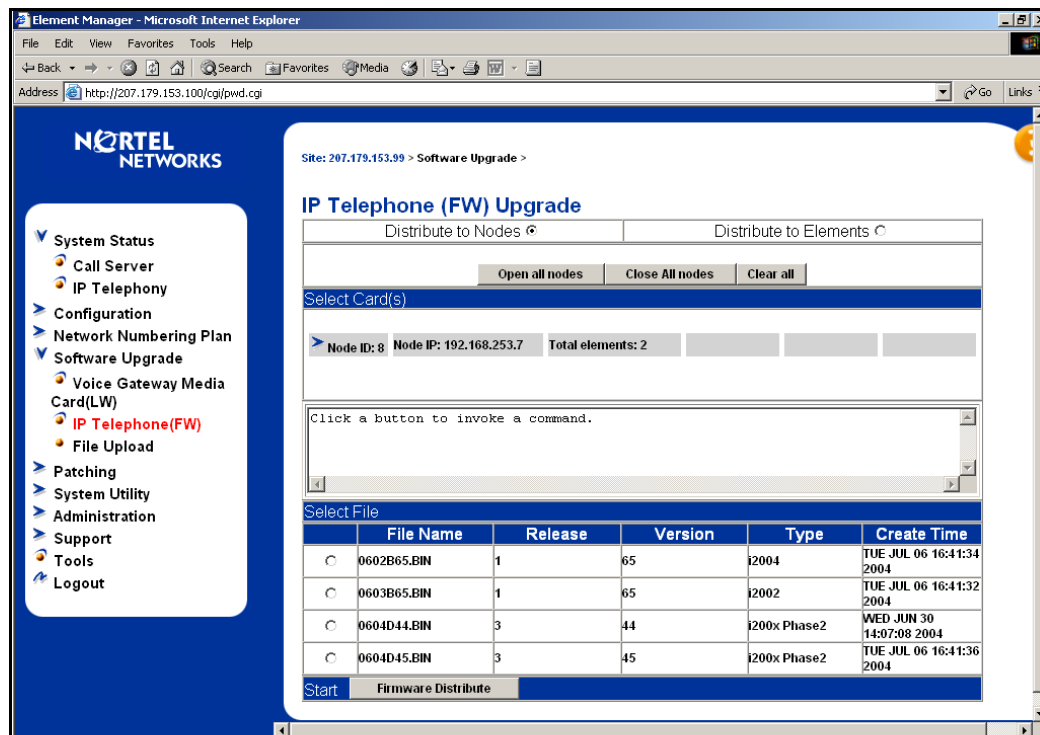


Follow the steps in Procedure 56 to distribute IP Phone firmware.

Procedure 56
Distributing IP Phone firmware

- 1 Log into Element Manager.
- 2 Choose **Software Upgrade > IP Telephone (FW)**. The **IP Telephone (FW) Upgrade** window opens. See Figure 62 on [page 253](#).

Figure 62
Firmware upgrade



3 Select the firmware file of the IP Phone model to be upgraded.

4 Open the node and select the Signaling Server(s) or Voice Gateway Media Cards to be upgraded.

Note: The maximum number of Voice Gateway Media Cards or other components that can be upgraded at one time is four, as all files are simultaneously transferred by FTP.

5 Click the **Firmware Distribute** button. This distributes the firmware to all the Voice Gateway Media Cards according to the IP Phone firmware version specified. Generally, it takes half a minute to upload the firmware to each individual element.

- 6 Click the **fwVersionShow** button beside each element to see the firmware version of that element.

Note: This procedure only distributes IP Phone firmware on the Signaling Server or Voice Gateway Media Card. It does not upgrade the IP Phone firmware directly until the IP Phones are reset or the **umsUpgradeAll** command is issued on the Signaling Server.

End of Procedure

Upgrade checklists

Contents

This section contains information on the following topics:

Introduction	255
Site details	256
Upgrade details	256
Pre-upgrade checklists.	257
Pre-conversion steps	259
Post-conversion checks	260

Introduction

The following section provides upgrade checklists.

Technical Support

Nortel can provide an Installation and Upgrade Support team to assist with PBX upgrades on a scheduled bases. This service is billable and a purchase order is required. Please refer to current price book for rates.

Note: This service requires that a service request be opened in advance of the upgrade.

Site details

Table 11
Site Details

Customer Name	
Tape ID (LD 22)	
Modem Number (Core)	
Switch Room Telephone	
Baud Rate	
Modem Password	
PBX Password	
System Type	
Software Generic	

Upgrade details

Table 12
Upgrade details

Current Software - Generic	
Target Software - Generic	
Hardware being added	
Feature Upgrade	
License Upgrade	

Pre-upgrade checklists

Software Upgrade

Software audit

Table 13
Software audit

Software Audit		
Perform the software audit prior to the scheduled upgrade.		
Take corrective action if answer is no		
	Yes	No
Software CD Ready		
Keycode Disk Ready		
Install Disk Ready		
DEP Patch Disk Ready		
Review Keycode Data Sheet - (SDID, PKGS, License, TID)		
Review Site Specific Patches - (Non MDCS)		
Read GRB for target Release – (Verify Memory Requirements)		

License Upgrade

Table 14
Keycode audit

Keycode Audit		
Perform the keycode Audit prior to the scheduled upgrade.		
Take corrective action if answer is no		
	Yes	No
Keycode Disk Ready		
Keycode Data Sheet Ready		
SDID Matches System		
TID Matches System		
Perform a KDIFF in LD 143 to compare keycodes		

Hardware Upgrade

Hardware audit

Table 15
Hardware audit

Hardware Audit		
Perform the Hardware Audit prior to the scheduled upgrade.		
	Yes	No
Verify Shipping List - Complete and Accurate		
Audit Site for new hardware locations		
Pre Run Cables if possible		
Review All switch settings for new cards		
Read all applicable NTP Procedures completely		

Pre-conversion steps

Table 16
Pre-conversion steps (Part 1 of 2)

Pre Conversion Steps
A capture file should be made of the following information using a PC or Printer.
Perform an overall system check:
LD 135 SCPU (ensure that the system is redundant)
LD 137 STAT/TEST CMDU
LD 48 STAT AML
LD 32 STAT
LD 60 STAT
LD 30 LDIS (Verify what is disabled if any)

Table 16
Pre-conversion steps (Part 2 of 2)

Get Software Information from LD 22
ISSP - Patches in service - Future Reference if required
TID/SLT - License Parameters - To compare with converted database
LD 21 - PRT CFN
LD 97 - PRT SUPL/XPEC
Run a Template Audit
LD 1 - Auto Run
Perform a Datadump
Backup at least two copies of the current database, retain the copies.
Print History File or System Event Log
Ld 22 - Print AHST - Capture Systems Events to compare with new software if required
Ld 117 - PRT SEL 500 - Same as above

Post-conversion checks

Table 17
Post-conversion checks

Post Conversion Checks
Perform these checks after a successful INI.
Test for dial tone
Ensure that all AUX applications are working
LD 30 LDIS (Verify that output is the same prior to upgrade)

Appendix A: System upgrade utilities

Contents

This section contains information on the following topics:

Introduction	261
Access the Utilities menu	261
Verify and upgrade bootROM.	263
Upgrade the bootROM on the SSC card.	265
Archive the database	266
Install an archived database.	268
Restore a database.	269
Use the Current Installation Summary utility	272
Revert to a previous software release	274

Introduction

This chapter contains utilities that are useful during a system upgrade. To access these utilities, follow Procedure 57 "Accessing the Utilities menu" on [page 262](#).

Access the Utilities menu

This procedure can, where specified, require a Software Delivery card inserted into the slot of the SSC card. Each subsequent procedure contains this procedure in short form. This procedure applies to the MG 1000E and to the MG 1000T platform.

Procedure 57

Accessing the Utilities menu

- 1 Start the Software Installation Program.
 - a. On the MG 1000E and the MG 1000T Expansion, reboot the SSC and enter **Ctrl-I** during the boot sequence to bring up the Software Installation Menu.

Note: The bootROM version is displayed on the workstation screen during the bootstrap process.

- b. On the MG 1000T Core, enter:

```
>LD 143
UPGRADE
```

Note: Using the CLI enables menu selections to be made while call processing is active. When the selections and changes are completed, the system reboots and installs the software components.

The installation menu appears.

```
SOFTWARE INSTALLATION PROGRAM

*****

Verify
Security ID: xxxxxxxx
*****

Software Installation Main Menu

1. New System Installation or Upgrade - From
   Software Daughterboard
2. System Upgrade
3. Utilities
4. New System Installation - From Software Delivery
   Card

[q]uit, [p]revious, [m]ain menu, [h]elp or [?],
<cr> - redisplay
```

- 2 From within the Installation menu, choose **Utilities** (item 3). The screen displays the following:

Utilities Menu:

```
1. Restore Backed Up Database
2. Archive Database Utilities
3. Install Archived Database
4. Review Upgrade Information
5. Clear Upgrade Information
6. Undo Installation
7. Flash bootROM Utilities
8. Current Installation Summary
9. Change 3900 series set languages
10. IP FPGA Utilities

[q]uit, [p]revious, [m]ain, [h]elp, or [?],
<cr>- redisplay
```

End of Procedure

Verify and upgrade bootROM

Although bootROM is upgraded with a standard install, bootROM verification is useful prior to upgrading the MG 1000E and the MG 1000T Expansion. Always upgrade to the latest version of bootROM. For more information, see “Centralized Software Upgrade” on [page 279](#).

The bootROM version must be verified to use certain features. This procedure is performed from a maintenance terminal connected to the MG 1000E maintenance terminal port 0 (the SSC card).

Note: If the MG 1000T Expander or MG 1000E is rebooted, the bootROM version is displayed on the workstation screen during the bootup process. Go to Step 4 on [page 264](#).

Procedure 58 **Verifying and upgrading boot ROM**

- 1 From the **Utilities** menu (Procedure 57 on [page 262](#)), select the **Flash bootROM Utilities** (item 7).

The **Flash bootROM Utilities** menu displays:

Flash BootROM Utilities Menu:

```
1. List Flash Boot ROM
2. Upgrade Flash Boot ROM
3. Restore Flash Boot ROM
[q]uit, [p]revious, [m]ain, [h]elp or [?],
<cr>- redisplay
```

- 2** Choose **List Flash bootROM** (item 1). This option displays the bootROM on the Software Delivery card, if one is present.

Flash Boot ROM Summary:

```
Active -- NTDK34FA_r09
Backup -- NTDK34AA_r08
```

Note: The *_r* number should be the version mentioned in “bootROM” on [page 210](#) (or a higher release number). If the release number is lower than r08, the system cannot be downgraded.

- 3** Compare the Flash bootROM displayed in Step 2 to the base bootROM for the software release to which it is being upgraded (check the product’s release notes to determine the base). If the bootROM is current, this procedure is completed.
- 4** Continue with Procedure 59 on [page 265](#) when upgrading the software on the MG 1000E with the Centralized Software Upgrade feature ([page 279](#)).

IMPORTANT!

If the release number and bootROM version on the Software Delivery Card is greater than the active version shown, perform the upgrade.

If the release number and bootROM version on the Software Delivery Card is less than the active version shown, do not perform the upgrade.

End of Procedure

Upgrade the bootROM on the SSC card

All versions of bootROM are backwards-compatible.

Follow the steps in Procedure 59 to upgrade the bootROM on the SSC card.

Procedure 59

Upgrading bootROM on the SSC card

- 1 Access the Utilities menu (see Procedure 57 on [page 262](#)).
- 2 From the Utilities menu, select **Flash bootROM Utilities** (item 7).

The **Flash bootROM Utilities Menu** displays:

Flash Boot ROM Utilities Menu:

```
1. List Flash BootROM
2. Upgrade Flash BootROM
3. Restore Flash BootROM
[q]uit, [p]revious, [m]ain, [h]elp or [?], <cr>-
redisplay
```

- 3 Select **Upgrade Flash bootROM** (item 2).

Are you sure you wish to perform the Flash BootROM
Upgrade/Restore (y/n/[a]bort): Y

- 4 Select **Y** to perform the upgrade.

The screen displays the following:

```
Upgrading Active Flash BootROM to NTDK34FA_r09

System Restart required to activate Flash BootROM
Upgrade.
```

- 5 Restart the system to activate the Flash bootROM upgrade.

End of Procedure

Archive the database

Procedure 60 describes how to use the archive feature to list, add, archive and remove customer databases. This procedure is a routine operation. This procedure applies to the MG 1000T Core only.

Procedure 60 Archiving the database

- 1 If necessary, install the Software Delivery card in slot A of the Software Delivery card socket in the faceplate of the SSC card on the MG 1000T Core.
- 2 When a customer database is added to the archive, first load it on the SSC card of this system.

Note: For complete instructions for the installation of the Software Delivery card, refer to Procedure 46 on [page 214](#).

- 3 Start the Software Installation Program.

```
>LD 143  
UPGRADE
```

- 4 Select **Utilities** (item 3) from the Main Menu.
- 5 Select **Customer Database Archives** (item 2) from the Utilities Menu.
- 6 Select the archive function.

```
Customer Database Archives:  
1. List customer databases  
2. Remove customer database  
3. Archive a customer database  
[q]uit, [p]revious, [m]ain, [h]elp or [?]  
<cr> - redisplay
```

Enter Selection:

Choose one of the following:

- a. Enter **1 <CR>** (List Customer databases), and continue with the next step, Step 7 on [page 267](#).
- b. Enter **2 <CR>** (Remove Customer database), and go to Step 8 on [page 267](#).
- c. Enter **3 <CR>** (Archive a Customer database), and go to Step 9 on [page 267](#).

- 7 Review the displayed list of archived customer databases and the Customer Database Archives menu.
 - a. To remove a database from the archive, continue with the next step, Step 8.
 - b. To add a database to the archive, go to Step 9.
 - c. To end the activity here, enter **q <CR>**.

- 8 Remove the required customer database from the archive.

The screen displays the archived databases and the following prompt:

```
Remove database  
'Name of archived database'  
database?
```

Respond to the confirm removal prompt.

- 9 To add a customer database to the archive, the screen displays the following prompt:

```
Enter a Customer name for your customized data:
```

- a. Type in the name for this archived database.
The system displays the name for confirmation.
- b. Confirm the name.

The screen displays the following message:

```
Copying database from primary drive to 'Name of  
archived database'.
```

End of Procedure

Install an archived database

Follow the steps in Procedure 61 to install an archived database using a Software Delivery card.

Procedure 61 Installing an archived database

Note: This procedure is an advanced installation procedure for pre-programmed software daughterboards. It can also be a rescue operation.

- 1 Start the Software Installation Program.

```
>LD 143  
UPGRADE
```

- 2 Select **Utilities** from the Main Menu.

- 3 Select **Install Archived Database** (item 3).

The system displays the list of archived customer databases.

- 4 Select the Customer Database.

Type the name of the database to restore.

The system prompts to confirm the name of the database.

- 5 Confirm the database selection.

If **yes**, continue with the next step.

If **no**, repeat Step 4.

- 6 Restore the archived database. If the restore is successful, the screen displays the following:

```
Restoring Archived database to Primary drive...  
Restore successful.  
System Restart required to activate database.
```

Note: If the restore is not successful, go back to Step 3 on [page 266](#).

End of Procedure

Restore a database

Procedure 62 is an advanced installation procedure or a rescue operation.

Procedure 62

Restoring a database

- 1 Start the Software Installation Program.

```
>LD 143
UPGRADE
```

- 2 Select **Utilities** (item 3) from the Main Menu.
- 3 Select **Restore Backed Up Database** (item 1) from the Utilities Menu.
- 4 Select source of database.

The selections screen displays:

```
Select Restore Database Source:

1. Backup Flash Drive
2. External Drive
3. Succession 1000 CCBR Restore file
4. Succession 1000 CCBR File
5. Succession 1000 Software Card.
```

- a. If selecting item 1, continue to the next step.
 - b. If selecting item 2, go to Step 6 on [page 270](#).
 - c. If selecting item 3, go to Step 7 on [page 270](#).
- 5 Confirm database restore from the backup flash drive.

The screen displays the date of the backed up database and the following prompt displays:

```
Are you sure you wish to perform the Restore?
```

Do one of the following:

- a. To return to the main menu, type **a** (for abort) and press **<CR>**.
- b. To restore the database, type **y** (for yes) and press **<CR>**.

The system restores the selected database. Go to Step 8 on [page 271](#).

- c. If not restoring the database, type **n** (for no), press **<CR>**, and return to Step 3 on [page 269](#).

6 Confirm restore database from the external drive (Software Delivery card).

The following message displays:

```
Restoring primary drive from External Drive.  
(Date and time)
```

```
System Restart required to activate restored  
database
```

```
Are you sure you wish to perform the Restore?
```

Confirm to continue with the restoration. Go to Step 8 on [page 271](#).

7 Restore the database from the Customer Configuration Backup and Restore (CCBR) file.

The screen displays the following message:

```
WARNING: You must have a CS 1000E CCBR file backed up.
```

```
WARNING: Your internal backup will be erased.
```

```
Are you sure you wish to Restore?
```

Confirm again to restore.

Note: As the restoration progresses, the following information displays:

Entering receive mode for data transfer...

Escape back to host machine and commence upload...

Database transfer complete...

Restoring Primary drive from CCBR file...

Restore successful.

System Restart required to activate restored database.

8 Choose one of the following:

- a. If the restoration is successful, continue with Step 9.
- b. If the restoration is not successful, restart this procedure. Determine if the BKP011 message displays.

Restore successful but site ID in backup image differs from that of the switch.

Note: The restored database is of a system with a different site ID. This is why the restore was not successful.

9 Reboot the system:

- If the restart is successful, this procedure is complete.
- If the restart is not successful, repeat this procedure. Contact the technical support group if necessary.

End of Procedure

Use the Current Installation Summary utility

Procedure 63 describes how to obtain an installation summary.

Procedure 63

Using the Current Installation Summary utility

Note: This screen printout shows the old and the new software versions and parameters.

- 1 Start the Software Installation Program.
- 2 Select **Utilities** (item 3) from the Main Menu.
- 3 Select **Current Installation Summary** (item 8) from the Utilities menu.

4 The installation summary displays on the screen for review.

Software Upgrade Summary:

```

Security ID          : xxxxxxxxx
Aux ID              : xxxxxxxxx
Cabinet Type        : Call Server/MAIN
Feature Set         : S1000 N. America Adv. Call
Centre Services-L3A (ntm400ed)
Additional Pkgs      : none
Database            : Basic Configuration

```

S/W Release: CS 1000 4.x

License Parameters

```

TNS                  ( 2500)
ACDN                 (  300)
AST                  (    1)
LTID                 (    0)
RAN CON              (    0)
RAN RTE              (  500)
MUS CON              (    0)
BRAND                (    2)
ACD AGENTS           (   10)
ANALOGUE TELEPHONES (    0)
ATTENDANT CONSOLES   ( 2500)
BRI DSL              (   150)
CLASS TELEPHONES     (    0)
DATA PORTS           ( 2500)
DIGITAL TELEPHONES   (    0)
IP USERS             (    0)
BASIC IP USERS       (    0)
PHANTOM PORTS        ( 2500)
DECT USERS           (    0)
DECT VISITOR USERS   (    0)
ITG ISDN TRUNKS      (    0)
TRADITIONAL TRUNKS   ( 2500)
TMDI D-CHANNELS      (   64)
SURVIVABILITY        (    1)
PCA                  (    0)
H.323 ACCESS PORTS   (    0)
SIP ACCESS PORTS     (    0)

```

1. Global 10 languages

End of Procedure

Revert to a previous software release

This section describes how to revert to the previous release of software, feature set, customer data, and License Parameters using the Undo Installation option.

A CS 1000E system can be reverted to its previous database using the software CD-ROM. An MG 1000T platform can be reverted to its previous database using the Software Delivery **card**.

IMPORTANT!

A Software Delivery card cannot be used to upgrade a subsequent MG 1000T platform. When a system is upgraded, it backs up the existing database on the Software Delivery card and changes the Security ID. The card therefore only contains the database and Security ID of the last system backup.

Procedure 64 describes how to revert to the previous release of software using the Software Delivery Card.

Note: This procedure is a rescue operation.

Procedure 64

Reverting to a previous software release of software

- 1 Start the Software Installation Program.
- 2 Select **Utilities** (item 3) from the Main Menu.
- 3 Select **Undo Installation** (item 6) from the Utilities Menu.
- 4 Complete the software installation.
- 5 Screen display:

*** WARNING *** A system restart will be invoked as
part of the Undo Installation process.

Are you sure you wish to undo the installation?

Choose one of the following:

- a.** Enter **y <CR>** (yes). This procedure is at an end.
- b.** Enter **n <CR>** (no) and return to the Utilities menu.
- c.** Enter **a <CR>** (abort).

End of Procedure

Appendix B: Obtaining software

Downloading software from the Nortel website

It is not necessary to acquire software media from Nortel to begin a system upgrade. The software is available from the Nortel Software Download website. Keycodes are required in order for the software installation to work.

Check the Nortel Software Download web site for the latest software and firmware releases.

Note: See the Ordering Rules and Price Book from a Nortel supplier for details on items and packages.

Follow the steps in Procedure 65 to download software from the Nortel Software Download web site

Procedure 65

Downloading software from the Nortel website

- 1 Connect to the following URL using any PC with Internet access:
<http://www.nortel.com>
- 2 Under the **Support and Training** menu, select **Software Downloads > Product Family > Enterprise Communication Servers > Software**.
- 3 Search for the required software.
- 4 Click the required product.
- 5 If not already logged into a My Nortel account, enter a User ID and Password on the **Sign In** page and then click **Sign In**.

Note: If not registered to access this web site, refer to the CS 1000 Release 4.5 product bulletin for directions on how to register.

- 6 The **Software Downloads: Software Details Information** window opens. Click the link next to **File Download**.
- 7 In the **Save As** window, choose the desired path to save the file to the local disk on the PC and click **Save**.

End of Procedure

Appendix C: Centralized Software Upgrade

Contents

This section contains information on the following topics:

Introduction	279
Automatic upgrade using the Centralized Software Upgrade feature . .	280
Centralized upgrade summary of steps	281
Causes of upgrade failure	281
Loss of service	282
Automatic feature operation	282
Manual software upgrade operation	285

Introduction



WARNING

Ensure that the MG 1000Es and the MG 1000T Expansions do not contain a Software Delivery Card during the Centralized Software Upgrade.

The Centralized Software Upgrade feature allows an installer to centrally and automatically upgrade the MG 1000Es from the Call Server or the MG 1000T Expansions from the MG 1000T Core. This section describes the automatic upgrade of the MG 1000E. For Automatic upgrade of the MG 1000T Expansion using the Centralized Software Upgrade feature, refer to

Communication Server 1000S: Installation and Configuration
(553-3031-210).

Automatic upgrade using the Centralized Software Upgrade feature

The bootROM upgrade is automatic in CS 1000E. It occurs when a new software load is introduced to the SSC card by Software Delivery Card or by a new software daughterboard.

After the Call Server SSC card is upgraded with new Call Server software, use the Centralized Software Upgrade feature to distribute the new bootROM and software to all the connected MG 1000Es, if the MG 1000Es meet the following minimum requirements:

- The first general software release of CS 1000 Release 4.5 has been installed.
- The MG 1000Es are in normal mode.

Note: The latest version of the MG 1000E bootROM and software are automatically loaded in the CS 1000E during the upgrade.

After upgrading the CS 1000E with the new software, the centralized Software Upgrade feature can be used to distribute the new bootROM and software to all connected MG 1000Es.

Verify and manually upgrade the bootROM to enable the Centralized Software Upgrade. To upgrade the bootROM, refer to “Upgrading bootROM on the SSC card” on [page 265](#).

After upgrading the bootROM, activate the feature in one of the following two ways:

- 1 Accept the automatic upgrade option using the Call Server Software Upgrade program as shown in Step 17 on [page 222](#).
- 2 Use the LD 143 command **ENL AUTOUPGMG**. See “Automatic feature operation” on [page 282](#) for details.

Auto upgrade causes the MG 1000E to begin upgrading when the following conditions are met:

- The MG 1000E is connected (IP Link Up) to the Call Server.
- A difference in software version is detected.

Centralized upgrade summary of steps

Once the MG 1000E is installed with an SSC in slot 0, upgrade the software automatically by following these steps:

- 1 First, upgrade the CS 1000E software using the software CD-ROM process. See Procedure 46 on [page 214](#).
- 2 If the Automatic Sequential or Automatic Simultaneous option for Centralized Software Upgrade was not selected during the Call Server Upgrade, use Command Line Interface (CLI) commands as outlined in “Automatic feature operation” on [page 282](#).
- 3 The software is transferred to the MG 1000Es over their 100BaseT Ethernet link. The MG 1000E upgrades automatically if its software version does not match the Call Server software version.

Note: No Software Delivery Card is required in the MG 1000E for the upgrade process.

Causes of upgrade failure

The following circumstances can cause the upgrade to fail:

- modification of the customer database
- modification of the Problem Determination Tool password after the remote upgrade has started
- ethernet link outages
- removal of patches (including loadware patches) from the system or modification to the list of installed patches while the remote upgrade is in progress

The system cannot guarantee call processing when more than one MG 1000E is performing a software upgrade or bootROM upgrade.

Loss of service

Expect a temporary loss of service during the upgrade.

Automatic feature operation

Use Table 18 to estimate the automatic upgrade time in simultaneous mode and sequential mode.

Table 18
Automatic upgrade estimates

Simultaneous mode				
Call Server (21 x 2 minutes)	+	8 or less MG 1000Es (35 minutes)	=	1 hour, 17 minutes
Call Server (21 x 2 minutes)	+	9 to 16 MG 1000Es (35 x 2 minutes)	=	1 hour, 52 minutes
Call Server (21 x 2 minutes)	+	17 to 24 MG 1000Es (35 x 3 minutes)	=	2 hours, 27 minutes
Call Server (21 x 2 minutes)	+	25 to 30MG 1000Es (35 x 2 minutes)	=	3 hours, 2 minutes
Sequential mode				
Call Server (21 x 2 minutes)	+	n MG 1000Es (32 x n minutes)	=	n/2 hours 2n+42 minutes

Note: Upgrade times vary depending on the actual speed of the Call Server to MG 1000E links.

Refer to Procedure "Upgrading to CS 1000 Release 4.5" on [page 53](#). With the Centralized Software Upgrade feature, the installation menu changes appear only on the Call Server.

Procedure 66

Enabling Centralized Software Upgrade on the MG 1000E

Note: This procedure takes place within the upgrade of a Call Server. See Procedure "Upgrading to CS 1000 Release 4.5" on [page 53](#).

- 1 if **y** is entered to choose the **Enable Automatic Centralized Software Upgrade** option, the following appears:

```
Enable Automatic Centralized Software Upgrade (CSU)
Feature ? (Default - YES)
```

```
Please enter:
```

```
<CR> -> <y> - Yes
```

```
<n> - No
```

```
Enter choice>
```

If **No** was chosen, the automatic centralized software upgrade is disabled, and the Installation Status Summary is printed for confirmation.

If **Yes** is chosen, the following option is displayed:

```
Set Automatic Centralized Software Upgrade mode to:
```

```
Please enter:
```

```
<CR> -> <1> - Sequential
```

```
<2> - Simultaneous
```

```
Enter choice>
```

If **1** is entered, the Centralized Software Upgrade option is enabled, and software upgrades to the MG 1000Es will occur in a sequential manner.

If **2** is chosen, the following warning is displayed:

```
WARNING : Call Processing is not guaranteed on Call Server
during simultaneous upgrades....
```

```
Do you wish to proceed? (Default - YES)
```

Please enter:

<CR> -> <y> - Yes

<n> - No

Enter choice>

If **y** is selected, the centralized software upgrade option is enabled, and software upgrades to the MG 1000Es occur simultaneously.

If **n** is chosen, the system returns to the Technology Software Installation Main Menu.

Note: Alternatively, manually upgrade the MG 1000E using a Software Delivery Card. See “Upgrade the MG 1000T Expansion(s)” on [page 225](#).

- 2 After the MG 1000Es have upgraded, perform a data dump using LD 43 on the Call Server. This synchronizes the customer database to the MG 1000Es.

End of Procedure

Software Upgrade Progress Indicators

The Software Upgrade Progress indicator is displayed on the Call Server to track the MG 1000E’s installation progress. This progress is also logged in the report log kept on the Call Server and it is replicated to the MG 1000Es. The following messages are displayed:

SRPT077 Gateway <x>: Preparing gateway for upgrade.

SRPT077 Gateway <x>: Gateway rebooting to start upgrade. Please wait...

SRPT077 Gateway <x>: <y>% of Software Upgrade Complete

SRPT077 Gateway <x>: Remote software upgrade complete. Rebooting system...

Manual software upgrade operation

This feature manually initiates Call Server and MG 1000E software upgrades.

LD 143 - Enable or disable Centralized Software Upgrade (Part 1 of 3)

Command	Description
UPGMG ALL <SEQ/SIM> Default entry is SIM	<p>Immediately initiates a manual centralized upgrade of software and bootROM installed on the Call Server (CS 1000 Release 4.5 or later) to all MG 1000Es that are connected through the LAN, that have a different version of software installed, and that have a minimum of CS 1000 Release 4.5 software installed. MG 1000Es that contain the same software release are not upgraded.</p> <p>Available options are:</p> <ul style="list-style-type: none">• SEQ: MG 1000E upgrade is performed in a sequential manner. No other MG 1000E upgrades will be initiated until the current MG 1000E has completed its installation.• SIM: MG 1000E upgrade is performed in a simultaneous manner. A maximum of 8 MG 1000Es can be upgraded at the same time. <p>The following warning is posted to the user when the SIM option is chosen:</p> <p>WARNING: Call Processing is not guaranteed to operate on the call server during simultaneous upgrade. Do you wish to proceed? (y/ n)</p> <p>Upon selection of y, the simultaneous upgrade commences. Selection of n cancels the upgrade request.</p>

LD 143 - Enable or disable Centralized Software Upgrade (Part 2 of 3)

Command	Description
UPGMG <MG 1000E number>	<p>Immediately initiates a manual upgrade of software and bootROM installed on the Call Server (CS 1000 Release 4.5 or later) to the specified MG 1000E through the LAN connection. This upgrade occurs even if the software version on the MG 1000E matches the Call Server's version. For the command to work, the MG 1000E must already have CS 1000 Release 4.x (at a minimum) software installed.</p> <p>WARNING: If this option is initiated on one MG 1000E while the Call Server is currently upgrading another MG 1000E, Call Processing is not guaranteed to operate on the Call Server.</p>
UPGMGBOOT <MG 1000E number>	<p>Immediately initiates a manual upgrade of the current version of only the bootROM installed on the Call Server to the selected MG 1000E through the LAN connection.</p> <p>WARNING: If this option is initiated to one MG 1000E while the Call Server is currently upgrading another MG 1000E, Call Processing is not guaranteed to operate on the Call Server.</p>

LD 143 - Enable or disable Centralized Software Upgrade (Part 3 of 3)

Command	Description
ENL AUTOUPGMG <SEQ/SIM> Default entry is SIM	<p>Enables the automatic Centralized Software Upgrade option. The sub options of this command are:</p> <p>SEQ: Upgrades to the MG 1000Es are performed across the LAN in a sequential manner. One MG 1000E is upgraded at a time. No other MG 1000E upgrades are initiated until the current MG 1000E completes its installation.</p> <p>SIM: Upgrades to the MG 1000Es are performed simultaneously across the LAN. Up to eight MG 1000Es are upgraded at the same time. If there are more than eight MG 1000Es, the upgrade to the next MG 1000E begins after the upgrade of one MG 1000E is complete. The following warning is presented to the installer:</p> <p>WARNING: Call Processing is not guaranteed to operate on the call server during simultaneous upgrades. Do you wish to proceed? (y/n)</p> <p>Enter y to enable the automatic Centralized Software Upgrade option for simultaneous upgrades.</p>
DIS AUTOUPGMG	Disables the automatic Centralized Software Upgrade option
PRT AUTOUPGMG	Displays the settings for the automatic Centralized Software Upgrade option
ABORT UPGMG	Aborts all the current and pending Centralized Software Upgrades and disables the automatic Centralized Software Upgrade option. A yes/no prompt may display that it will be necessary to manually upgrade the MG 1000E.

Technical Assistance service

Contents

This section contains information on the following topics:

Nortel Technical Assistance Centers.	289
Services available	292
Requesting assistance	295

Nortel Technical Assistance Centers

To help customers obtain maximum benefit, reliability, and satisfaction from their CS 1000E systems, Nortel provides technical assistance in resolving system problems. Table 19 on [page 290](#) lists the centers that provide this service.

If a service contract for your Nortel product was purchased from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller for assistance.

If a Nortel service program was purchased, contact one of the following Nortel Technical Solutions Centers.

Table 19
Customer Technical Services (Part 1 of 2)

Location	Contact
Nortel Global Networks Technical Support (GNTS) PO Box 833858 2370 Performance Drive Richardson, TX 75083 USA	North America Telephone: 1 800 4NORTEL
Nortel Corp. P.O. Box 4000 250 Sydney Street Belleville, Ontario K8N 5B7 Canada	North America Telephone: 1 800 4NORTEL
Nortel Service Center - EMEA	EMEA Telephone: 00 800 8008 9009 or +44 (0)870 907 9009 E-mail: emeahelp@nortel.com
Nortel 1500 Concord Terrace Sunrise, Florida 33323 USA	Brazil Telephone: 5519 3705 7600 E-mail: entcts@nortel.com English Caribbean Telephone: 1 800 4NORTEL Spanish Caribbean Telephone: 1 954 858 7777 Latin America Telephone: 5255 5480 2170

Table 19
Customer Technical Services (Part 2 of 2)

Location	Contact
Network Technical Support (NTS)	<p>Asia Pacific Telephone: +61 28 870 8800</p> <p>Australia Telephone: 1800NORTEL (1800 667835) or +61 2 8870 8800 E-mail: asia_support@nortel.com</p> <p>People's Republic of China Telephone: 800 810 5000 E-mail: chinatsc@nortel.com</p> <p>Japan Telephone: 010 6510 7770 E-mail: supportj@nortel.com</p> <p>Hong Kong Telephone: 800 96 4199 E-mail: chinatsc@nortel.com</p> <p>Taiwan Telephone: 0800 810 500 E-mail: chinatsc@nortel.com</p> <p>Indonesia Telephone: 0018 036 1004</p> <p>Malaysia Telephone: 1 800 805 380</p> <p>New Zealand Telephone: 0 800 449 716</p> <p>Philippines Telephone: 1 800 1611 0063 or 632 917 4420</p> <p>Singapore Telephone: 800 616 2004</p> <p>South Korea Telephone: 0079 8611 2001</p> <p>Thailand: Telephone: 001 800 611 3007</p>

Services available

Services available through the Technical Assistance Centers include:

- diagnosing and resolving software problems not covered by support documentation
- diagnosing and resolving hardware problems not covered by support documentation
- assisting in diagnosing and resolving problems caused by local conditions

There are several classes of service available. Emergency requests (Class E1 and E2) receive an immediate response. Service for emergency requests is continuous until normal system operation is restored. Non-emergency requests (Class S1, S2, and NS) are serviced during normal working hours. Table 20 on [page 293](#) and Table 21 on [page 294](#) describe the service classifications.

Table 20
Technical service emergency classifications

Class	Degree of failure	Symptoms
E1	Major failure causing system degradation or outage	<p>System out-of-service with complete loss of call-processing capability.</p> <p>Loss of total attendant console capability.</p> <p>Loss of incoming or outgoing call capability.</p> <p>Loss of auxiliary Call Detail Reporting (CDR) in resale application.</p> <p>Call processing degraded for reasons such as trunk group out-of-service:</p> <ul style="list-style-type: none"> • 10% or more lines out-of-service • frequent initializations (seven per day or more) • inability to recover from initialization or SYSLOAD • consistently slow dial tone (eight seconds or more delay)
E2	Major failure causing potential system degradation or outage	<p>Standby CPU out-of-service.</p> <p>Frequent initializations (one per day or more).</p> <p>Disk drive failure.</p> <p>Two sets of disks inoperative.</p>

Table 21
Technical services non-emergency classifications

Class	Degree of failure	Symptoms
S1	Failure that affects service	Software or hardware trouble directly and continuously affecting user's service or customer's ability to collect revenue. Problem that will seriously affect service at in-service or cut-over date.
S2	Intermittent failure that affects service	Software or hardware faults that only intermittently affect service. System-related documentation errors that directly result in or lead to impaired service.
NS	Failure that does not affect service	Documentation errors. Software inconsistencies that do not affect service. Hardware diagnostic failures (not defined above) that cannot be corrected by resident skills. Test equipment failures for which a backup or manual alternative can be used. Any questions concerning products.

Except as excluded by the provisions of warranty or other agreements with Nortel, a fee for technical assistance may be charged, at rates established by Nortel. Information on rates and conditions for services are available through Nortel sales representatives.

Requesting assistance

Collect the information listed in Table 22 before you call for service.

Table 22
Checklist for service requests

Name of person requesting service	_____
Company represented	_____
Telephone number	_____
System number/identification	_____
Installed software generic and issue (located on data disk)	_____
Modem telephone number and password (if applicable)	_____
Seriousness of request (see Tables 20 and 21)	_____
Description of assistance required	_____

List of terms

DSP

Digital Signal Processor. When used as a noun, DSP stands for, a special type of coprocessor designed for performing the mathematics involved in DSP. Most DSPs are programmable, which means that they can be used for manipulating different types of information, including sound, images, and video.

Digital Signal Processing refers to manipulating analog information, such as sound or photographs, that has been converted into a digital form. DSP also implies the use of a data compression technique.

ELAN

Embedded Local Area Network. This isolated section of the LAN connects the Call Server 1000E, Signaling Server, MG 1000E SSC, Voice Gateway Media Card, and OTM for system communication purposes.

Boot ROM

The Call Server 1000E and MG 1000E BIOS.

Gatekeeper

See NRS.

Gateway

In networking, a combination of hardware or software or both, that links two different types of networks. Gateways between e-mail systems, for example, allow users on different e-mail systems to exchange messages.

H.323

A standard approved by the International Telecommunication Union (ITU) that defines how audiovisual conferencing data is transmitted across networks. In theory, H.323 should enable users to participate in the same conference even though they are using different videoconferencing applications. Although most videoconferencing vendors have announced that their products conform to H.323, it's too early to say whether such adherence actually results in interoperability.

IP

Internet Protocol. Pronounced as two separate letters. IP specifies the format of packets, also called datagrams, and the addressing scheme. Most networks combine IP with a higher-level protocol called Transport Control Protocol (TCP), which establishes a virtual connection between a destination and a source.

IP by itself is something like the postal system. It allows you to address a package and drop it in the system, but there's no direct link between you and the recipient. TCP/IP, on the other hand, establishes a connection between two hosts so that they can send messages back and forth for a period of time.

ITG-P

The ITG-P card has a Pentium processor and 24 Digital Signaling Processor channels. It occupies two slots in an MG 1000E or MG 1000E Expander. See “Voice Gateway Media Card” on [page 301](#).

Layer 2 switching

Packets are forwarded based on the destination's MAC address. The switch automatically determines which switch port must be used to send the packet, based on the destination's MAC address. The MAC address location was determined from incoming packets from that MAC address received on that port.

Layer 3 switching

Packet traffic is grouped based on source and destination addresses. The first packet in a flow is routed by a software-based algorithm. Subsequent packets with the same source and destination addresses are switched based on the destination's MAC address (hardware mechanism). This is similar to multi-layer routing and routers with hardware assist.

Media Card

The Media Card is an IP Telephony hardware card. It is available with 8 or 32 Digital Signal Processors (DSPs) for transcoding between circuit-switched and IP voice traffic streams. The hardware can run different software loads, which changes the function of the card. For instance, like the ITG-P card, if the IP Line application installed, the card acts as a Voice Gateway Media Card. With Integrated Recorded Announcer software installed, it acts as a Integrated Recorded Announcer card.

NRS

Network Routing Service. The NRS manages a centralized numbering plan for the network. It combines a SIP Redirect Server and H.323 Gatekeeper into one platform. The NRS software identifies the IP addresses of SIP and H.323 Gateways, including CS 1000E and third party systems, based on the network-wide numbering plan. This allows simplified management of the CS 1000E network.

PSTN

Public Switched Telephone Network. Refers to the international telephone system based on copper wires carrying analog voice data. This is in contrast to newer telephone networks base on digital technologies, such as ISDN and FDDI.

Telephone service carried by the PSTN is often called Plain Old Telephone Service (POTS).

QoS

Quality of Service. A networking term that specifies a guaranteed throughput level. One of the biggest advantages of ATM over competing technologies such as Frame Relay and Fast Ethernet, is that it supports QoS levels. This allows ATM providers to guarantee to their customers that end-to-end latency does not exceed a specified level.

There are several methods to provide QoS, as follows:

- High bandwidth
- Packet classification
- DiffServ

- IP fragmentation
- Traffic shaping
- Platform queuing mechanisms

routing

The process of selecting the correct path for packets transmitted between IP networks by using software-based algorithms. Each packet is processed by the algorithm to determine its destination.

Signaling Server

The Signaling Server is an industry-standard PC-based server that provides signaling interfaces to the IP network. In a CS 1000E, the Signaling Server performs the following functions: acts as a SIP Redirect Server and H.323 Gatekeeper, runs the MG 1000T (for virtual trunks), acts as a Terminal Proxy Server (TPS), and acts as a web server for Element Manager.

SIP

Session Initiation Protocol. SIP is a layer 7 (application layer) protocol which is used for establishing, modifying, and terminating conference and telephony sessions in IP networks.

TDM

Time Division Multiplexing. A type of multiplexing that combines data streams by assigning each stream a different time slot in a set. TDM repeatedly transmits a fixed sequence of time slots over a single transmission channel.

Within T-Carrier systems, such as T1 and T3, TDM combines Pulse Code Modulated (PCM) streams created for each conversation or data stream.

TLAN

Telephony Local Area Network. This isolated section of the network connects the Voice Gateway Media Cards, the Signaling Server, and the IP Phones for telephony communication purposes.

TPS

Terminal Proxy Server. This server controls the connection of IP Phones. It resides on the Signaling Server with an emergency backup on the Voice Gateway Media Card.

Voice Gateway Media Card

The voice gateway application is used any time an IP and TDM device are connected together. The card is equipped with DSPs to perform media transcoding between IP voice packets and TDM-based devices. The Voice Gateway Media Cards also provide echo cancellation and compression and decompression of voice streams. The voice gateway software can run on an 8-port Media Card, a 32-port Media Card, or the 24-port Pentium-based ITG platform. Within the MG 1000B, all of these cards register the voice channels to the MG 1000B SSC when they are configured.

WAN

Wide Area Network. A computer network that spans a relatively large geographical area. Typically, a WAN consists of two or more local-area networks (LANs).

Computers connected to a WAN are often connected through public networks, such as the telephone system. They can also be connected through leased lines or satellites. The largest WAN in existence is the Internet.

Nortel Communication Server 1000

Communication Server 1000E

Upgrade Procedures

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