**Nortel Communication Server 1000**

Nortel Communication Server 1000 Release 5.0

# Communication Server 1000E
## Upgrades

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# Revision history

**May 2007**

Standard 01.01. This document is up-issued for Communication Server 1000 Release 5.0. This document contains information previously contained in the following legacy document, now retired: *Communication Server 1000E: Upgrade Procedures* (553-3041-258).

**August 2005**

Standard 2.00. This document is up-issued to support CP PIV and Communication Server 1000 Release 4.5.

**September 2004**

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

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# How to get help

This section explains how to get help for Nortel products and services.

## Getting help from the Nortel Web site

The best way to get technical support for Nortel products is from the Nortel Technical Support Web site:

www.nortel.com/support

This site provides quick access to software, documentation, bulletins, and tools to address issues with Nortel products. More specifically, the site enables you to:

- download software, documentation, and product bulletins

- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues

- sign up for automatic notification of new software and documentation for Nortel equipment

- open and manage technical support cases

## Getting help over the telephone from a Nortel Solutions Center

If you don't find the information you require on the Nortel Technical Support Web site, and have a Nortel support contract, you can also get help over the phone from a Nortel Solutions Center.

In North America, call 1-800-4NORTEL (1-800-466-7835).

Outside North America, go to the following Web site to obtain the phone number for your region:

www.nortel.com/callus

# Getting help from a specialist by using an Express Routing Code

To access some Nortel Technical Solutions Centers, you can use an Express Routing Code (ERC) to quickly route your call to a specialist in your Nortel product or service. To locate the ERC for your product or service, go to:

www.nortel.com/erc

# Getting help through a Nortel distributor or reseller

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller.

# Finding the latest updates on the Nortel web site

The content of this documentation was current at the time the product was released. To check for updates to the latest documentation and software for CS 1000 Release 5.0, click one of the links below.

| Latest Software | Takes you directly to the Nortel page for CS 1000 Release 5.0 software. |
|---|---|
| Latest Documentation | Takes you directly to the Nortel page for CS 1000 Release 5.0 documentation. |

# System Information

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 5.0 software.

### Note on legacy products and releases

This NTP contains information about systems, components, and features that are compatible with Nortel Communication Server 1000 Release 5.0 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 CS 1000E systems.

## 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, CS 1000E systems are 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* (NN43001-260)

- *Signaling Server: Installation and Commissioning* (NN43001-312)

- *IP Peer Networking: Installation and Commissioning* (NN43001-313)

- *Branch Office: Installation and Commissioning* (NN43001-314)

- *Optivity Telephony Manager: Installation and Commissioning* (NN43050-300)

- *Optivity Telephony Manager: System Administration* (NN43050-601)

- *Element Manager: System Administration* (NN43001-632)

- *IP Line: Description, Installation, and Operation* (NN43100-500)

- *IP Phones: Description, Installation, and Operation* (NN43001-368)

- *Communication Server 1000E: Overview* (NN43041-110)

- *Communication Server 1000E: Planning and Engineering* (NN43041-220)

- *Communication Server 1000E: Installation and Commissioning* (NN43041-310)

### 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 .

# Overview

## Contents

This section contains information on the following topics:

# References in preparation for an upgrade

To plan the network, refer to *Communication Server 1000S: Planning and Engineering* (NN43031-220) and *Converging the Data Network with VoIP* (NN43001-260).

To read about installing, configuring, and managing Voice Gateway Media Cards and IP Phones, refer to *IP Line: Description, Installation, and Operation* (NN43100-500) and *IP Phones: Description, Installation, and Operation* (NN43001-368).

For detailed information about installing and configuring new components, refer to *Communication Server 1000E: Installation and Commissioning* (NN43041-310).

To read about virtual trunking and the Network Routing Service (NRS), refer to *IP Peer Networking: Installation and Commissioning* (NN43001-313) and *Communication Server 1000E: Overview* (NN43041-110).

# CS 1000 Release 4.5 CS 1000E system components

For CS 1000 Release 4.5, a basic CS 1000E system 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 controlled by the SSC) 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 Commissioning* (NN43001-313).

- 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 shows the main components of a CS 1000E system.

**Figure 1**
**Basic CS 1000E system**
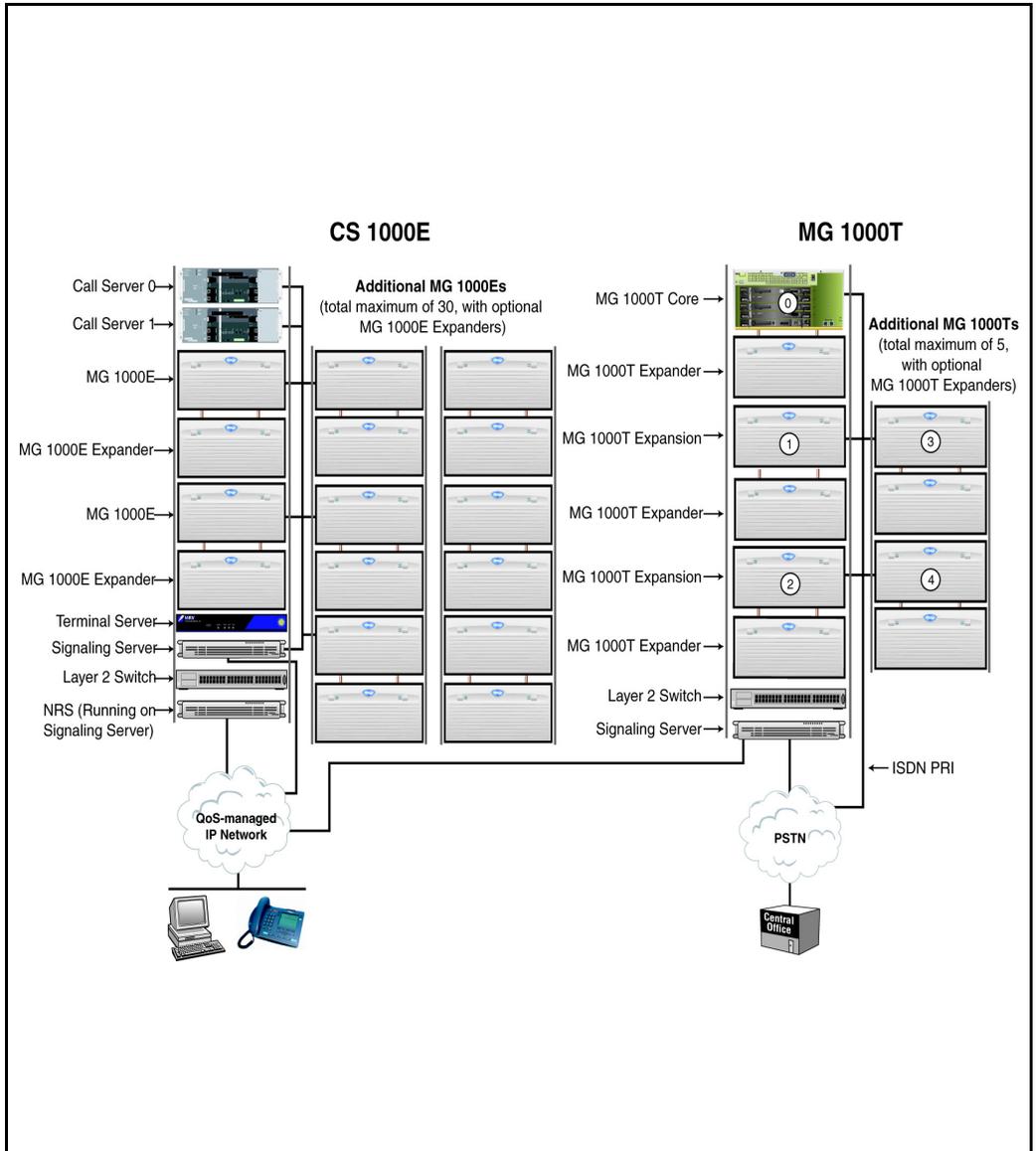
# CS 1000 Release 5.0 hardware

CS 1000 Release 5.0 introduces the following hardware for the CS 1000E system.

## Call Processor Pentium Mobile (CP PM) Call Server

The CS 1000 Release 5.0 CS 1000E system features dual CS 1000E NTDW61AA CP PM Core Call Servers (0 and 1). The CP PM call server hardware includes the following components and features:

- Intel Pentium M 738 1.4 GHz processor
- 2 compact flash sockets: (1) a 1GB fixed media disk on the card and (2) a hot swappable removable media disk accessible on the faceplate
- DDR RAM expandable up to 2 GB
- support for up to 50 Media Gateways
- 3 Ethernet ports
- 2 serial data interface ports
- 1 USB port
- Security device

    *Note:* When populated with different memory and disk drive options, the CP PM hardware can be used as a platform for the CS 1000 Signaling Server.

## CP PM Signaling Server

The CP PM hardware can be used as a platform for the CS 1000 Signaling Server. For more information see *Signaling Server: Installation and Commissioning* (NN43001-312).

*Note:* The CS 1000E system supports CP PM, IBM X306m, HP DL320-G4 and Nortel ISP1100 Signaling Servers running on the same system. The total number of Signaling Servers required depends on capacity and survivability levels.

## Media Gateway Controller Card (MGC)

*Note:* Depending on the upgrade, the NTDW60BA MGC can replace the Small System Controller (SSC) in the CPU card position (card 0) of the MG 1000E chassis. CS 1000 Release 5.0 also supports a mixed SSC and MGC configuration.

The CS 1000 Release 5.0 MGC features include:

- signaling and switching

- Conference and Tones

- 3 remote SDI ports

- Compact Flash (CF) card slot

- 6 external ethernet switch ports

## DSP Daughterboards (optional)

Two optional DSP Daughterboards are introduced for the MGC, the NTDW62AA 32-port DSP daughterboard and the NTDW64AA 96-port DSP daughterboard. These daughterboards provide DSP resources for connecting IP and TDM devices, eliminating the need for installing Voice Gateway Media Cards on the CS 1000E Media Gateways. However, Voice Gateway Media Cards are still supported in CS 1000E.

## CS 1000 Release 5.0 upgrade paths

Table 1 lists the CS 1000E upgrade paths supported for CS 1000 Release 5.0.

**Table 1**
**Upgrade paths (Part 1 of 2)**

| CS 1000 Release 4.5 system | CS 1000 Release 5.0 system |
| --- | --- |
| CS 1000E (CP PII and CP PIV) | CS 1000E (CP PII and CP PIV) software only |
| CS 1000E (CP PII) | CS 1000E (CP PIV) |

**Table 1**
**Upgrade paths (Part 2 of 2)**

| CS 1000 Release 4.5 system | CS 1000 Release 5.0 system |
|---|---|
| CS 1000E (CP PII) | CS 1000E CP PM (Option 1, Option 2) |
| CS 1000E (CP PIV) | CS 1000E CP PM (Option 1, Option 2) |

## System types

Table 2 lists the various system types according to processor type.

**Table 2**
**Upgrade Paths (Release 5.0 software)**

| Processor Type | System Type | | | | | |
|---|---|---|---|---|---|---|
| | Opt 11C | Option 51C | Option 61C CS 1000M | Option 81 | Option 81C CS 1000M MG | CS 1000E |
| CP1 (68030) | - | 1711 | 1811 | 1611 | 1611 | - |
| CP2 (68040) | 2121 | 2211 | 2311 | 1911 | 1911 | - |
| CP3 (68060) | - | 2421 | 2521 | 2621 | 2621 | - |
| CP4 (68060E) | - | 2821 | 2921 | 3021 | 3021 | - |
| CP II | - | - | 3221 | - | 3321 | 3321 |
| CP IV | - | - | 3521 | - | 3621 | 3621 |
| CP PM | - | - | - | - | - | 4021 |

# MG 1000T upgrade and migration options

The following information is intended to highlight the major considerations required to properly engineer an MG 1000T upgrade. Careful and detailed planning must be done in advance to minimize system downtime. Each option offers different levels of ease of upgrade, complexity, redundancy, long term

supportability and maintenance. Select the best option according to specific customer requirements.

## Option 1

### Upgrade the MG 1000T to a CS 1000E and maintain it as an autonomous node

Option 1 involves upgrading the MG 1000T to a CS 1000E, using either Pentium or CP PM Call Servers. Each existing MG 1000T chassis requires an MGC. The current PRI and media cards in the MG 1000T are maintained. The upgraded CS 1000E can still be used as a PRI gateway and contains all of the functionality of an existing CS 1000E.

## Option 2

### Migrate the functionality and PRI hardware of the MG 1000T into the CS 1000E

This option involves migrating the MG 1000T functions into a CS 1000E system. Each existing MG 1000T chassis requires an MGC. The current PRI and media cards in the MG1000T are maintained. All MG 1000T chassis are added to the CS 1000E as new MG 1000Es, and all PRI loops and DSP resources have to be added to the CS 1000E database. The NARS/BARS database on the MG 1000T must be replicated on the CS 1000E. MG 1000T Signaling Server NRS functionality can be moved to the CS 1000E node or remain as is. The NRS dialing plan must be changed accordingly.

## Option 3

As an alternative, the MG 1000T can remain as is and continue to function as a PSTN gateway. With this option there is no MG 1000T 5.0 software upgrade path. Upgrade options 1 and 2 may be a requirement at some time in the future.

*Note:* NRS database synchronization is not supported between signaling servers running different releases.

# Additional factors for consideration

## SSC Security Device (dongle) considerations

When upgrading an existing system to Release 5.0 with a CP PM Call Server, the following actions are required:

- For SSC system conversions to CS 1000E or MG 1000E, you must destroy or return the SSC security device to your local Nortel Repair/Returns center

- The CP PM Security Device provided with the software kit must be placed on the CP PM Call Server

- For SSC system type conversions to MG 1000E, you must destroy or return the SSC security device to your local Nortel Repairs/Returns center

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**IMPORTANT!**

Continued use of decommissioned software is in violation of the Nortel Software Licensing Agreement and is not allowed. No further orders will be accepted for the serial number since it is decommissioned and tracked in Nortel's database. The Nortel Software Licensing Agreement details can be found in the Policy and Procedures section of the Enterprise Voice product catalogue.

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## NARS/BARS/Trunking Considerations

Impacts on customer trunking must be evaluated when designing and planning an upgrade. The MG 1000T is a tandem endpoint that may provide PRI PSTN access to a standalone CS 1000E and satellite locations. Each upgrade option impacts customer trunking in the following ways:

- **Option 1** - Trunking is out of service for the time it takes to upgrade and transition the Call Server, media gateways and Signaling Server to a CS 1000E

- **Option 2** - Trunking must be transitioned (both hardware and software) to the CS 1000E. A high level of ESN and PRI programming knowledge is required to move the trunking functions from the MG 1000T to the CS 1000E during both the planning and implementation phases of the upgrade. Typically the bulk of ESN programming is done on the MG 1000T and SPN's are used to steer PSTN calls between nodes. The NRS dialing plan entries also must be changed during the upgrade to move existing numbers associated with the MG 1000T endpoint to the CS 1000E endpoint. Special care must be taken to ensure 911 service functions as expected post-upgrade. The out of service time for the trunks vary site to site. Inbound DID/COT/TIE trunk routes could be split and cut over to the CS 1000E in a phased approach. Outbound DOD/COT/TIE trunks could be split and cutover using temporary RLIs to steer NPA, NXX and SPN calls (including 911). Tie routes that are H323/SIP can be redirected in the NRS assuming the ISM parameters have been moved to the CS 1000E and the ESN programming is in place.

- **Option 3** - Trunking impact is minimal or null on the MG 1000T as it is not upgraded in this scenario. Long term support may be an issue if this option is chosen.

## Media Gateway considerations

For Options 1 and 2, each existing Media Gateway chassis in the MG 1000T must be upgraded to a MG 1000E. The new MG 1000E must be reprogrammed and joined to the corresponding CS 1000E node. Ethernet connections and IP configurations must be identified prior to conversion.

## NRS considerations

If the Primary NRS resides within the original MG 1000T node, the NRS functionality can be moved to the CS 1000E or maintained as a standalone NRS.

## Signaling Server considerations

If the MG 1000T is upgraded to a CS 1000E, the Signaling Servers can continue to function and are supported. If the MG 1000T is migrated to the CS 1000E the Signaling Servers can be re-deployed or used as spares.

### Small System to Large System database conversion

If the MG 1000T is upgraded to a CS 1000E, Small System to Large System TN format conversion occurs. Refer to "Upgrading MG 1000T (Option 1)" on for more details.

### ELAN, TLAN and IP considerations

If upgrading Media Gateways, the ELAN IP, TLAN IP addresses and switch ports can be re-used if the SSC or media cards are being replaced.

## 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 Commissioning* (NN43041-310) 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. IP Peer Networking changes can involve interruption of call processing. See *IP Peer Networking: Installation and Commissioning* (NN43001-313) 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, TM)

- 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 Telephony Manager 3.1 navigator. The Telephony Manager 3.1 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 Commissioning* (NN43041-310), and *System Management* (NN43001-600).

For upgrade and configuration procedures that use Element Manager, see "Upgrading Voice Gateway Media Cards" on .

## Telephony Manager 3.1 (TM 3.1)

The TM 3.1 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. For more information about TM, refer to *Telephony Manager: System Administration* (NN43050-601).

### 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 Commissioning* (NN43050-300) or *Communication Server 1000S: Overview* (NN43031-110). For more information about retrieving Call Detail Recording records, see *Communication Server 1000E: Installation and Commissioning* (NN43041-310).

# Upgrading the Signaling Server

To upgrade the Signaling Server to Communication Server 1000 Release 5.0, see "Upgrading and configuring the Signaling Server" on .

# Recorded Announcement and Music

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### IMPORTANT!

Currently, the CS 1000E only supports Recorded Announcement Broadcast and Music Broadcast.

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# H.323 Gatekeeper database migration

To migrate an H.323 Gatekeeper database to a Communication Server 1000 (CS 1000) Release 5.0 Network Routing Service (NRS) database, see *Signaling Server: Installation and Commissioning* (NN43001-312).

# Terminal Servers

> *Note:* For CS 1000 Release 4.5 and earlier, Terminal Servers were a necessary system component. This is no longer the case for CS 1000 Release 5.0, as serial ports are supported and Terminal Servers are optional.

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### IMPORTANT!

The CS 1000E system currently supports two Terminal Servers, the MRV LX8020S-102AC-R (ROHS) and the IR-8020M-101 (non-ROHS).

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Many third-party applications require serial port interfaces to provide a connection to a PBX. As well, support staff traditionally use serial ports to connect maintenance terminals and modems to a system for maintenance. As the CS 1000E Call Server provides only two local serial ports for these purposes, an IP-based Terminal Server is required to provide the necessary standard serial ports for applications.

The CS 1000E system currently supports two Terminal Servers, the MRV LX8020S-102AC-R (ROHS) and the IR-8020M-101 (non-ROHS). This chapter contains information on connecting the LX8020S-102AC-R. For information on connecting the IR-8020M-101, see *Communication Server 1000M and Meridian 1 Large System Installation and Configuration* (NN43021-310).

Differences between the two Terminal Servers include:

- The IR-8020M-101 Management port is port 20. The LX8020S-102AC-R contains a Diag Port at the front.

- The IR-8020M-101 contains an external PC card slot; the LX8020S-102AC-R does not.

- Commands , command modes and command line interfaces are different

- Default passwords are different for both

The Terminal Servers can be located anywhere on the LAN. One connection from each Call Server COM1 port is connected to the Terminal Server.

Up to 16 TTY ports can be configured with the CS 1000E Call Server. The Terminal Servers can be used as a central point to manage several devices through their serial ports.

Both Terminal Servers are used with the CS 1000E system to provide serial connections for accessing the CS 1000E COM ports. The user can access each COM port from a local PC through telnet sessions or from a remote PC by dialing the on-board modem.

The Terminal Servers provide IP connections to each Pseudo TTY (PTY) ports 0-15 for monitoring CDR and traffic reports.

The LX8020S-102AC-R – LX Series Standalone has 20 Console Ports and a V.90 internal modem. A 19-inch rack-mount kit is provided with the unit.

The DIAG port at the front end of the MRV LX8020S-102AC-R is the default management port. It will be used for primary configuration of the IP address, mask address and gateway address. The 20 Ports at the rear can be configured for Serial Data Interface for CS 1000E system components.

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### IMPORTANT!

Before connecting a Terminal Server to another component of the CS 1000E system, read and understand the documentation provided by the Terminal Server's manufacturer including the Quick Start Guide for MRV server, LX Series Configuration Guide and MRV LX Series Commands Reference Guide.

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# 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* (NN43001-600).

# First steps

## Contents

This section contains information on the following topics:

## Things to know

### CS 1000 Release 5.0 software compatibility

Consult Table 3 for CS 1000 Release 5.0 software compatibility.

**Table 3**
**CS 1000 Release 5.0 CS 1000E compatibility (Part 1 of 4)**

| Application | CS 1000E compatibility |
|---|---|
| PC Attendant Console | Supported |
| Meridian Attendant PC software | Supported |
| M2250 Attendant Console | Supported |

**Table 3**
**CS 1000 Release 5.0 CS 1000E compatibility (Part 2 of 4)**

| Application | CS 1000E compatibility |
|---|---|
| M2016S Secure Set (NA Only) | Supported |
| M39xx | Supported |
| Telephony Manager (TM) | 3.1 |
| Element Manager | EM 5.0 |
| CallPilot | 3.0, 4.0 |
| 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) | Supported |
| 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 |
| IP Softphone 2050 | Supported |
| IP Softphone 2050 V2 | Supported |
| Mobile Voice Client 2050 | Supported |
| IP Phone 2033 | Supported |
| IP Phone ACD Set | Supported |
| IP Phone 2007 | Supported |
| IP Phones 1120E,1140,1140E, 1150E | Supported |

**Table 3**
**CS 1000 Release 5.0 CS 1000E compatibility (Part 3 of 4)**

| Application | CS 1000E compatibility |
|---|---|
|  |  |
| Remote Gateway 9150 | Supported |
| Remote Gateway 9115/ IP Adaptor | 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 |
| Symposium Web Centre Portal [SWCP] | 4.0 |

**Table 3**
**CS 1000 Release 5.0 CS 1000E compatibility (Part 4 of 4)**

| Application | CS 1000E compatibility |
|---|---|
| CTI.next (Nortel Communications Control Toolkit ) | 5.0 |
| Nortel IVR (VPS/is) | 5.4.2 |
| Multimedia Processing Server (MPS) 100 | 1.0 |
| Multimedia Processing Server (MPS) MPS 500 and MPS 1000 | 2.1, 3.0 |
| Business Communications Manager | 3.7, 4.0 |
| 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 |
| CS 2000 | SN09, SN10, SN11 |
| CS 2100 | SE08, SE09, SE10 |

*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 *Product Compatibility* (NN43001-256).

*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 5.0. This allows customers to add a single additional MG 1000B for CS 1000 Release 5.0 without having to upgrade their entire network of MG 1000Bs.

*Note 3:* Mixed software configuration between a CS 1000 Release 5.0 Main Office and a CS 1000 Release 3.0 MG 1000B must be temporary.

*Note 4:* Mixed software configuration between a CS 1000 Release 5.0 Main Office and a CS 1000 Release 4.0/4.5 MG 1000B can be indefinite.

*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.

## Software requirements

Table 4 lists the minimum software requirements for CS 1000 Release 5.0 software. See "Obtaining software" on page 395 for information on how to obtain the latest versions of CS 1000 Release 5.0 software.

**Table 4**
**Software requirements**

| Item | Version |
|------|---------|
| Call Server | 5.x |
| Signaling Server (see note below) | 5.x |
| IP Line application (see note below) | 5.x |
| TM | 3.1 |
| IP Phone firmware (see note below) | Latest released with Rls 5.x |
| 8051XA Controller firmware on Voice Gateway Media Cards | Latest released with Rls 5.x<br>Latest released with Rls 5.x for ITG-P 24-port card (MG 1000T only) |
| Nortel IP Softphone 2050 | Latest released with Rls 5.x |
| Web browser | Microsoft Internet Explorer v.6.02<br>Netscape is not supported |
| **Note:** The Signaling Server Terminal Proxy Server (TPS), IP Line 5.0 loadware, Gatekeeper, Network Routing Service, 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 5.0, 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 5.0, 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.

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 48
- "Readiness checklist" on page 49

## 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* (NN43001-260) and *IP Peer Networking: Installation and Commissioning* (NN43001-313).

The following data is required:

- **IP addresses for system components**.
  Refer to *Communication Server 1000E: Installation and Commissioning* (NN43041-310) 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* (NN43100-500) 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 Commissioning* (NN43001-313) 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 5**
**Upgrade readiness checklist (Part 1 of 2)**

| 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.<br>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. | |

**Table 5**
**Upgrade readiness checklist (Part 2 of 2)**

| Action | ✓ |
|---|---|
| Prepare the network data, such as new IP addresses, as suggested in "Data checklist" on page 48 and in:<br><br>• *Converging the Data Network with VoIP* (NN43001-260)<br><br>• *IP Peer Networking: Installation and Commissioning* (NN43001-313)<br><br>• *Communication Server 1000E: Installation and Commissioning* (NN43041-310) | |
| 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 5.0 software.

*Note:* Data backup and restore is discussed in "Archive the database" on page 384 and "Restore a database" on page 387 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 Commissioning* (NN43041-310).

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 48.

3   Complete the "Readiness checklist" on page 49.

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* (NN43001-260).

**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 database on the Call Server and save it to removable media. Refer to Procedure 90 "Archiving the database" on page 384.

**End of Procedure**

# Upgrading Call Server software (CP PII or CP PIV)

## Contents

This section contains information on the following topics::

# Software pre-conversion

<table>
<tr>
<td>⚠️</td>
<td>

**IMPORTANT!**

Upgrades to CS 1000 Release 5.0 are supported on Release 23 or later.

Database conversion for Meridian 1 Options 21E, 51, 61,71, STE, NT and XT must be completed by Nortel Networks Software Conversion Lab. Consult the current Nortel Networks price book for cost and contact information.

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility.

All systems can be converted by Nortel Networks in the software conversion lab.
</td>
</tr>
</table>

<table>
<tr>
<td>⚠️</td>
<td>

**IMPORTANT!**

Database backup information should be preserved for a minimum of 5 days.
</td>
</tr>
</table>

This section provides instructions for upgrading a CS 1000E CP PII or CP PIV system to CS 1000 Release 5.0 software.

Have the following items available before proceeding

- Software Install Kit (see page 64)

- required Dependency list patches for the target system

A capture file should be maintained during all processes.

# Preparing for the 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 6 below:

**Table 6**
**Prepare for upgrade steps**

| Procedure Step | Page |
|---|---|
| Planning | 55 |
| Upgrade Checklists | 56 |
| Preparing | 56 |
| Connecting a terminal | 57 |
| Printing site data | 57 |
| Performing a template audit | 60 |
| Backing up the database (CP PII data dump) | 62 |
| Backing up the database (CP PIV data dump) | 63 |
| Performing the upgrade | 64 |

## Planning

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 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.

## Upgrade Checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter on . Engineers may print this section in order to facilitate the upgrade.

## Preparing

> **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.

- 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, TM, 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.

## Connecting 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**   ———————

## Printing site data

Print site data to preserve a record of the system configuration (Table 7 on page 58). 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 7**
**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> |
| 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 |

**Table 7**
**Print site data (Part 2 of 3)**

| Site data | Print command | |
|---|---|---|
| *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 |
| 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 |

**Table 7**
**Print site data (Part 3 of 3)**

| Site data | Print command | |
|---|---|---|
| Print the configured host information | LD 117 | PRT HOST (provides system IP addresses) |
| Superloops and XPEs | LD 97 | |
| | REQ<br>TYPE<br>SUPL | CHG<br>SUPL<br>Vxxx<br>V stands for a virtual superloop and xxx is the number of the virtual superloop.<br><br>xxx = 0-252 in multiples of four for MG 1000E<br><br>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. | | |

## Performing 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**

## Backing up the database (CP PII 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   Insert a floppy disk into the active Core/Net floppy drive to back up the database.

3   Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

**LD 43**         Load program

4   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.

---

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

**\*\*\*\***         Exit program

6    Remove and label the floppy disk.

<table>
<tr><td>⚠</td><td>

**IMPORTANT!**

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

</td></tr>
</table>

──────── **End of Procedure** ────────

## Backing up the database (CP PIV data dump)

**Procedure 4**
**Performing a data dump to backup the customer database:**

1    Log into the system.

2    Insert a CF card into the active Core/Net 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.

<table>
<tr><td>⚠</td><td>

**CAUTION — Service Interruption**

**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.

</td></tr>
</table>

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

  **\*\*\*\***              Exit program

**6**   Remove and label the CF card.

——————— **End of Procedure** ———————

# Performing the upgrade

## Reviewing upgrade requirements

This section describes the *minimum* software required for CS 1000
Release 5.0. 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
> iitems 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 8 lists the contents of the Software Install Kits for CPPII and CP PIV.

**Table 8**
**Contents of the Software Install Kits**

| CP PII | | |
|---|---|---|
| **Item** | **Quantity** | **Description** |
| Software CD-ROM | 1 | Each CD contains all nine generics for a given release and issue of software. |
| Install Program diskette (1.44-Mbyte media, created from the installation CD ROM) | 1 | Used to launch the Install Program and to download software from the CD-ROM. Each 1.44-Mbyte diskette supports one processor type (CP PII, CP PIV). |
| 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. |
| CP PIV | | |
| **Item** | **Quantity** | **Description** |
| One CF (512 MByte) | 1 | A CF card containing the Install Software files, CS 1000 Release 5.0 software, Dep. Lists (PEPs), and the keycode file. |

## Splitting the Call Servers

**Procedure 5**
**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

3   Stat Health of the CPU and memory:

**LD 135**

**STAT HEALTH**   Get status of CPU and memory

**\*\*\*\***          Exit the program

*Note:*  If there is a health mismatch, take steps to correct the issue, including contacting Nortel Technical Support, before proceeding with the upgrade.

**Procedure 6**
**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 5.0 (CP PII)

### Upgrading the software

*Note:* Procedure 7 outlines the steps involved in upgrading a CP PII system to CS 1000 Release 5.0. To upgrade a CP PIV system to CS 1000 Release 5.0, see Procedure 8 on page 85.

**Procedure 7**
**Upgrading the software (CP PII)**

**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.

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

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

              #####
           #########   ########
         ########``  `#############
        ########       ``    `#############
       ########`           ######```####
       #######     ######``     `###              NORTEL
      ######   #####``        ####
      ####### #####`              ####      Communication Server 1000 Software
      `#########`                 ####`
       #######`                  #####        Install Tool version 29
        `#######                #####`
        ##########              `###`          Copyright 1992 - 2007
       ##``##########              #
      ##    `#######################
      `#      `########################``
        ##########################``
         ````````` ````####````

        Please press <CR> when ready ...


********************************************************************
 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

********************************************************************
 WARNING:

 Upgrading from pre-Release 4.5 software to Release 4.5 or higher
 will result in the system PDT passwords being reset to default.

 Proceed with the upgrade? (Y/N) y
```

**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
>
>  WARNING:
>
>  Upgrading from pre-Release 4.5 software to Release 4.5 or higher will result in the system PDT passwords being reset to default.
>
>  Proceed with the upgrade? (Y/N) y

**7**    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

**8**  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

---

**9**  Proceed to Install Menu.

---

Communication Server 1000 Software/Database/BOOTROM
CDROM Install Tool

=============================================

M A I N   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> -> <u> - To Install Menu.
          <t> - To Tools Menu.
          <q> - Quit.

          Enter choice>u

---

**10**    Insert the Keycode diskette.

---

Communication Server 1000 Software/Database/
BOOTROM CDROM Install Tool

==========================================

---

Please insert the diskette with the keycode file into the floppy drive.

Please enter:

CR> -> <a> - Continue with the keycode validation.

    (The keycode diskette is in the floppy drive on Core 0.)

    <q> - Quit.

    Enter choice> a

    >Validating keycode ...

    Copying "/f0/keycode.kcd" to "/u/keycode" -

>The provided keycode authorizes the install of xxxx software (all subissues) for machine type xxxx (CP PII processor on CS 1000E System).

---

**11**    Confirm the Keycode matches the software release on the CD-ROM.

---

Communication Server 1000 Software/Database/
BOOTROM CDROM Install Tool

==========================================

---

    Please confirm that this keycode matches the CDROM release.

    Please enter:

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

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

    Enter choice> y
    Obtaining database file names ...

---

**12** Continue with software installation.
Option <a> will convert the database from the hard drive.
Option <b> 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

===============================================

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> a

---

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

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

**14**  Check the software version.

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

**15** 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 deplist menu.


Set Automatic Centralized Software Upgrade Mode to:

      Please enter:

<CR> -> <1> - Sequential

      <2> - Simultaneous

      Enter choice>

>Processing the install control file ...

>Installing release 0491L


      The Installation Status Summary appears:

---

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

    +================+========+========+==========================+
    |     Option     | Choice | Status |        Comment           |
    +================+========+========+==========================+
    | SW: RMD to FMD |  yes   |        | install for rel 0491L    |
    +----------------+--------+--------+--------------------------+
    | Dependency Lists|  yes  |        |                          |
    +----------------+--------+--------+--------------------------+
    | AUTO-CSU Feature|  SEQ  |        | SEQ-CSU Enabled          |
    +----------------+--------+--------+--------------------------+
    | IPMG Software: |  yes   |        | install for rel 0491L    |
    +----------------+--------+--------+--------------------------+
    | Database       |   no   |        |                          |
    +----------------+--------+--------+--------------------------+
    | CP-BOOTROM     |  yes   |        |                          |
    +----------------+--------+--------+--------------------------+

    Please enter:
<CR> -> <y> - Yes, start installation.
        <n> - No, stop installation. Return to the Main Menu.

    Enter choice>
>Checking system configuration
```

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
```

**16** 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 RMD 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

---

**17** Confirm Installation status.

```
               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 ...

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

| |
|---|
| Please enter:<br><br>CR> -> <y> - Yes, start installation.<br>        <n> - No, stop installation. Return to the Main<br>        Menu.<br><br>Enter choice> y<br><br>>Checking system configuration |
| You selected to install Software release: 4.x on the new system. This will erase all old system files.<br><br>This will create all necessary directories and pre-allocate files on the hard disk.<br><br>You may continue with software install or quit now and leave your software unchanged. |
| Please enter:<br><br>CR> -> <a> - Continue with new system install.<br>        <q> - Quit.<br><br>Enter choice> a |

**19** Select Language PSDL choice.

```
************************************************************

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 six 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

**20** 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 ...
```

**21** Return to the Main Menu.

Communication Server 1000 Software/Database/
BOOTROM CDROM Install Tool

===========================================

T O O L S   M E N U

This is the Tools Menu for Install. You can select the tool that is appropriate.  Please select one of the options below.

Please enter:

&lt;CR&gt; -&gt; &lt;a&gt; - To set the system date and time.
&lt;b&gt; - To partition the hard disk.
&lt;c&gt; - To display the partition size of hard disk.
&lt;d&gt; - To regenerate PDT Password.
&lt;g&gt; - To print CDROM content.
&lt;h&gt; - To print Keycode content.

&lt;i&gt; - To print Security Device content.
&lt;j&gt; - To Check the customer specific part of CDROM.
&lt;k&gt; - To manually create Keycode floppy diskette.
&lt;r&gt; - To install Keycode only.
&lt;s&gt; - To archive existing database.
&lt;m&gt; - To return to the Main Menu.

Enter choice&gt; m

**22** Enter <q> to Quit.

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

        ==========================================
                      M A I N   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> -> <u> - To Install Menu.
                    <t> - To Tools Menu.
                    <q> - Quit.

                    Enter choice>q
```

**23** Confirm you wish to Quit.

```
          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> y
```

**24** Press <CR> to Reboot the system.



**WARNING**

DO NOT REBOOT USING RESET BUTTON!!!

**25** After the system has rebooted and initialized, log in to Call Server 1.

**26** 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** ————

At this point in the CP PII upgrade, proceed to Procedure 9 on .

## CS 1000 Release 5.0 upgrade (CP PIV)

### Upgrading the software

Procedure 8 outlines the steps involved in installing CS 1000 Release 5.0 for the CP PIV processor.

**Procedure 8**
**Upgrading the software (CP PIV)**

**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 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.

*Note:* 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 on a new Core. If the CF card contains previous information (is not blank) the starting prompts begin on page .

```
>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
```

*Note:*   Blank CF prompts begin here.

```
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

 10 [F]

Press <CR> when ready

Reading boot parameters from /boot/nvram.sys

Press any key to stop auto-boot...


```

**5**   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".

**6**    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>
```

**7**    If the keycode matches, enter <CR> to continue the installation. The system dispalys the Install Menu. Select option "<b>.

```
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.

        <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> <b>
```

**8**    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>
```

**9**    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>.

**10** 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".

**11**  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 deplist menu.


Set Automatic Centralized Software Upgrade Mode to:

    Please enter:

<CR> -> <1> - Sequential

        <2> - Simultaneous

        Enter choice>

>Processing the install control file ...

>Installing release 0491L


        The Installation Status Summary appears:

**12**   The Installation Status Summary appears.

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

     +================+========+========+==========================+
     |     Option     | Choice | Status |          Comment         |
     +================+========+========+==========================+
     | SW: RMD to FMD |  yes   |        | install for rel 05.xx.xx |
     +----------------+--------+--------+--------------------------+
     | Dependency Lists|  yes  |        |                          |
     +----------------+--------+--------+--------------------------+
     | AUTO-CSU Feature|  SEQ  |        | SEQ-CSU Enabled          |
     +----------------+--------+--------+--------------------------+
     | IPMG Software: |  yes   |        | install for rel 05.xx.xx |
     +----------------+--------+--------+--------------------------+
     | Database       |  yes   |        |                          |
     +----------------+--------+--------+--------------------------+
     | CP-BOOTROM     |  yes   |        |                          |
     +----------------+--------+--------+--------------------------+
```

**13**   Enter <CR> to confirm and continue upgrade.

*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 upgrade.

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


         Enter choice>

>Checking system configuration

You selected to upgrade Software release: XXXX on
the new system. This will erase all old system
files.

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

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

Please enter:

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

        <q> - Quit.

        Enter choice>

```

**14** 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 ...
```

**15** 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 ...
```

**16**  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>
```

**17** 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>

You have chosen to restore database.
```

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   |        | install for rel 05.xx.xx |
      +----------------+--------+--------+------------------------+
      | Dependency Lists|  yes   |        |                        |
      +----------------+--------+--------+------------------------+
      | AUTO-CSU Feature|  SEQ   |        | SEQ-CSU Enabled        |
      +----------------+--------+--------+------------------------+
      | IPMG Software: |  yes   |        | install for rel 05.xx.xx |
      +----------------+--------+--------+------------------------+
      | Database       |  yes   |        |                        |
      +----------------+--------+--------+------------------------+
      | CP-BOOTROM     |  yes   |        |                        |
      +----------------+--------+--------+------------------------+
```

**18** 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
```

**19** 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** ———————

# Verifying the upgraded database

**Procedure 9**
**Verifying the upgraded database**

**1** Log into the Call Server database.

**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 customer data block(s) in LD 21.

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

# Reconfiguring I/O parameters and call registers

**Procedure 10**
**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 |

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

## Switching call processing to Call Server 1

**Procedure 11**
**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**

## Upgrading the software on Call Server 0

To upgrade the software on Call Server 0 for CP PII, complete Procedure 7 on page 67 (assume all references to Call Server 1 are now Call Server 0). To upgrade the software on Call Server 0 for CP PIV, complete Procedure 8 on page 85 (again, assume all references to Call Server 1 are now Call Server 0).

# Making the system redundant

**Procedure 12
Making the system redundant**

       **LD 135**        Load program

       **JOIN**         Join the 2 CPUs together to become redundant

> ✔ Call Server 1 is now the active CP.
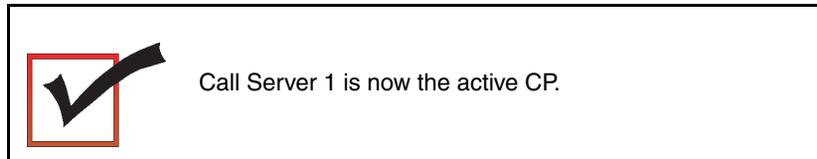
# Completing the upgrade

## Testing the Call Servers

**Procedure 13
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 14**
**Switching call processing**

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

—————— **End of Procedure** ——————

**Procedure 15**
**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** ────────────

## Switching call processing

**Procedure 16**
**Switching call processing**

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

──────────── **End of Procedure** ────────────

## Performing a customer backup CP PII data dump (upgraded release)

**Procedure 17**
**Performing a data dump to backup the customer database:**

1  Log in to the system.

2  Insert a floppy disk into the active Core/Net floppy drive to back up the database.

3  Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

   **LD 43**        Load the program

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

   **EDD**        Begin the data dump

> **CAUTION — Service Interruption**
>
> **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.

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

5  Issue the DAT command to ensure all database backups are current.

6  Exit the program.

   **\*\*\*\***        Exit the program

———————— **End of Procedure** ————————

### Performing a customer backup CP PIV data dump (upgraded release)

**Procedure 18**
**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

———————— **End of Procedure** ————————

> The upgrade is now complete.

# Upgrading CP PII Call Servers to CP PIV

## Contents

This section contains information on the following topics:

## Introduction

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

# Preparing for the 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 9 below:

**Table 9**
**Prepare for upgrade steps (Part 1 of 2)**

| Procedure Step | Page |
| --- | --- |
| Planning | 119 |
| Upgrade Checklists | 120 |
| Preparing | 120 |
| Connecting a terminal | 121 |
| Printing site data | 121 |
| Performing a template audit | 124 |
| Backing up the database (data dump) | 126 |

**Table 9**
**Prepare for upgrade steps (Part 2 of 2)**

| Procedure Step | Page |
|---|---|
| Transferring the database from floppy disk to CF card (customer database media converter tool) | 127 |
| Making the RMD bootable | 133 |

# Planning

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.

- 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, 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 . Engineers may print this section in order to facilitate the upgrade.

## Preparing

> **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.

- 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, TM, 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.

## Connecting a terminal

**Procedure 19**
**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** ———————————————

## Printing site data

Print site data to preserve a record of the system configuration (Table 10 on ). 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 10**
**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> |
| 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 |

**Table 10**
**Print site data (Part 2 of 3)**

| Site data | Print command | |
|---|---|---|
| *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 |
| 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 |

**Table 10**
**Print site data (Part 3 of 3)**

| Site data | Print command | |
|---|---|---|
| Print the configured host information | LD 117 | PRT HOST (provides system IP addresses) |
| Superloops and XPEs | LD 97 | |
| | REQ<br>TYPE<br>SUPL | CHG<br>SUPL<br>Vxxx<br>V stands for a virtual superloop and xxx is the number of the virtual superloop.<br><br>xxx = 0-252 in multiples of four for MG 1000E<br><br>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. | | |

## Performing 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**

## Backing up the database (data dump)

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

**Procedure 20**
**Performing a data dump**

1   Log into the system.

2   Insert a floppy disk into the active Core/Net floppy drive to back up the database.

3   Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

    **LD 43**        Load program

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

    **\*\*\*\***       Exit program

**6**   Remove and label the floppy disk.

---

<table>
<tr>
<td>⚠️</td>
<td>

**IMPORTANT!**

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

</td>
</tr>
</table>

---

———— **End of Procedure** ————

# Transferring the database to CF card

There are two ways to transfer a customer databse from floppy disk to CF card. To transfer using the customer database media converter tool, see Procedure 21 on .

### 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.

---

<table>
<tr>
<td>⚠️</td>
<td>

**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).

</td>
</tr>
</table>

---

**Procedure 21**
**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 20 on .

**2**   Insert a CF card (there is one blank one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.

---

**3** Start the customer database media converter tool. The first screen (Figure 2 on page 128) prompts you to select the correct drive letter for the floppy disk drive.

**Figure 2**
**Select the floppy disk drive**



**4** The utility then prompts you to insert the the floppy disk (diskette 1) and click OK (see Figure 3 on page 129).

**Figure 3**
**Insert diskette 1**



**5** After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 4 on ).

**Figure 4**
**Select the CF drive**
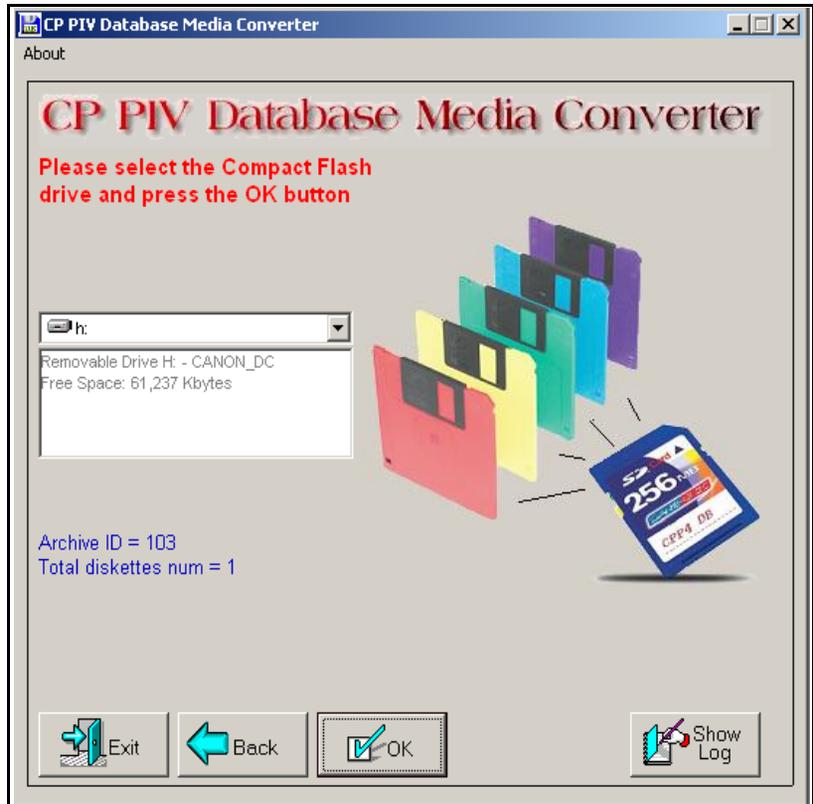


**6**   At this point, 2 options are available:

   **a.**   If the CF card already contains a previously backed-up database, a
          dialog box appears (see Figure 5 on page 131). Click yes to replace
          old database.

   **b.**   If the CF card is blank, the database is backed up to the CF card.

**Figure 5**
**Replace database on CF drive**
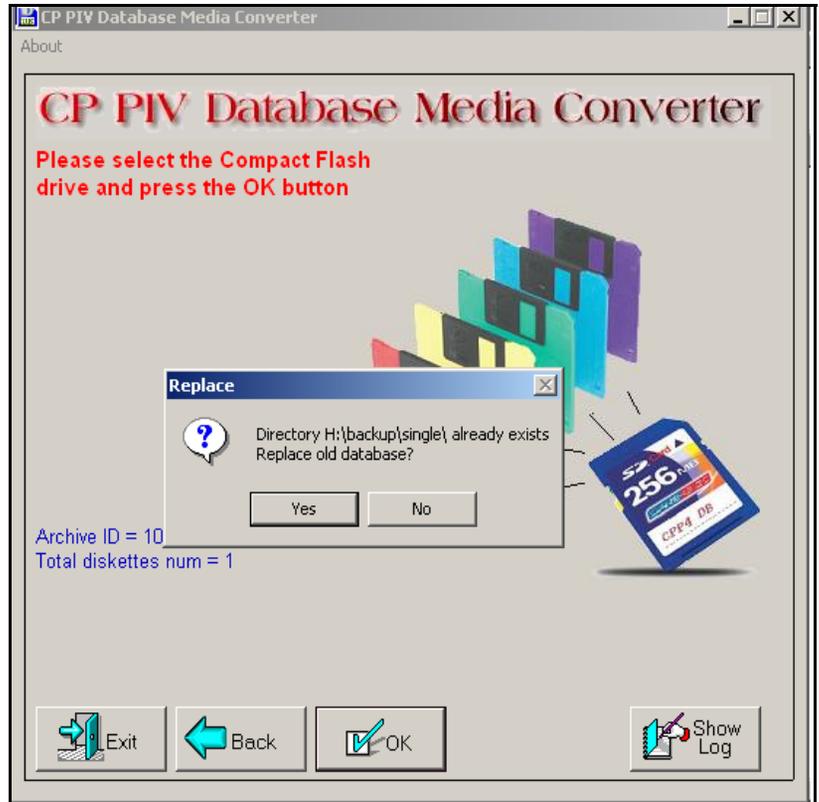


**7**    The utility completes the transfer to CF and prompts you to copy another
or EXIT (see Figure 5 on ).

**Figure 6**
**Copy another or exit**



---  **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 22 on page 133.

**Procedure 22**
**Making the RMD bootable**

1    After downloading the software image file, unzip it to a directory on your PC.

2    Open the utilities folder.

**3**  Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 7).

**Figure 7**
**mkbootrmd.bat**

```
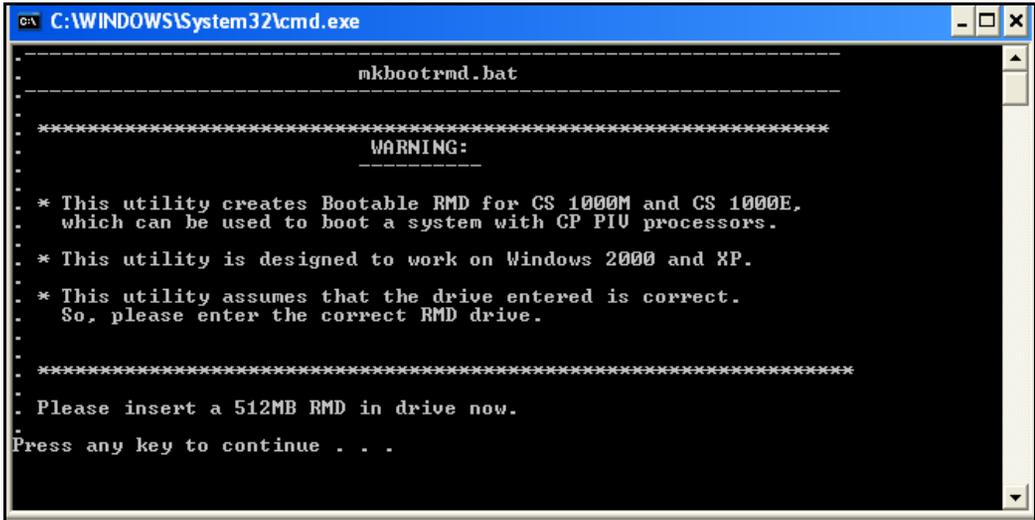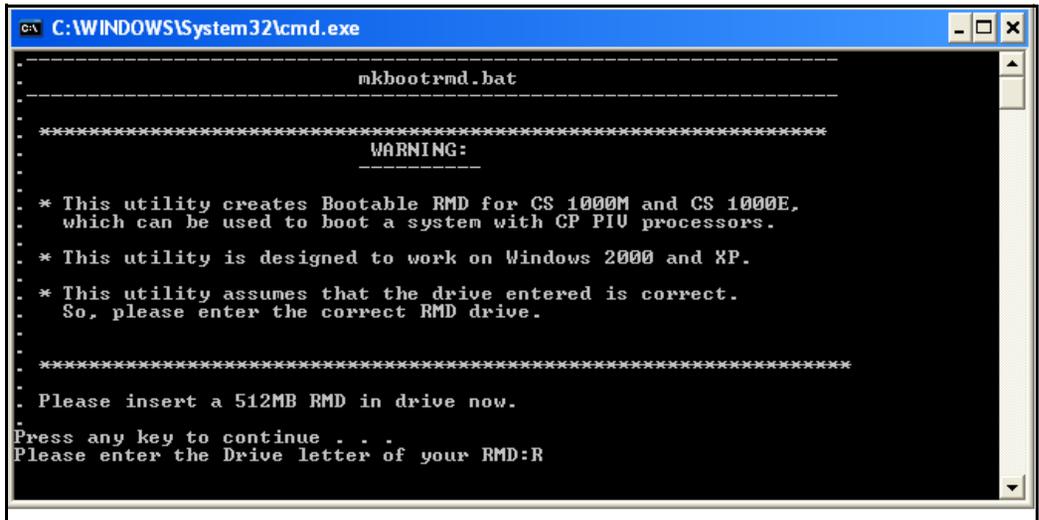C:\WINDOWS\System32\cmd.exe                                             _ □ ×

 ----------------------------------------------------------------------
                            mkbootrmd.bat
 ----------------------------------------------------------------------

 ***********************************************************************
                            WARNING:
                            ----------

 * This utility creates Bootable RMD for CS 1000M and CS 1000E,
   which can be used to boot a system with CP PIV processors.

 * This utility is designed to work on Windows 2000 and XP.

 * This utility assumes that the drive entered is correct.
   So, please enter the correct RMD drive.


 ***********************************************************************
 Please insert a 512MB RMD in drive now.

Press any key to continue . . .
```

**4**    Enter the correct drive letter of the RMD (see Figure 8).

**Figure 8**
**mkbootrmd.bat**

```
C:\WINDOWS\System32\cmd.exe                                          _ □ ×

 -------------------------------------------------------------------
                          mkbootrmd.bat
 -------------------------------------------------------------------

 ****************************************************************
                          WARNING:
                          ---------

 * This utility creates Bootable RMD for CS 1000M and CS 1000E,
   which can be used to boot a system with CP PIV processors.

 * This utility is designed to work on Windows 2000 and XP.

 * This utility assumes that the drive entered is correct.
   So, please enter the correct RMD drive.


 ****************************************************************
 Please insert a 512MB RMD in drive now.

Press any key to continue . . .
Please enter the Drive letter of your RMD:R
```

**5**   The boot sector files (bootrom.sys and nvram.sys) are successfully copied making the CF card bootable (see Figure 9).

**Figure 9**
**Boot sector successfully installed**
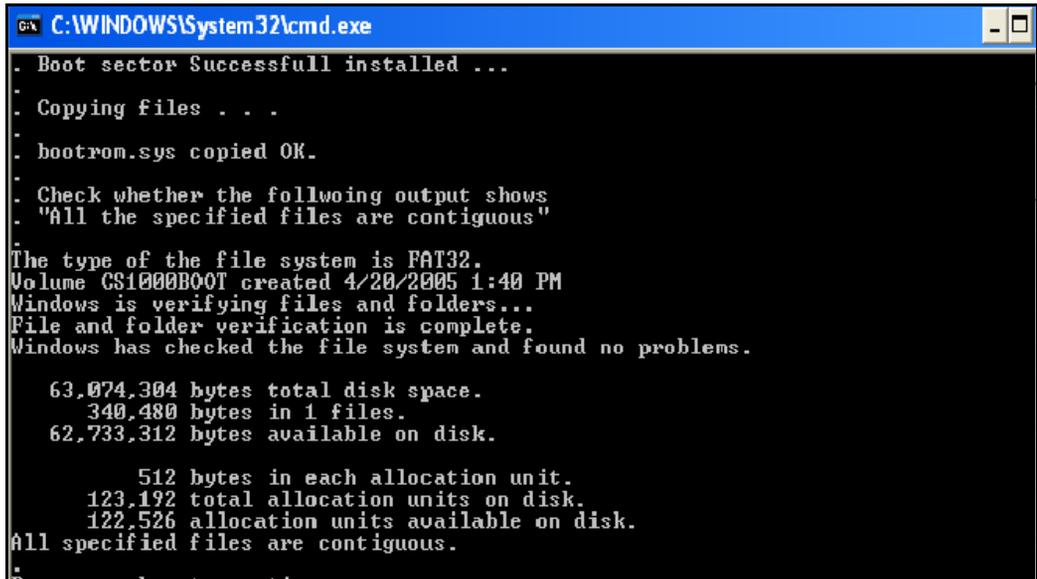


```
. Boot sector Successfull installed ...

. 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 CS1000BOOT 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

## Reviewing 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.

## Checking 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 5.0 software

  — Dep. Lists ( PEPs)

  — Key code File

- One blank CF card for database backup

- One Nortel CS 1000 Release 5.0 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.

## Checking required hardware

Table 11 lists the hardware required for the upgrade.

**Table 11**
**Hardware requirements for CS 1000E upgrade**

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

Figure 10 on page 139 shows the CP PIV processor card side view. Figure 11 on page 140 shows the CP PIV processor card front view. Figure 12 on page 141 shows the CP PIV Drive Carrier Card blank faceplate replacement.

**Figure 10**
**CP PIV card (side)**
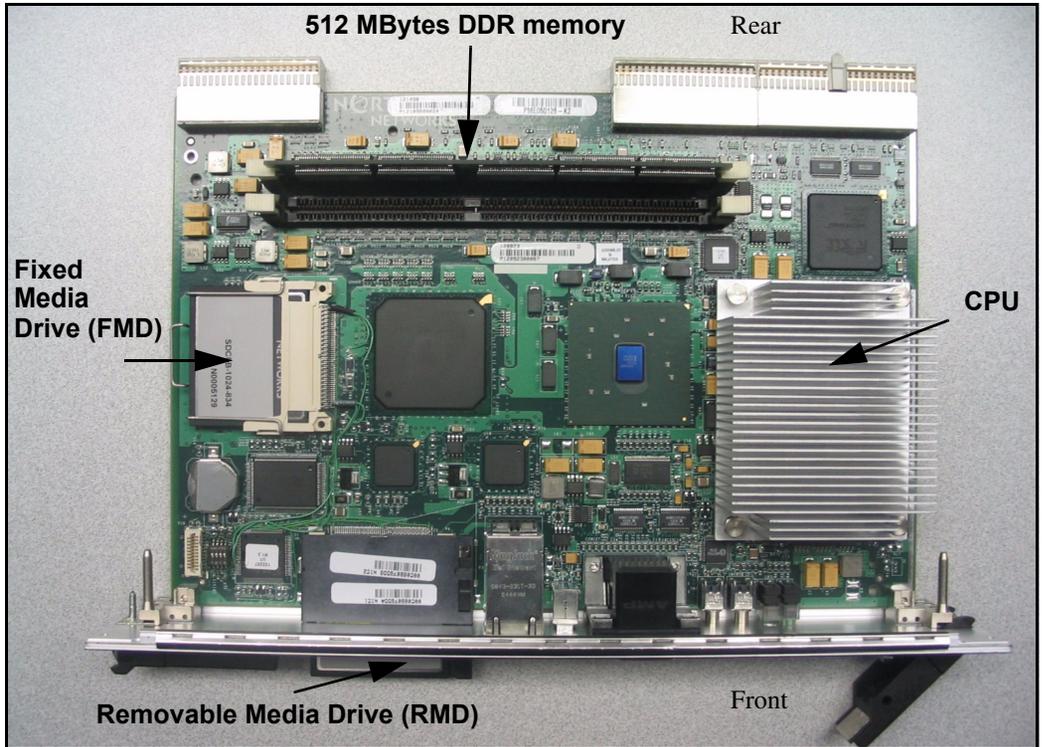
**Figure 11**
**CP PIV card (front)**
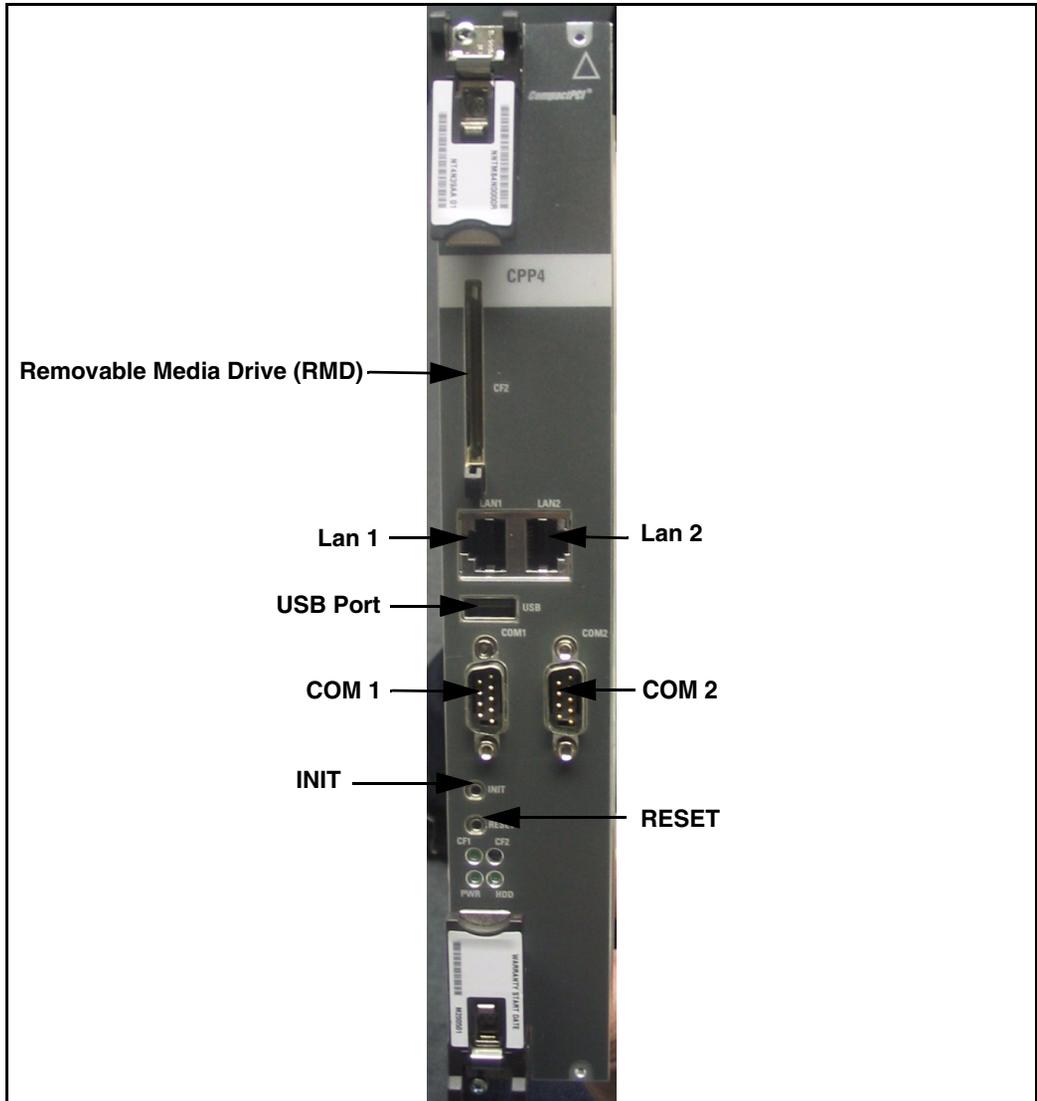
**Figure 12**
**CS 1000E CP PIV Drive Carrier Card blank faceplate replacement**



## Verifying CP PIV hardware

### Verifying CP PIV card location

The NT4N39 CP PIV card is located in the CP slot (see Figure 11 on ).

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

# Upgrading Call Server 1

**Procedure 23**
**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 24**
**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** ————

# Removing Call Server 1 CP PII card and Drive Carrier Card

**Procedure 25**
**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 13 on .

**2**    Disconnect and label the COM 1 and COM 2 cables from the Call Server 1 CP PII card faceplate. See Figure 13 on .

**3**    Unscrew and unlatch the Call Server 1 CP PII card. See Figure 13 on .

**4**    Remove the Call Server 1 CP PII card from its slot.

**5**    Unscrew, unlatch and remove the Drive Carrier Card from its slot. 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 13**
**CP PII faceplate connections**
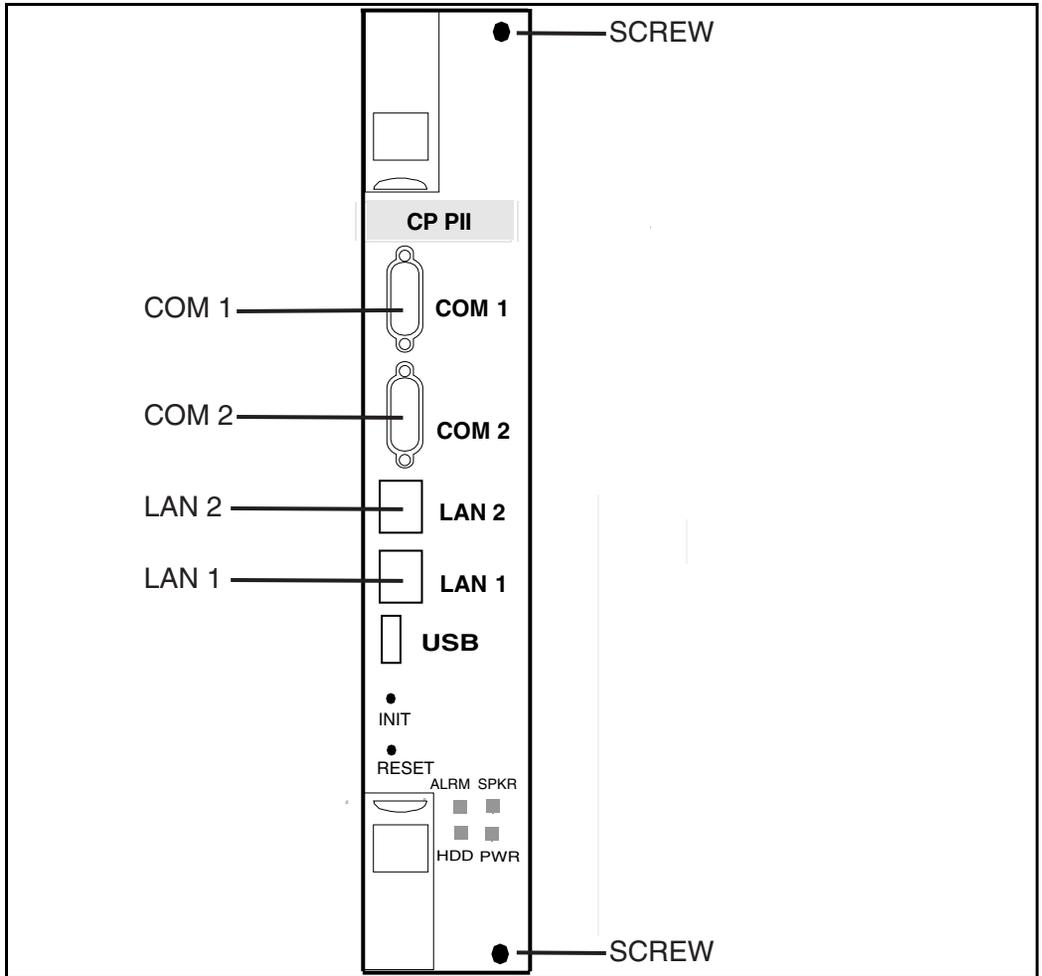
## Installing Call Server 1 CP PIV card and blank faceplate

**Procedure 26**
**Installing Call Server 1 CP PIV Procesor and blank faceplate**

1   Insert the CS 1000E CP PIV Drive Carrier Card blank faceplate replacement 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 14 on .

**Figure 14**
**CP PIV faceplate connections**
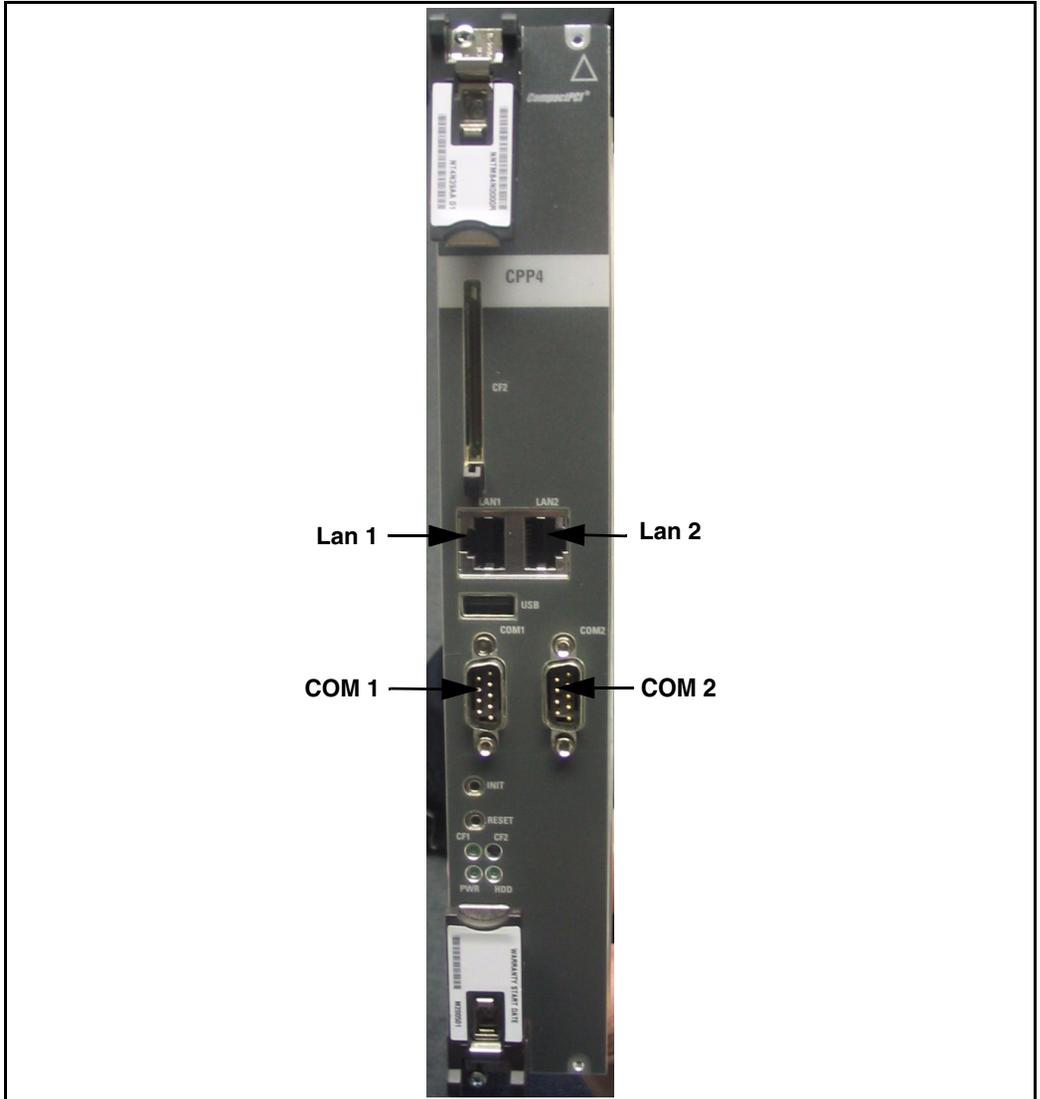
4   Attach the LAN 1 and LAN 2 cables to the CP PIV card faceplate at this point in the upgrade.

─────── **End of Procedure** ───────

# CS 1000 Release 5.0 upgrade

## Upgrading the software

Procedure 27 outlines the steps involved in installing CS 1000 Release 5.0 for the CP PIV processor.

**Procedure 27**
**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 machine type displayed can be one of the following, according to the keycode content.

- 3521 (CP PIV processor on CS 1000M SG) for Meridian 1 Option 61C CP PIV

- 3621 (CP PIV processor on CS 1000M MG) for CS 1000E and Meridian 1 Option 81C CP PIV systems

**8**    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>
```

**9**    If the keycode matches, enter <CR> to continue the installation. The system dispalys the Install Menu. Select option "<b> .

```
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.

        <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> <b>
```

**10**  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>
```

**11**  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>.

**12** 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".

**13** 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
```

**14**  The Installation Status Summary appears.

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

  +================+=======+=======+==========================+
  |    Option      | Choice | Status |         Comment         |
  +================+=======+=======+==========================+
  | SW: RMD to FMD  |  yes  |       | install for rel 05.xx.xx |
  +----------------+-------+-------+--------------------------+
  | Dependency Lists|  yes  |       |                          |
  +----------------+-------+-------+--------------------------+
  | AUTO-CSU Feature|  SEQ  |       | SEQ-CSU Enabled          |
  +----------------+-------+-------+--------------------------+
  | IPMG Software:  |  yes  |       | install for rel 05.xx.xx |
  +----------------+-------+-------+--------------------------+
  | Database        |  yes  |       |                          |
  +----------------+-------+-------+--------------------------+
  | CP-BOOTROM      |  yes  |       |                          |
  +----------------+-------+-------+--------------------------+
```

**15**  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 upgrade the system from release
XXXX to xxxx.

This will erase all old system files. Database
files will NOT be erased.

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

Please enter:

        <CR> -> <a> - Continue with upgrade.

        <q> - Quit.

        Enter choice>
```

**16**   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 ...
```

**17**   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 ...
```

**18** 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>
```

**19**  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>

You have chosen to restore database dated: Apr 12
15:09:00 2006

      Please confirm.

      Please enter:

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

        <n> - No, DO NOT load.

        Enter Choice>
```

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 ...
```

**20**   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
```

**21** 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>

>Rebooting system ...
```

At this point the system reloads and initializes.

———————————————  **End of Procedure**  ———————————————

## Verifying the upgraded database

**Procedure 28**
**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 |

# Reconfiguring I/O ports and call registers

**Procedure 29**
**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).

## Switching call processing to Call Server 1

| | **CAUTION** |
|---|---|
| ⚠ | **Service Interruption** |
| | The following procedure interrupts call processing. All active calls are lost. |

**Procedure 30**
**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** ————————————

## Testing Call Server 1

**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 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 32**
**Testing Call Server 1**

1   Check dial-tone.

2   Stat D-channels, network cards and print te status of all IPMGs. Refer to *Software Input/Output: Maintenance* (NN43001-711) and *Software Input/ Output: Administration* (NN43001-611).

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).

# Upgrading Call Server 0

**Procedure 33**
**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** ────────

## Removing Call Server 0 CP PII card and Drive Carrier Card

**Procedure 34**
**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 15 on page 175.

2   Unscrew and unlatch the Call Server 0 CP PII card. See Figure 15 on page 175.

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 15**
**CP PII faceplate connections**
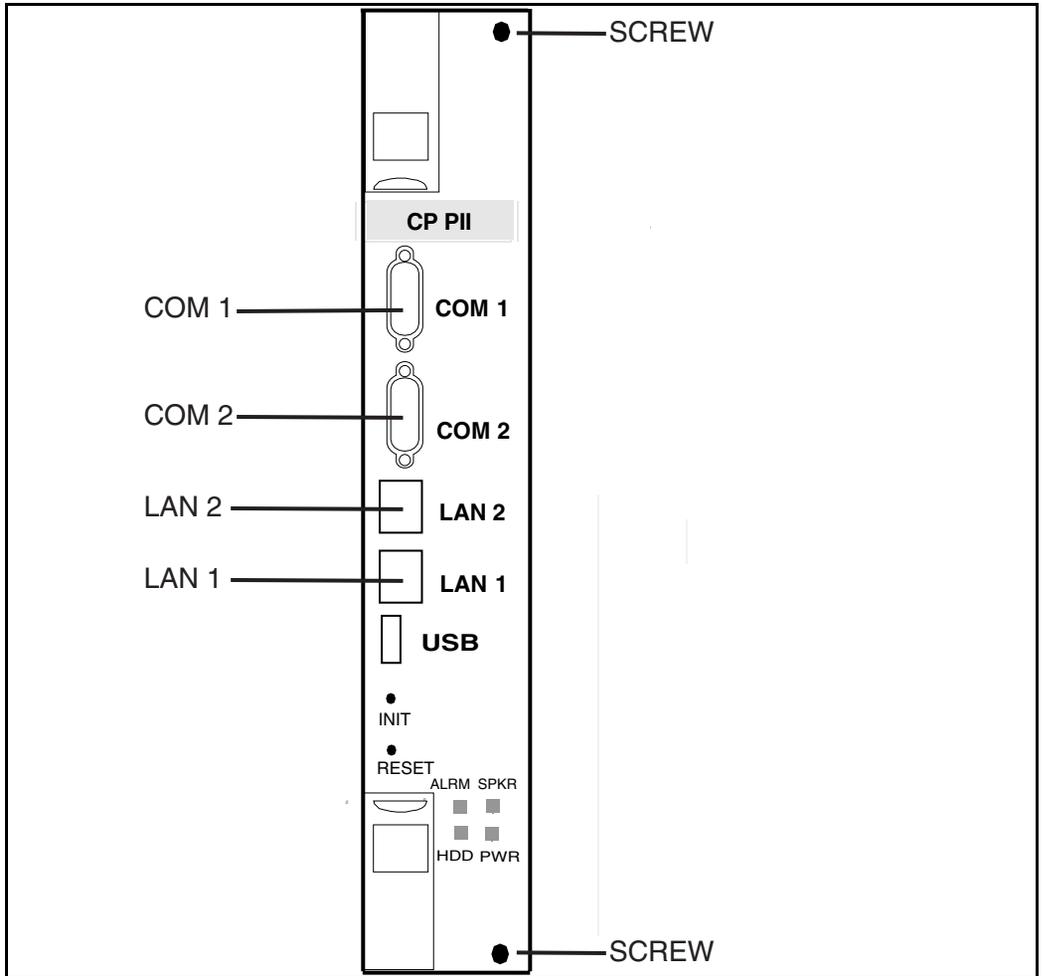


**End of Procedure**

## Installing Call Server 0 CP PIV card and blank faceplate

**Procedure 35**
**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 16 on page 177.

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 16**
**CP PIV faceplate connections**
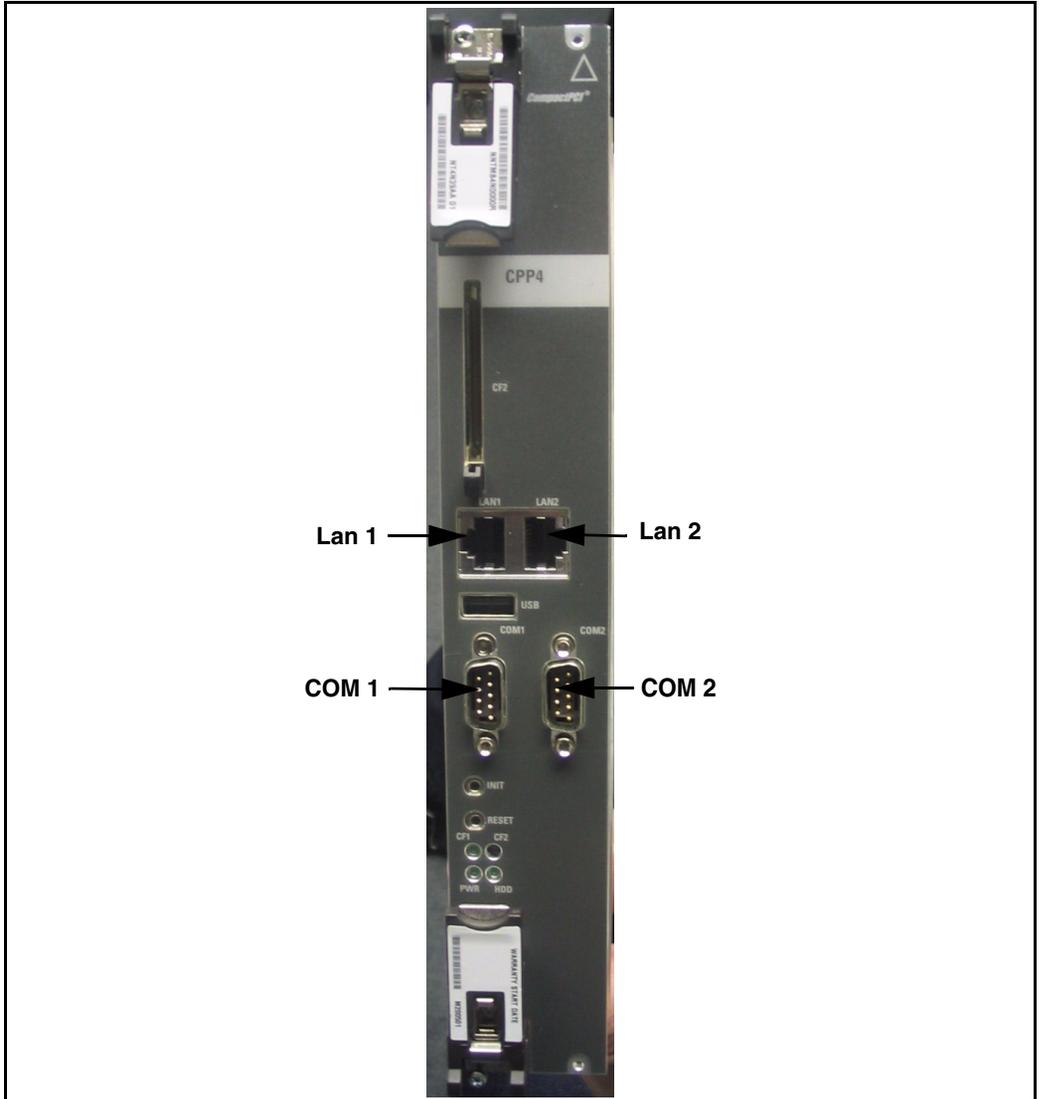
## CS 1000 Release 5.0 upgrade

### Upgrading the software

Procedure 27 outlines the steps involved in installing CS 1000 Release 5.0 for the CP PIV processor.

**Procedure 36**
**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 machine type displayed can be one of the following, according to the keycode content.

• 3521 (CP PIV processor on CS 1000M SG) for Meridian 1 Option 61C CP PIV

• 3621 (CP PIV processor on CS 1000M MG) for CS 1000E and Meridian 1 Option 81C CP PIV systems

**8** 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>
```

**9**   If the keycode matches, enter <CR> to continue the installation. The system dispalys the Install Menu. Select option "<b>.

```
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.

        <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> <b>
```

**10** 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>
```

**11** 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>.

12  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".

13  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
```

**14** The Installation Status Summary appears.

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

     +================+========+========+==========================+
     |     Option     | Choice | Status |          Comment         |
     +================+========+========+==========================+
     | SW: RMD to FMD |  yes   |        | install for rel 05.xx.xx |
     +----------------+--------+--------+--------------------------+
     | Dependency Lists|  yes  |        |                          |
     +----------------+--------+--------+--------------------------+
     | AUTO-CSU Feature|  SEQ  |        | SEQ-CSU Enabled          |
     +----------------+--------+--------+--------------------------+
     | IPMG Software: |  yes   |        | install for rel 05.xx.xx |
     +----------------+--------+--------+--------------------------+
     | Database       |  yes   |        |                          |
     +----------------+--------+--------+--------------------------+
     | CP-BOOTROM     |  yes   |        |                          |
     +----------------+--------+--------+--------------------------+
```

**15** 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 upgrade the system from release
XXXX to xxxx.

This will erase all old system files. Database
files will NOT be erased.

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

Please enter:

        <CR> -> <a> - Continue with upgrade.

        <q> - Quit.

        Enter choice>

```

**16**    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 ...
```

**17**    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 ...
```

**18**  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>
```

**19**  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>

You have chosen to restore database dated: Apr 12
15:09:00 2006

      Please confirm.

      Please enter:

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

      <n> - No, DO NOT load.

      Enter Choice>
```

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 ...
```

**20**   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
```

**21** 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>
>Rebooting system ...
```

At this point the system reloads and initializes.

──────────── **End of Procedure** ────────────

## Verifying the upgraded database

**Procedure 37**
**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 38**
**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 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

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 39
### 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 40
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 41**
**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 42**
**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 43**
**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

—————— **End of Procedure** ——————

> ✔ The upgrade is now complete.

# Upgrading and configuring the Signaling Server

## Contents

This section contains information on the following topics:

# Upgrading and reconfiguring the software

CS 1000 Release 5.0 introduces three Signaling Servers:

- Nortel CP PM Signaling Server

- IBM X306m Signaling Server

- HP DL320-G4 Signaling Server

These Signaling Servers do not support any Signaling Server software prior to CS 1000 Release 5.0 and therefore, are not subject to software upgrades in CS 1000 Release 5.0.

This chapter contains instructions for upgrading the Signaling Server software on a legacy Nortel ISP1100 Signaling Server (NTDU27AA 01, 02, or 03) from CS 1000 Release 4.0 or CS 1000 Release 4.5 to CS 1000 Release 5.0. In addition, it explains how to install the previous release of Signaling Server software on a legacy Nortel ISP1100 Signaling Server. All Signaling Servers can be re-configured once installed and connected to the system. This chapter also contains the instructions for re-configuring a Signaling Server.

## Nortel ISP1100 Signaling Server memory upgrades

CS 1000 Release 5.0 requires a Signaling Server to have at least 1 GB of memory configured. If your Nortel ISP1100 Signaling Server contains less than 1 GB of memory, you must upgrade the memory before upgrading the Signaling Server software to CS 1000 Release 5.0.

To enable customers to configure 1 GB of memory on their legacy Nortel ISP1100 Signaling Server, a Nortel ISP1100 Memory Upgrade Kit (NTDU80CA) is available. Two NTDU80CA Upgrade Kits are required to configure 1 GB of memory on any Nortel ISP1100 Signaling Server. Refer to the *Signaling Server: Installation and Commissioning* (NN43001-312) NTP for instructions on using the NTDU80CA memory upgrade kit to upgrade the memory of a Nortel ISP1100 Signaling Server.

## Overview

The upgrade process recognizes the existence of IP configuration data and application databases on the Signaling Server and does not impact on them

during the upgrade. However, Nortel recommends that you back up the application databases prior to the upgrade as a precautionary measure. The application databases consist of the IP Phone database and the NRS database.

If you do not know whether the Signaling Server being upgraded has an NRS, use Procedure 44, "Verifying the presence of an NRS," on to make this determination.

If you have an NRS database on the Signaling Server and wish to back it up prior to the upgrade, you must use the back up tool in NRS Manager. It is recommended that you download the backup file to your local PC after the back up. After the Signaling Server is upgraded, NRS Manager is used to restore the NRS database (from your local PC) and activate it for use by the NRS. For instructions on backing up and restoring an NRS database, refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

For instructions on backing up and restoring the IP Phone database, refer to *IP Line Fundamentals* (NN43001-500).

**Procedure 44**
**Verifying the presence of an NRS**

**1**   Open Internet Explorer.

**2**   Enter the ELAN or TLAN network interface IP Address of the primary Signaling Server as the URL.

*Note:*  Note: Do not assign the same IP address for the Node ID and the TLAN network interface IP address. This must be verified manually. The Node IP address must be on the same subnet as the TLAN network interface IP addresses of the Media Cards. In addition, the TLAN and ELAN network interfaces of the Media Card must reside on separate logical subnets.

If additional configuration parameters were entered during installation, the node IP address can also be used as the URL.

The Element Manager logon web page appears.

**Figure 17**
**Element Manager logon page**



Initially, you can be prompted to enter the Call Server IP address, because the Call Server is used for web logon authorization. The Call Server IP address is a requirement, because unless you entered additional configuration parameters during the Signaling Server installation, the node configuration data file containing the Call Server IP address does not yet exist.

**3** Enter a Level 1 or Level 2 user ID and password. If configured, you can also use a Limited Access Password ( LAPW) user ID and password.

If this is the first time the Call Server is accessed, the default Level 1 or Level 2 user ID and password must be used.

If the logon is successful, the Element Manager "Home - System Overview" screen appears (see Figure 18 on ).

**Figure 18**
**Element manager: Home - System Overview**



This screen identifies the components of your CS 1000 system.

**4**    Click the "+" symbol in front of the Signaling Server component.

The Signaling Server component expands to display the properties of the Signaling Server (see Figure 19 on ).

**Figure 19**
**Signaling Server properties**

```
─ Signaling Server

                                        Host Name  CS1000E_PIV
                                             Type  ISP1100
                                           H323 ID  CS1000E_PIV
                               Software version  sse-4.91.06
                                             Role  Leader
                                 Element Manager  Equipped
                              Line TPS (UNIStim)  Equipped
            IP Peer Gateway (Virtual Trunk TPS)  Equipped
                      SIP Proxy/Redirect Server  Enabled
                                      SIP Gateway  Enabled
                          Gatekeeper configuration  Primary
```

**5**    View the contents of the "Gatekeeper configuration" property.

If the Gatekeeper configuration property indicates Primary (as is the case here), Alternate or Failsafe, the Signaling Server hosts an NRS. If the property indicates nothing, the Signaling Server does not host an NRS.

———————— **End of Procedure** ————————

**Before you begin**

Before upgrading the software, you must do the following:

• Connect the Signaling Server — see *Signaling Server: Installation and Commissioning* (NN43001-312)

• Take a precautionary backup of the IP Phones application database.

• Take a precautionary backup of the NRS database.

• Obtain the CS 1000 Release 5.0 version of the Signaling Server Software Install CD-ROM— see *Signaling Server: Installation and Commissioning* (NN43001-312)

• Ensure that there is 1 GB of RAM configured on your legacy Nortel ISP1100 server

## Upgrading the CS 1000 Release 4.0 or CS 1000 Release 4.5 Signaling Server

> **IMPORTANT!**
>
> The Signaling Server is out-of-service during software upgrades.

Use the following procedure to upgrade the Signaling Server software on a legacy Nortel ISP1100 server.

**Procedure 45**
**Upgrading the Signaling Server software**

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

   The VxWorksTM system boot screen appears (see Figure 20 on ).

**Figure 20**
**VxWorks system boot**

```
         VxWorks System Boot
   Copyright 1984-2004 Wind River Systems, Inc.

   CPU: PC PENTIUM
   Version: VxWorks5.5.1
   BSP version: 1.2/3
   Creation date: Oct 6 2006, 15:44:38

   Mounting /cd0
   Found /cd0/nvram.sys
   Mounting /boot
   Found /boot/nvram.sys

   Selecting nvram file from 2 sources

   Read boot parameters from:

   C: CDROM Drive
   H: Hard Disk
   10 [H] c
```

**2**   Enter c at the prompt to force the Signaling Server to boot from the
Signaling Server Software CD..

*Note:* Enter c within ten seconds to ensure that the Signaling Server
boots from the CD drive.

The VxWorksTM banner screen appears.

**Figure 21**
**VxWorks banner**

```
]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]
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]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]         Development System
]]]]]]]]]]]]]]]]]]]]]]]]]]]]]
]]]]]]]]]]]]]]]]]]]]]]]]]]]]]          VxWorks version 5.5.1
]]]]]]]]]]]]]]]]]]]]]]]]]]]]]           KERNEL: WIND version 2.6
]]]]]]]]]]]]]]]]]]]]]]]]]]]]]        Copyright Wind River Systems, Inc., 1984-2003

                        CPU: PC PENTIUM.  Processor #0.
                        Memory Size: 0x20000000.  BSP version 1.2/3.
                      WDB Comm Type: WDB_COMM_END
                     WDB: Ready.
```

The following message appears:

```
/boot/ - Volume is OK
/p/ - Volume is OK
/u/ - Volume is OK
/e/ - Volume is OK
Loading /cd0/load/inst.out
```

The Signaling Server Software Installation Tool banner screen appears.

**Figure 22**
**Installation Tool banner**



**3**   Press<CR> to perform system checks and begin software installation.

The system verifies the file systems.

The following messages appears:

```
Verifying filesystems ...
Filesystems verification succeeded.

Copying "/cd0/disk.sys" to "/u/disk.sys".
```

The System Information screen appears (see Figure 23: "System Information" on page 219):

**Figure 23**
**System Information**

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


       ---------------------------------------
                SYSTEM INFORMATION
       ---------------------------------------


===========================================================
Hostname: CS1000S_CP        S/W Ver: 4.50.88
Location: N/A
Found /boot/nvram.sys

   Role: Leader                 Set TPS: Enabled
Node ID: 5                   Vtrk TPS: Enabled
Node IP: 192.167.101.3       NRS Config: Primary GK + SIP
H.323 ID: CS1000M Chassis      CS IP: 192.167.100.3

ELAN IP: 192.167.100.4      TLAN IP: 192.167.101.2
ELAN SM: 255.255.255.0       TLAN SM: 255.255.255.0
ELAN GW: 192.167.100.1      TLAN GW: 192.167.101.1
ELAN MAC: 00:02:b3:e8:d0:ea   TLAN MAC: 00:02:b3:e8:d0:ea
===========================================================
        Please enter:
<CR> -> <a> - Continue with Install Tool
        <q> - Quit

        Enter Choice>
```

**4**   Do one of the following:

- If you want to quit the upgrade and restore the previous release of software, enter **q** at the prompt. The Installation Tool Main Menu appears.

- If you want to continue the upgrade, press **CR** or enter **a** at the prompt.

Regardless of what option is chosen, the Install Tool Main Menu appears:

**Figure 24**
**Install Tool Main Menu**

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

                     MAIN MENU

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.
         <f> - To selectively change intial system parameters.
          <g> - To change board location information (CPPM only).
          <h> - To go to the Tools Menu.

          Enter Choice>
```

   **5**   Do one of the following:

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

   *Note:* The upgrade process does not include Signaling Server
   configuration steps. If the Signaling Server is being upgraded, IP
   configuration data already exists on the server.

   •   Enter **b** to upgrade only the Signaling Server software.

   The following sample lines appear:

```
Copying "/cd0/ssexxxxx.p/disk.sys" to
"/u/disk.sys".
"/cd0/sse30047.p3/install.dat" parsed.

Processing the install control file ...
"/cd0/ssexxxxx.p/install.dat" parsed.
```

Regardless of the option chosen, the Dependency list installation screen appears.

**Figure 25**
**Dependency list**

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

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>
```

6   Do one of the following:

   • Press **CR** or enter **y** to install dependency lists and continue with the upgrade.

   • Enter **n** to continue the upgrade without installing the dependency lists.

   Regardless of the option chosen, the Installation Status Summary screen appears:

**Figure 26**
**Installation Status Summary**

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


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


+================+========+=======+=============================+
|     Option     | Choice | Status|           Comment           |
+================+========+=======+=============================+
| software       |  yes   |       | upgrade x.xx.xx to x.xx.xx  |
+----------------+--------+-------+-----------------------------+
| Dependency Lists |  yes |       | copy ALL                    |
+----------------+--------+-------+-----------------------------+
| firmware       |  yes   |       | copy ALL                    |
+----------------+--------+-------+-----------------------------+
| loadware       |  yes   |       | copy ALL                    |
+----------------+--------+-------+-----------------------------+
| configuration  |  no    |       |                             |
+------------------+--------+--------+---------------------------

      Please enter:
<CR> -> <y> - Yes, start complete installation.
         <n> - No, cancel complete installation and return to the Main
              Menu.

        Enter Choice>
```

**7**    Press **<CR>** or enter **y** to start the upgrade.

The following screens and messages appear in succession (beginning with Figure 27: "Software upgrade start" on page 223)

**Figure 27**
**Software upgrade start**

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

You have selected to upgrade the system from version x.xx.xx to
version x.xx.xx. THIS WILL ERASE ALL OLD SYSTEM FILES. Data files
will be preserved.

Starting upgrade from version x.xx.xx to version x.xx.xx.

Backed up "/boot/nvram.sys".

Initializing protected partition ...
Retrieved old volume params with %95 confidence:
Volume Parameters: FAT type: FAT32, sectors per cluster 8
  2 FAT copies, 0 clusters, 4096 sectors per FAT
  Sectors reserved 32, hidden 0, FAT sectors 8192
  Root dir entries 0, sysId (null), serial number 9166bc15
  Label:"
Disk with 4194304 sectors of 512 bytes will be formatted with:
Volume Parameters: FAT type: FAT32, sectors per cluster 8
  2 FAT copies, 523260 clusters, 4096 sectors per FAT
  Sectors reserved 32, hidden 0, FAT sectors 8192
  Root dir entries 0, sysId VX5DOS32, serial number 9166bc15
  Label:"
"/p" initialized
/p/ - Volume is OK
Creating directory "/p/data".
Attempting to install bootstrap on primary sector of device /dev/hdal
Found cbio device /dev/hda1 [0x1a001ddc] with sector size 512
Installing bootstrap on device /dev/hda1
Installing image /p/load/bootrom.bin on /boot
Found cbio device 0x1a001ddc with sector size 512
Copying /p/load/bootrom.bin to /boot/bootrom.sys
Boot ROM "/p/load/bootrom.bin" installed.

Erasing /u/patch/reten/reten.pch.
Erasing /u/patch/reten/mdp.ini.
Erasing /u/patch/reten/p22473_1.ss1.
```

**Figure 28**
**Software upgrade success**

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

Software version x.xx.xx was installed successfully.

All files were copied to the hard disk.

/p/ - Volume is OK


```

**Figure 29**
**IP Phone firmware upgrade**

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

The installation source contains multiple Internet Telephone firmware
files.

Delete previous registered F/W files:
Deleting F/W file - /u/fw/x00.fw...
Deleting F/W file - /u/fw/x01.fw...
Deleting F/W file - /u/fw/x02.fw...
Deleting F/W file - /u/fw/x21.fw...
Deleting F/W file - /u/fw/x24.fw...
Deleting F/W file - /u/fw/x25.fw...
Copying "/cd0/0603B76.bin" to "/u/fw/0603B76.bin
Copying "/cd0/0602B76.bin" to "/u/fw/0602B76.bin
Copying "/cd0/0604B76.bin" to "/u/fw/0604B76.bin
Copying "/cd0/0621C44.bin" to "/u/fw/0621C44.bin
Copying "/cd0/0624C44.bin" to "/u/fw/0624C44.bin
Copying "/cd0/0625C44.bin" to "/u/fw/0625C44.bin
Copying "/cd0/0627C44.bin" to "/u/fw/0627C44.bin
```

**Figure 30**
**Voice Gateway Media Card loadware upgrade**

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

The installation source contains multiple Voice Gateway Media Card
loadware files.

Copying "/cd0/IPLxxxxx.p2" to "/u/fw/IPLxxxxx.p2".
Copying "/cd0/IPLxxxxx.sa" to "/u/fw/IPLxxxxx.sa".
Copying "/cd0/IPLxxxxx.mc32s" to "/u/fw/IPLxxxxx.mc32s".
```

**Figure 31**
**Retain existing IP configuration**

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

Since this is a system upgrade, the existing configuration files will
be retained.

If you need to re-configure this Signaling Server, then please
select the basic configuration option from the Main Menu.
```

**Figure 32**
**Installation Status Summary**

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


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


+================+========+======+================================+
|     Option     | Choice | Status|           Comment             |
+================+========+======+================================+
| software       |  yes   |  ok  | upgrade x.xx.xx to x.xx.xx     |
+----------------+--------+------+--------------------------------+
| Dependency Lists |  yes  |ignore| copy NONE                     |
+----------------+--------+------+--------------------------------+
| firmware       |  yes   |  ok  | copy i2002 version 1.76        |
| firmware       |  yes   |  ok  | copy i2002 version 1.76        |
| firmware       |  yes   |  ok  | copy PhaseII IP Firmware v. 3.B6
| firmware       |  yes   |  ok  | copy i2007 IP Firmware v. 2.44 |
| firmware       |  yes   |  ok  | copy 1120E IP Firmware v. 2.44 |
| firmware       |  yes   |  ok  | copy 1140E IP Firmware v. 2.44 |
| firmware       |  yes   |  ok  | copy 1150E IP Firmware v. 2.44 |
+----------------+--------+------+--------------------------------+
| loadware       |  yes   |  ok  | copy IP Line x.xx.xx for P2    |
| loadware       |  yes   |  ok  | copy IP Line x.xx.xx for SA    |
| loadware       |  yes   |  ok  | copy IP Line x.xx.xx for MC32S |
+----------------+--------+------+--------------------------------+
| configuration  |  no    |ignore|                                |
+----------------+--------+------+--------------------------------+

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

**8**    Press **<CR>** and the Install Tool Main Menu screen appears:

**Figure 33**
**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.
         <f> - To go to the Tools Menu.
        <q> - Quit.

        Enter Choice>
```

**9**   Enter q to quit the Install Tool.

The Install Tool quit confirmation screen appears (see Figure 34 on page 228).

**Figure 34**
**Install Tool quit confirmation**

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

You have selected to quit the Install Tool.

Before quitting and rebooting the system, remove all disks (floppy,
CDROM) from the drives.

        Please enter:
<CR> -> <m> - Return to previous menu.
       <q> - Quit and reboot the system.

         Enter Choice>

Removing temporary file "/u/disk.sys".

Rebooting system
```

10 Remove the Signaling Server Software CD from the CD drive and enter q to quit the Installation Tool and reboot the system.

The following system messages appear:

```
Removing temporary file "/u/disk.sys".

Rebooting 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. Refer to *Signaling Server: Installation and Commissioning* (NN43001-312) for instructions on reconfiguring a Signaling Server.

## Re-installing the previous software release

This section is only relevant to a Nortel ISP1100 Signaling Server. The Nortel CP PM, IBM X306m and HP DL320-G4 Signaling Servers only run CS 1000

Release 5.0 Signaling Server software. Earlier releases of the Signaling Server software cannot be installed on these Signaling Servers.

Use the following procedure to reinstall the previous release of software on a Nortel ISP1100 Signaling Server.

**Procedure 46**
**Re-installing the previous software release**

**1**    Enter **t** at the Installation Tool Main Menu screen.

**Figure 35**
**Installation 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.
        <f> - To selectively change initial system parameters.
        <g> - To change board location information (CPPM only).
        <t> - To go to the Tools Menu.
        <q> - Quit.

        Enter Choice>
```

The Tools Menu appears.

**Figure 36**
**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 reload Default Accounts.
        <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 releas
        <h> - Copy the IP configuration from the removable media to the hard disk
        <i> - Backup the IP configuration from the hard disk to the removable media
        <j> - To replace CPU board BIOS.
        <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.

After the boot sector is cleared, the following system messages appear:

```
The boot sector is cleared.

Insert the installation CD and restart the system.
```

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

——————————————————————  **End of Procedure** ——————————————————————

For more information on upgrading or installing Signaling Servers, refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

# Upgrading Voice Gateway Media Cards

## Contents

This section contains information on the following topics:

## 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*  (NN43100-500) or *Branch Office: Installation and Commissioning* (NN43001-314).

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 Commissioning* (NN43001-312) 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 4.x to IP Line 5.0.

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 47, Procedure 48, or Procedure 49 on page 236.

**Procedure 47**
**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: IPL-4.71.17

Management IP: 192.167.100.5

Host Type: Voice Gateway Media Card

Firmware Version: MC Firmware Rls 6.7
```

———————————— **End of Procedure** ————————————

**Procedure 48**
**Determining the loadware version through Element Manager**

**1**    Select **Software** from the System portion of the Element Manager Navigation Tree.

**2**    Click **Voice Gateway Media Card** from the expanded Software menu. The **Voice Gateway Media Card (VGMC) Loadware Upgrade** page appears. See Figure 37 on .

**Figure 37**
**Voice Gateway Media Card (LW) Upgrade window**

**3**   Expand a node and select a card in the node.

See Figure 38.

**Figure 38**
**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 39 on .

**Figure 39**
**Loadware version displayed**



**5** Note the loadware version for the card.

─────────────── **End of Procedure** ───────────────

**Procedure 49**
**Determining the loadware version through the CLI**

Detailed procedures can be found in *IP Line: Description, Installation, and Operation* (NN43100-500).

**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: IPL-4.71.17

Management IP: 192.167.100.5

Host Type: Voice Gateway Media Card

Firmware Version: MC Firmware Rls 6.7
```

**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 50. To view the firmware version currently running on the IP Phones, use Procedure 51 on .

**Procedure 50**
**Determining the IP Phone firmware version on a Voice Gateway Media Card**

**1**    Select **Software** from the System portion of the Element Manager Navigation Tree.

**2**    Click **IP Phone Firmware** from the expanded Software menu..

The **IP Phone Firmware** window opens. See Figure 40 on . Firmware for the selected node appears under **Current Firmware**

**Figure 40**
**IP Telephone (FW) Upgrade window**

**3**   In the drop down menu, select the desired IP Telephony Node to show the current firmware level for the sets. The phone type, current TPS firmware and Recommended firmware versions are shown. See Figure 41.

**Figure 41**
**FWVersionShow**



**End of Procedure**

**Procedure 51**
**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 395 for information on how to download the software to a management workstation.

Procedure 52 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 52. The files appear in the Element Manager **Software > Voice Gateway Media Card and Software > IP Phone Firmware** 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 52 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 52**
**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 .

**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 '**IPL500xx.p2**' and '**IPL500xx.sa**'.

**3**  Log into Element Manager.

**4**  Using **Software> File upload** (see Figure 42 on ), 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 42**
**Upload firmware, software, and loadware**
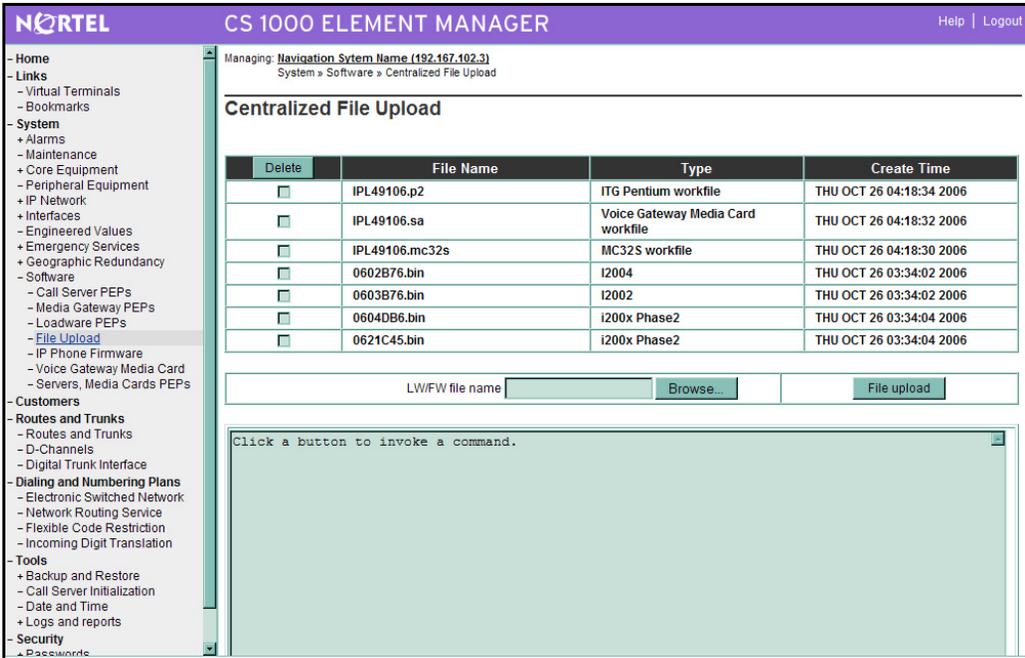


*Note 1:* After uploading the file to Element Manager, the file remains on this Signaling Server.

*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 53 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 .

**Procedure 53**
**Upgrading Voice Gateway Media Card loadware**

**1**   Log into Element Manager.

**2**   For the remote Voice Gateway Media Card upgrade, choose **Software> Voice Gateway Media Card**

**3**   The **Voice Gateway Media Card (VGMC) Loadware Upgrade** window opens. See Figure 43 on .

**Figure 43**
**Voice Gateway Media Card (LW) upgrade**
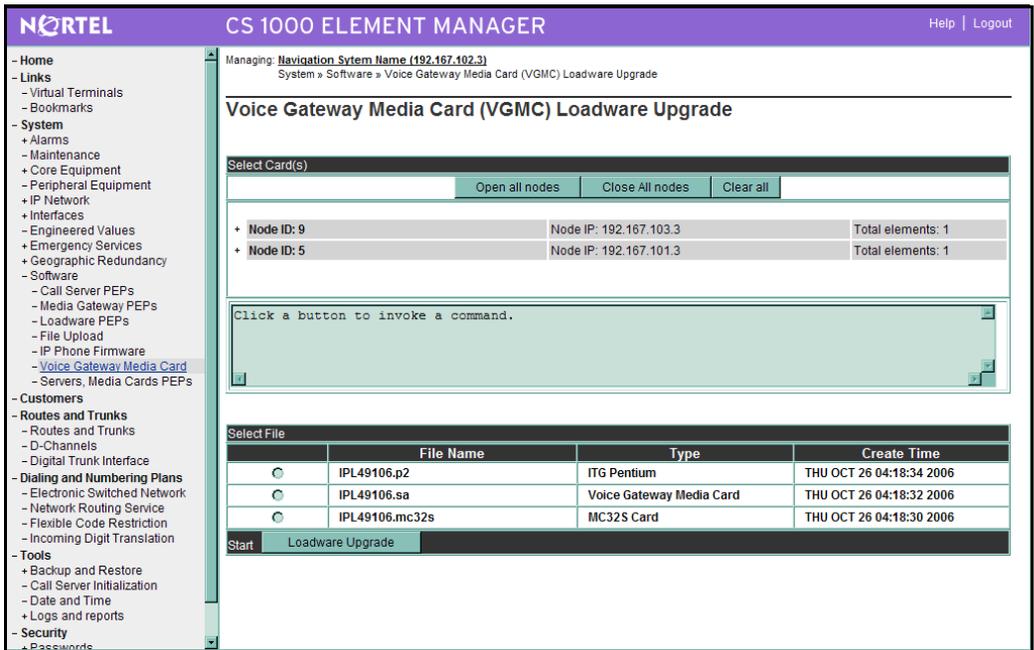
*Note:* Since components can run different versions of loadware, click the **LW Version** button for a given element to obtain the current loadware version.

**4**    Select the loadware file appropriate to the type of Voice Gateway Media Card that is being upgraded. The filename begins with **"IPL"**.. A sample list of files available is shown in Figure 43.

**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.

**c.**    If the loadware file has the extension ".mc32s", only select MC32S 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 44.

A Loadware Upgrade Progress page is displayed. When the loadware upgrade is complete, a completion message appears. Generally, it takes three minutes for each ITG-P 24-port card to upgrade, and one minute for each Media Card.

**Figure 44**
**Work file**
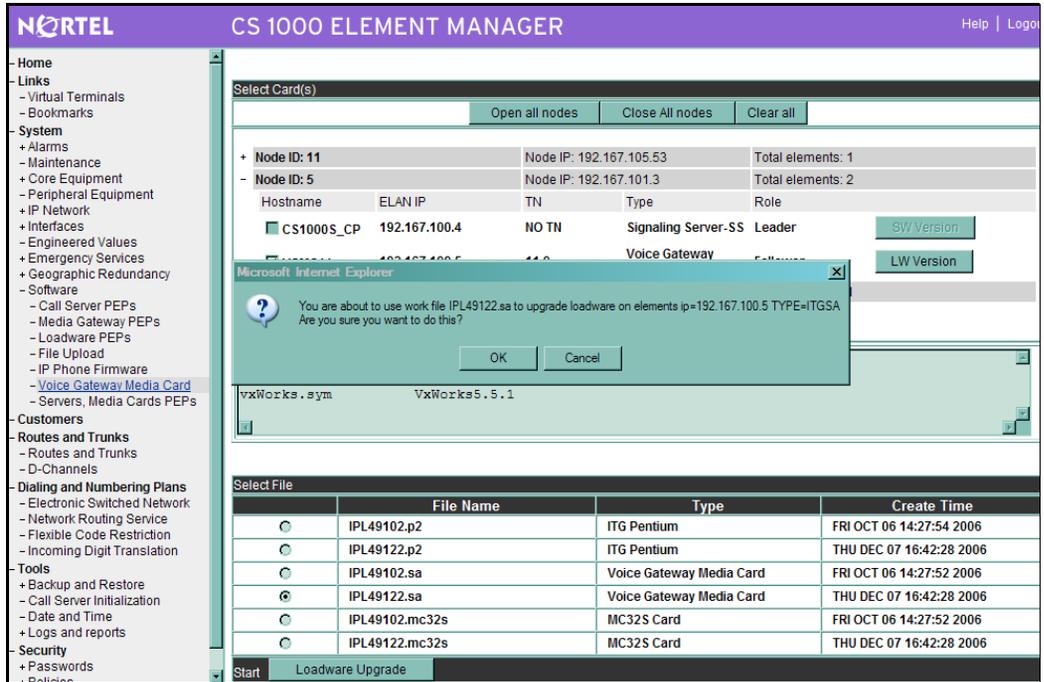


8   If the card did not successfully receive the loadware, return to step 2 on page 243. If the upgrade was successful, proceed to step 9.

9   Click **IP Network > Maintenance and Reports**. The Node Maintenance and Reports window opens. See Figure 45.

10  Click the node to expand it.

**Figure 45**
**IP Telephony information**
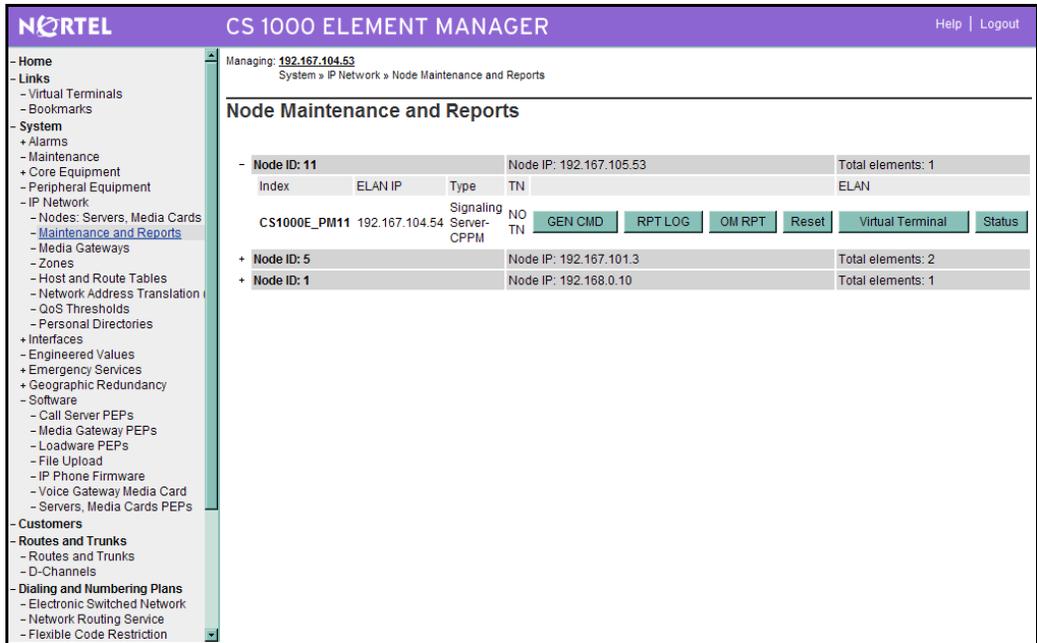


11  Click the **Transfer/Status** button of the Voice Gateway Media Card to be rebooted.

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* (NN43100-500). Repeat step 8 again.

12  Reboot the card by clicking the **Reset** button for the Voice Gateway Media Card in the Node Maintenance and Reports window (**System > IP Network > Maintenance and Reports**).

See Figure 45 on .

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 in the IP
Telephony Information window and make sure that the message in the
window pane (result box) says:

```
xx.xxx.xxx.xxx: Enabled.
```

**15**   Repeat from step 9 on to step 14 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* (NN43100-500).

───────────    **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* (NN43100-500).

Follow the steps in Procedure 54 on to upgrade the loadware using
a Software Delivery Card.

This procedure assumes that the loadware was verified from the CLI as
outlined in Procedure 47 on , where a serial cable connects the Voice
Gateway Media Card to a workstation.

**Procedure 54**
**Upgrading loadware using a Software Delivery card**

**1**   Download the loadware, as described in "Obtaining software" on
. 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 .

# 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 Commissioning* (NN43001-314) 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 safety enabled by firewalls. See Table 12.

**Table 12**
**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 46 on .

**Figure 46**
**Using NAT with UFTP**
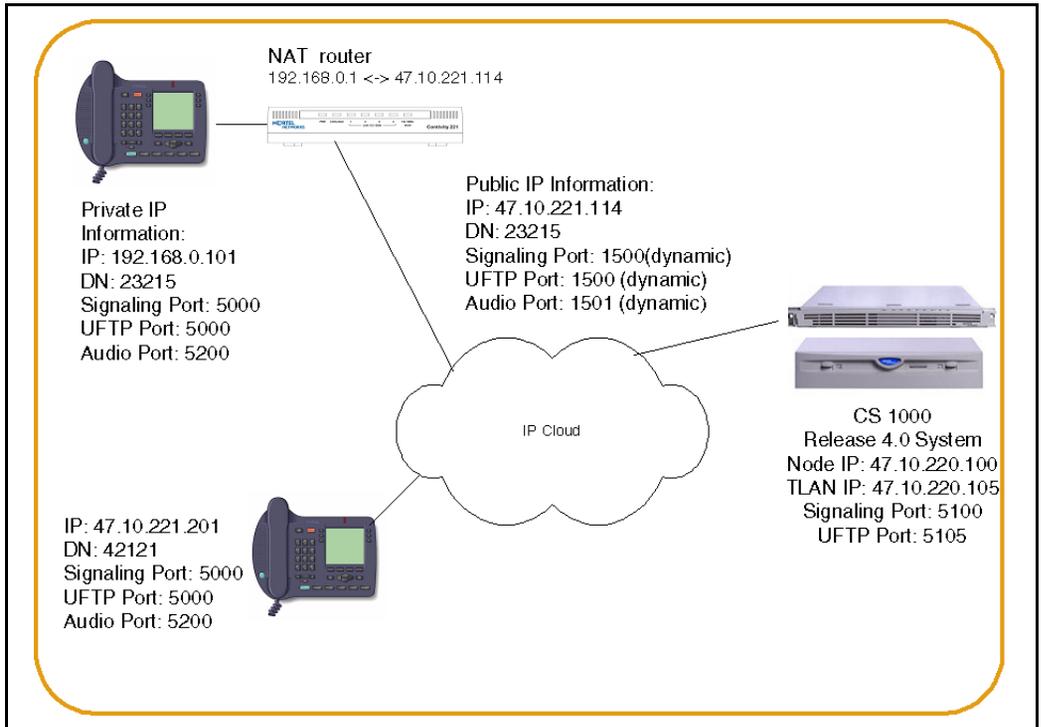


Follow the steps in Procedure 55 to distribute IP Phone firmware.

**Procedure 55**
**Distributing IP Phone firmware**

**1**   Log into Element Manager.

**2**   Choose **Software > IP Phone Firmware**. The **IP Phone Firmware** window opens. See Figure 47 on .

**Figure 47**
**Firmware upgrade**



3    Select the **IP Telephony Node** where the firmware is to be upgraded

4    Select the firmware file of the IP Phone model to be upgraded. Only one firmware file can be upgraded at a time.

5    Click the **Update** button. The **Update Phone Firmware** window appears. Select the Firmware File from the dropdown list and click **Update**. This distributes the firmware file to all elements of the Node according to the IP Phone firmware version specified.

6    Click **Done**. The **Current Firmware** is displayed..

    ***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 Ethernet Diagnostics tool is used to reset the IP phones within Element Manager.

──────────── **End of Procedure** ────────────

# Upgrading MG 1000T (Option 1)

## Contents

This section contains information on the following topics:

# Introduction

This section provides instructions for upgrading an MG 1000T to a CS 1000E target platform (Option 1). Option 1 involves upgrading the MG 1000T to a CS 1000E using CP PM Call Servers.

Each existing MG 1000T chassis requires an MGC. The current PRI and media cards in the MG 1000T are maintained. The upgraded CS 1000E can continue to be used as a PRI gateway and contains all of the functionality of an existing CS 1000E.

*Note:* This section covers the upgrades to both Standard Availability and High Availability CS 1000E systems.

# Task flow summary

Table 13 provides a task flow summary of the steps involved in an MG 1000T Option 1 upgrade.

**Table 13**
**Option 1 task flow**

# Conversion and mapping information

## SIPE Cabinet to IPMG Mapping

Small System to Large System TN format conversion occurs during the MG 1000T upgrade to CS 1000E. The following pages detail how the Small System TNs are mapped to Large System TNs.

The SIPE cabinets are converted to IPMGs as shown in Table 14.

**Table 14**
**SIPE cabinet to IPMG conversion**

| Cabinet | IPMG |
|---------|------|
| Main | 1 |
| Expansion 1 | 2 |
| Expansion 2 | 3 |
| Expansion 3 | 4 |
| Expansion 4 | 5 |

## TN mapping

The following tables map the small system TNs to the CS 1000E TNs (large system TNs). The conversion feature maps the SIPE TNs to CS1000E TNs on the IPMGs.

### IP phone TN mapping

When converting from an MG 1000T to a CS 1000E, the slot and unit number is mapped to the loop, shelf, card, and unit number as shown in Table 15.

Because these TNs map from a "small system" TN format to a "large system" TN format, the IP sets do NOT require reprogramming with a new TN.

**Table 15**
**IP phone TN mapping**

| MG 1000T | | CS 1000E CP PM | | | |
|---|---|---|---|---|---|
| **Slot** | **Unit** | **Loop** | **Shelf** | **Card** | **Unit** |
| 61-64 | 0-31 | 96 | 0 | 1-4 | 0-31 |
| 65-68 | 0-31 | 100 | 0 | 1-4 | 0-31 |
| 69-72 | 0-31 | 104 | 0 | 1-4 | 0-31 |
| 73-76 | 0-31 | 108 | 0 | 1-4 | 0-31 |
| 77-80 | 0-31 | 112 | 0 | 1-4 | 0-31 |
| 81-84 | 0-31 | 96 | 1 | 1-4 | 0-31 |
| 85-88 | 0-31 | 100 | 1 | 1-4 | 0-31 |
| 89-92 | 0-31 | 104 | 1 | 1-4 | 0-31 |
| 93-96 | 0-31 | 108 | 1 | 1-4 | 0-31 |
| 97-99 | 0-31 | 112 | 1 | 1-4 | 0-31 |

### ALC, DLC, analog trunk and regular IPE pack TN mapping

Table 16 provides TN mapping information for analog line cards, digital line cards, analog trunk cards, and xdtrs (digital trunk cards or IP phones are not addressed in this table). Not all slots are present on all small systems.

**Table 16**
**Digital trunk TN mapping (Part 1 of 3)**

| MG 1000T | | CS 1000E CP PM | | | |
|----------|------|-----------|-------|------|------|
| **Slot** | **Unit** | **Superloop** | **Shelf** | **Card** | **Unit** |
| 1 | 0-31 | 0 | 0 | 1 | 0-31 |
| 2 | 0-31 | 0 | 0 | 2 | 0-31 |
| 3 | 0-31 | 0 | 0 | 3 | 0-31 |
| 4 | 0-31 | 0 | 0 | 4 | 0-31 |
| 5 | 0-31 | 0 | 0 | 5 | 0-31 |
| 6 | 0-31 | 0 | 0 | 6 | 0-31 |
| 7 | 0-31 | 0 | 0 | 7 | 0-31 |
| 8 | 0-31 | 0 | 0 | 8 | 0-31 |
| 9 | 0-31 | 0 | 0 | 9 | 0-31 |
| 10 | 0-31 | 0 | 0 | 10 | 0-31 |
| 11 | 0-31 | 0 | 1 | 1 | 0-31 |
| 12 | 0-31 | 0 | 1 | 2 | 0-31 |
| 13 | 0-31 | 0 | 1 | 3 | 0-31 |
| 14 | 0-31 | 0 | 1 | 4 | 0-31 |
| 15 | 0-31 | 0 | 1 | 5 | 0-31 |
| 16 | 0-31 | 0 | 1 | 6 | 0-31 |
| 17 | 0-31 | 0 | 1 | 7 | 0-31 |
| 18 | 0-31 | 0 | 1 | 8 | 0-31 |

**Table 16**
**Digital trunk TN mapping (Part 2 of 3)**

| MG 1000T | | CS 1000E CP PM | | | |
|---|---|---|---|---|---|
| **Slot** | **Unit** | **Superloop** | **Shelf** | **Card** | **Unit** |
| 19 | 0-31 | 0 | 1 | 9 | 0-31 |
| 20 | 0-31 | 0 | 1 | 10 | 0-31 |
| 21 | 0-31 | 4 | 0 | 1 | 0-31 |
| 22 | 0-31 | 4 | 0 | 2 | 0-31 |
| 23 | 0-31 | 4 | 0 | 3 | 0-31 |
| 24 | 0-31 | 4 | 0 | 4 | 0-31 |
| 25 | 0-31 | 4 | 0 | 5 | 0-31 |
| 26 | 0-31 | 4 | 0 | 6 | 0-31 |
| 27 | 0-31 | 4 | 0 | 7 | 0-31 |
| 28 | 0-31 | 4 | 0 | 8 | 0-31 |
| 29 | 0-31 | 4 | 0 | 9 | 0-31 |
| 30 | 0-31 | 4 | 0 | 10 | 0-31 |
| 31 | 0-31 | 4 | 1 | 1 | 0-31 |
| 32 | 0-31 | 4 | 1 | 2 | 0-31 |
| 33 | 0-31 | 4 | 1 | 3 | 0-31 |
| 34 | 0-31 | 4 | 1 | 4 | 0-31 |
| 35 | 0-31 | 4 | 1 | 5 | 0-31 |
| 36 | 0-31 | 4 | 1 | 6 | 0-31 |
| 37 | 0-31 | 4 | 1 | 7 | 0-31 |
| 38 | 0-31 | 4 | 1 | 8 | 0-31 |
| 39 | 0-31 | 4 | 1 | 9 | 0-31 |

**Table 16**
**Digital trunk TN mapping (Part 3 of 3)**

| MG 1000T | | CS 1000E CP PM | | | |
|---|---|---|---|---|---|
| **Slot** | **Unit** | **Superloop** | **Shelf** | **Card** | **Unit** |
| 40 | 0-31 | 4 | 1 | 10 | 0-31 |
| 41 | 0-31 | 8 | 0 | 1 | 0-31 |
| 42 | 0-31 | 8 | 0 | 2 | 0-31 |
| 43 | 0-31 | 8 | 0 | 3 | 0-31 |
| 44 | 0-31 | 8 | 0 | 4 | 0-31 |
| 45 | 0-31 | 8 | 0 | 5 | 0-31 |
| 46 | 0-31 | 8 | 0 | 6 | 0-31 |
| 47 | 0-31 | 8 | 0 | 7 | 0-31 |
| 48 | 0-31 | 8 | 0 | 8 | 0-31 |
| 49 | 0-31 | 8 | 0 | 9 | 0-31 |
| 50 | 0-31 | 8 | 0 | 10 | 0-31 |

### Digital trunk mapping

This mapping (shown in) applies to DTI, DTI2, PRI, PRI2, MISP, DPNSS and other circuit packs.

**Table 17**
**Digital trunk  TN mapping (Part 1 of 3)**

| MG 1000T | | CS 1000E CP PM | | | | |
|---|---|---|---|---|---|---|
| **Slot** | **Channel** | **Digital Loop** | **Channel** | **Superloop** | **Shelf** | **Card** |
| 1 | 0-31 | 83 | 0-31 | 4 | 0 | 8 |
| 2 | 0-31 | 84 | 0-31 | 4 | 0 | 9 |
| 3 | 0-31 | 85 | 0-31 | 4 | 1 | 1 |
| 4 | 0-31 | 86 | 0-31 | 4 | 1 | 2 |
| 5 | 0-31 | 87 | 0-31 | 4 | 1 | 3 |
| 6 | 0-31 | 88 | 0-31 | 4 | 1 | 4 |
| 7 | 0-31 | 89 | 0-31 | 4 | 1 | 5 |
| 8 | 0-31 | 90 | 0-31 | 4 | 1 | 6 |
| 9 | 0-31 | 91 | 0-31 | 4 | 1 | 7 |
| 11 | 0-31 | 93 | 0-31 | 4 | 1 | 9 |
| 12 | 0-31 | 116 | 0-31 | 4 | 0 | 1 |
| 13 | 0-31 | 117 | 0-31 | 4 | 0 | 2 |
| 14 | 0-31 | 118 | 0-31 | 4 | 0 | 3 |
| 15 | 0-31 | 119 | 0-31 | 4 | 0 | 4 |
| 16 | 0-31 | 120 | 0-31 | 4 | 0 | 5 |
| 17 | 0-31 | 121 | 0-31 | 4 | 0 | 6 |
| 18 | 0-31 | 122 | 0-31 | 4 | 0 | 7 |
| 19 | 0-31 | 91 | 0-31 | 4 | 1 | 7 |
| 21 | 0-31 | 93 | 0-31 | 4 | 1 | 9 |

**Table 17**
**Digital trunk  TN mapping (Part 2 of 3)**

| MG 1000T | | CS 1000E CP PM | | | | |
|---|---|---|---|---|---|---|
| Slot | Channel | Digital Loop | Channel | Superloop | Shelf | Card |
| 22 | 0-31 | 116 | 0-31 | 4 | 0 | 1 |
| 23 | 0-31 | 117 | 0-31 | 4 | 0 | 2 |
| 24 | 0-31 | 118 | 0-31 | 4 | 0 | 3 |
| 25 | 0-31 | 119 | 0-31 | 4 | 0 | 4 |
| 26 | 0-31 | 120 | 0-31 | 4 | 0 | 5 |
| 27 | 0-31 | 121 | 0-31 | 4 | 0 | 6 |
| 28 | 0-31 | 83 | 0-31 | 4 | 0 | 8 |
| 29 | 0-31 | 84 | 0-31 | 4 | 0 | 9 |
| 31 | 0-31 | 85 | 0-31 | 4 | 1 | 1 |
| 32 | 0-31 | 86 | 0-31 | 4 | 1 | 2 |
| 33 | 0-31 | 87 | 0-31 | 4 | 1 | 3 |
| 34 | 0-31 | 88 | 0-31 | 4 | 1 | 4 |
| 35 | 0-31 | 89 | 0-31 | 4 | 1 | 5 |
| 36 | 0-31 | 90 | 0-31 | 4 | 1 | 6 |
| 37 | 0-31 | 91 | 0-31 | 4 | 1 | 7 |
| 38 | 0-31 | 92 | 0-31 | 4 | 1 | 8 |
| 39 | 0-31 | 93 | 0-31 | 4 | 1 | 9 |
| 41 | 0-31 | 116 | 0-31 | 8 | 0 | 1 |
| 42 | 0-31 | 117 | 0-31 | 8 | 0 | 2 |
| 43 | 0-31 | 118 | 0-31 | 8 | 0 | 3 |

**Table 17**
**Digital trunk  TN mapping (Part 3 of 3)**

| MG 1000T | | CS 1000E CP PM | | | | |
|---|---|---|---|---|---|---|
| **Slot** | **Channel** | **Digital Loop** | **Channel** | **Superloop** | **Shelf** | **Card** |
| 44 | 0-31 | 119 | 0-31 | 8 | 0 | 4 |
| 45 | 0-31 | 120 | 0-31 | 8 | 0 | 5 |
| 46 | 0-31 | 121 | 0-31 | 8 | 0 | 6 |
| 47 | 0-31 | 122 | 0-31 | 8 | 0 | 7 |
| 48 | 0-31 | 123 | 0-31 | 8 | 0 | 8 |
| 49 | 0-31 | 124 | 0-31 | 8 | 0 | 9 |

## XNET and XPEC conversion

Although XNETs and XPECs are not configured by CS 1000 small systems,
they are utilized internally by the system and appear in the database. The
contents of the XNET blocks must be converted to virtual XNET blocks.

## TTY conversion

The TTYs from small systems are converted as shown in Table 18.

**Table 18**
**TTY conversion**

| TTY Port Before Conversion | | TTY Port Before Conversion | | |
|---|---|---|---|---|
| **Cabinet** | **Port**[†] | **Card** | **IPMG** | **Port** |
| Main | 0 | CP PM | N/A | 0 |
| | 1 | MGC | 1 | 1 |
| | 2 | MGC | 1 | 2 |

**Table 18**
**TTY conversion**

| TTY Port Before Conversion | | TTY Port Before Conversion | | |
|---|---|---|---|---|
| **Cabinet** | **Port†** | **Card** | **IPMG** | **Port** |
| Expansion 1 | 0 | MGC | 2 | 0 |
| | 1 | MGC | 2 | 1 |
| | 2 | MGC | 2 | 2 |
| Expansion 2 | 0 | MGC | 3 | 0 |
| | 1 | MGC | 3 | 1 |
| | 2 | MGC | 3 | 2 |
| Expansion 3 | 0 | MGC | 4 | 0 |
| | 1 | MGC | 4 | 1 |
| | 2 | MGC | 4 | 2 |
| Expansion 4 | 0 | MGC | 5 | 0 |
| | 1 | MGC | 5 | 1 |
| | 2 | MGC | 5 | 2 |

### *Ports on the SSC card* (†)

Only the TTY ports from the SSC cards in the small system are converted while the other TTY ports (for example, TTYs from the SDI card) are deleted.

## Tone Receiver Conversion

Tone receivers are converted using the same algorithm as that used for IPE shelf conversion. The tone receivers map to cards 14 and 15 for each of the five IPMGs (see Table 19 on page 265).

If units 8-11 in the SSCs have MFC, MFE, MFK units provisioned, then these units are provisioned in units 0-3. If these units (8-15) were provisioned as DTRs in the SSC, then these units are provisioned as DTRs in units 0-7.

**Table 19**
**Tone receiver conversion**

| MG 1000T | | CS 1000E CP PM | | | |
|---|---|---|---|---|---|
| **Slot** | **Unit** | **Superloop** | **Shelf** | **Card** | **Unit** |
| 0 | 0-7 | 0 | 0 | 14 | 0-7 |
| 0 | 8-11 or 8-15 | 0 | 0 | 15 | 0-3 or 0-7 |
| If these cabinets are populated with MGCs, then these units must be configured.<br><br>Unit types and unit numbers in each MG must be matched to the configuration that exists in slot 0. | | 0 | 1 | 14 | 0-7 |
| | | 0 | 1 | 15 | 0-3 or 0-7 |
| | | 4 | 0 | 14 | 0-7 |
| | | 4 | 0 | 15 | 0-3 or 0-7 |
| | | 4 | 1 | 14 | 0-7 |
| | | 4 | 1 | 15 | 0-3 or 0-7 |
| | | 8 | 0 | 14 | 0-7 |
| | | 8 | 0 | 15 | 0-3 or 0-7 |

### Conference and Tone Generator conversion

All existing Tone and Conference loops are removed and two loops (one for tone and one for conference) are allotted for each IPMG as shown in Table 20.

**Table 20**
**Conference and Tone Generator conversion**

| IPMG | MG TDS | MG CONF |
|------|--------|---------|
| 1 | 124 | 125 |
| 2 | 126 | 127 |
| 3 | 128 | 129 |
| 4 | 130 | 131 |
| 5 | 132 | 133 |

# IPMG Configuration

The IP address for each of the IPMG must be entered in overlay 97. Note that the SIPE IP addresses cannot not be used in this case since the SIPE IP connections are point to point and may not be in the same subnet as the ELAN IP address. As part of conversion the IPMG Type is set to MGC.

# Media Card TN Configuration

The small system to large system conversion process will not propagate the card TN information to the media card. This TN value is stored in the bootp.tab file of the media card.

After the conversion process, the card TN value must be entered using Element Manager and transferred to the media card.

# DSP Resources for IPMGs

New hardware must be added to MGC cabinets that do not have a media card to provide the DSP resources required for inter IPMG calls or TDM-IP calls. Note that a SIPE system does not require DSP resources for intra-cabinet calls. The DSP resources are needed for TDM - IP calls. These DSP resources are SIPE system resources and are not localized to a particular SIPE

cabinet. After conversion the DSP resources are localized to the IPMG where the media card is located. To support inter IPMG calls and TDM-IP calls in a CS 1000E system, the DSP resources are required in all the IPMGs. The DSP resources can be provided by the MGC DSP daughterboard or the media card.The configuration required for the new DSP resources has to be done manually as it is not part of the conversion process.

# Deleted information

The following information is removed during the conversion process:

- SIPE IP addresses (deleted from the database)

- TDS and Conference configuration

- Survivable SSC IP address

- Redundant serial port information

- Meridian Mail LSL, AML and other TNs.

Any deleted items are printed out during the conversion process.

*Note:* Although the above items are removed during the conversion process, the data in the compact flash remains intact with the small system database.

# Campus Redundancy (High Availability) Package Support

The CP PM CS project introduces a new package (410) for enabling and disabling the Campus Redundancy or High Availability (HA) feature. New software will be developed to check if the HA package is present in the keycode. If the package is present, then the CP PM call server will behave in the same way as the Release 4.5 CP II or CP IV (for example, it uses the HSP

to detect the presence of the other core). If the other core is detected, then both the cores negotiate to determine which core is active and which core is the standby.

If the CP PM call server is unable to detect the other core, then it comes up as a single core system. If the HA package is not present in the keycode, then the existing call server software is modified to block the HSP connection so that the CP PM call server does not attempt to detect the presence of the core. In the absence of the HA package, the CP PM call server runs as a single core system—even in a system with two cores where the HSP ports on both cores are connected.

# Database Media Converter Tool

The CP PM call server utilizes the same database media converter tool developed for the CP IV in Release 4.5.

This is a Windows application that runs on a PC and is a tool used to copy database files from floppy disks onto compact flash cards. This CP PM call server application only supports databases converted from CP II.

*Note:* This tool is not required if a database saved from a CP IV call server is to be used for a CP PM call server system. This is because the database file from a CP IV is already on a compact flash card, and this card can be directly inserted into the CP PM call server faceplate during software installation.

# Planning and preparing

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 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.

---

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.

- 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 Servers, Voice Gateway Media Cards, Media Gateway Controllers, Signaling Servers and so on).

- Determine the required patches or DEP lists installed on all applications.

- 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.

# Performing the upgrade

## Backing up the Call Server

### Connecting to the Call Server

Connect the three-port SDI cable to DB-9 port to the back of the MG 1000E. Connect the serial cable to connector 0.

The CP PM call server supports converting the databases saved on the MG 1000T small system through the following methods:

- LD 43 EDD

- LD 143 archive database option (invoked from upgrade menus)

    *Note:* The CCBR method of database backup is not supported for small system to large system database conversion.

By combining the EDD and archive methods, the database files are saved onto a compact flash card (with a PCMCIA card adapter when plugged into the SSC card) so that it can be inserted into the CP PM call server during software installation to perform the database conversion. LD 43 EDD updates the database on the internal drive (to ensure that the latest memory contents are backed up) and LD 143 backs the database up to the RMD. Failure to perform a recent LD 43 may result in the loss of any recent changes to the database.

    *Note:* An alternative to the Archive command in LD 143 is the BKO command in LD 43. However; the Archive in LD 143 is the recommended method, as it provides one compressed zip file that contains everything necessary to update the MGC and it allows for multiple databases to be copied to the CF card. Another advantage to using LD 143 Archive names the database where LD 43 BKO simply copies it drive B. As a result, there is less risk of overwriting existing files using LD 143 to archive the database.

There is a fundamental difference between the small system, running an SSC, and a CS 1000E running a CP PM call server. This difference is represented in how the format of the TN (Terminal Number) is displayed.

The small system TN is displayed to the administrator using a two-field format, or slot-unit. In a CS 1000E CP PM system, the TN is displayed using a four-field format, or loop-shelf-card-unit. This four-field TN format is the same as those used in current large systems (for example, CP PII, CP PIV).

The end result is that when a small system database is converted to a large system database, the TNs are re-mapped. The result is that the displayed TN changes during the conversion process. The administrator must be aware of the TN mapping. For example, a small system with an IP phone configured in TN 61-0 now has that same IP phone show up in 96-0-1-0 after the conversion process.

## LD 43 using EDD command

**Procedure 56**
**Backing up the database using LD 43**

**1**   To back up the customer database to the internal drive (to ensure the most recent database is copied to the RMD in LD 143), enter **LD 43** at the command prompt.

**2**   Enter **EDD**. The following output is generated.

>ld 43

EDD000
Backing up reten.bkp
Internal backup complete
All files are backed up!
DATADUMP COMPLETE
.


EDD000

**3**   The internal backup is complete.


──────────────── **End of Procedure** ────────────────

## LD 143 using the UPGRADE command

The second step involved in backing up the database involves moving the database from the hard drive to the RMD. This step is performed through the Utilities menu in LD 143.

**Procedure 57**
**Archiving the database in LD 143**

1    Insert the PCMCIA card in the card slot A. Enter **LD 143** at the command prompt, then enter **UPGRADE**. The following screen appears.

SOFTWARE INSTALLATION PROGRAM
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
Verify
Security ID: XXXXXX
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

2    The following menu appears. Enter **2** to select Call Server/Main Cabinet.

Technology Software Installation Main Menu:
1. Media Gateway/IPExpansion Cabinet
2. Call Server/Main Cabinet
[q]uit, [h]elp or [?], <cr> - redisplay
Enter Selection : 2

3    The Call Server/Main Cabinet Software Installation Main Menu appears. Enter **3** to select Utilities.

Call Server/Main Cabinet 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]elp or [?], <cr> - redisplay
Enter Selection : 3

**4**     The Utilities menu appears. Enter **2** to select Archive Database Utilities.

Utilities Menu :
1.  Restore Backed Up Database
2.  Archive Database Utilities
3.  Install Archived Database
4.  Review Upgrade Information
5.  Clear Upgrade Information
6.  Flash Boot ROM Utilities
7.  Current Installation Summary
8.  Change 3900 series set languages.
9.  IP FPGA Utilities

[q]uit, [p]revious, [m]ain menu, [h]elp or [?], <cr> - redisplay
Enter Selection : 2

**5**     At the Customer Database Archives menu, enter **3** to select Archive a customer database.

Customer Database Archives:
1. List customer databases.
2. Remove customer database.
3. Archive a customer database.

[q]uit, [p]revious, [m]ain menu, [h]elp or [?], <cr> - redisplay
Enter Selection : 3

**6**     At this point, you are prompted for a Customer name for your archived database. In this example, the name **CS1000EU** is entered as the Customer name.

Enter a Customer name for your customized data :
CS100EU
Customer database created: CS1000EU
Copying database from primary drive to  CS1000EU
Archive copy completed.

**7**    The archive copy has been saved as CS1000EU. The Customer
Database Archives menu appears. Enter **1** to select List customer
databases.

Customer Database Archives:
1. List customer databases.
2. Remove customer database.
3. Archive a customer database.

[q]uit, [p]revious, [m]ain menu, [h]elp or [?], <cr> - redisplay
Enter Selection : 1

The following list is generated:

Customer Database Archives available:
1. 450WBASE
2. 450W_CP
3. CS1000EU

**8**    Enter **q** to quit LD 143, and then **y** to confirm your selection.

Customer Database Archives:
1. List customer databases.

2. Remove customer database.

3. Archive a customer database.

[q]uit, [p]revious, [m]ain menu, [h]elp or [?], <cr> - redisplay
Enter Selection : Q
Are you sure? (y/n/[a]bort) : Y

——————————————   **End of Procedure**   ——————————————

Once you have completed the backup and archive of the customer database, shut down the system and remove the PCMCIA card from slot. You are now ready to install the hardware.

## Choosing the chassis and slot locations

> *Note:* This upgrade is for CP PM processors only.

An MG 1000E performs functions under the control of the CS 1000E Core call server. Traditionally this core call server was a CP II or CP IV in its own call server chassis, however the CP PM call server sits in one of the MG 1000E Cabinet slots.

The CP PM Call Server drives the IPMG through the MGC using the ELAN interface, and therefore does not require backplane connectivity (other than power and slot ID). The following rules apply to the preferential placement of the CP PM call server in the MG 1000E:

- The CP PM Call Server cannot be placed in slot 0 of any MG 1000E. Slot 0 is reserved for the MGC.

- To allow for ease of cabling, the CP PM call server may be placed in slots 1 through 9. The CP PM Signaling Server may be placed in slots 2 through 9 (see Figure 48) or in a Chassis expander if necessary.

- If utilizing the Campus Redundancy High Availability Call Server option, place the two CP PM call servers in separate CS 1000M chassis' to allow for increased survivability.

> *Note:* Package 410 HIGH_AVAIL HIGH AVAILABILITY must be activated in order to install any type of redundancy option. For more information, refer to "Upgrading to a High Availability system" on .)

Figure 48 shows the small system architecture with CP PM call server. Note the optional second CP PM call server, providing a high-availability solution for the small system market. For information on upgrading to a high availability system, see "Upgrading to a High Availability system" on .

**Figure 48**
**Release 5.0 CS 1000E CP PM System (Small Line Size)**
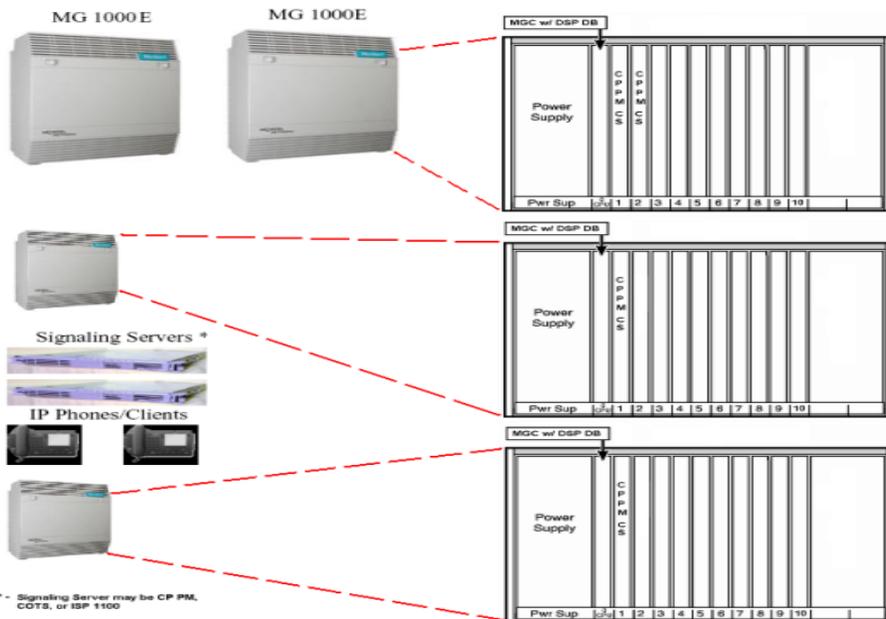
## Installing the CP PM card

**Procedure 58**
**Installing the CP PM card**

1   Power down the system

2   Ensure that the security dongle (the one that comes as part of the software kit) is inserted on the CP PM call processor.

3   Slide the CP PM call processor into Slot 1 (or higher) of the Chassis.

4   Lock the card into the faceplate latches.

5   Attach the SDI cable. The com (SDI) port of the CP PM call server is routed through the backplane of the shelf to the 50-pin amphenol connector on the back of the shelf. A special cable is shipped with the CPPM call server that adapts the 50-pin amphenol to a 25-pin DB connector (NTAK19EC). Port 0 is used for maintenance access, and Port 1 is for an external modem connection.

**Figure 49**
**2-port SDI cable (NTAK19EC) cable**



——————————————— **End of Procedure** ———————————————

## Installing the MGC card

**Procedure 59**
**Installing the MGC card**

In Release 5.0, the MGC card replaces the existing SSC used in the
MG 1000T.

---

### IMPORTANT!

You must ensure that all dongles (for both MGC and CP PM cards) are
correctly identified.

You must destroy or return the SSC dongle to your local
Nortel Repairs/Returns center.

For the CP PM call server you must use the dongle provided with the
software kit.

---

To install the MGC card, perform the following steps:

**1** Power down the Main Chassis.

**2** Remove the SSC card.

**3** Install the DSP Daughterboard on the MGC card as described in
Procedure 61 on .

**4** Insert the MGC into Slot 0 of the Chassis.

**5** The existing 3-port SDI cable (NTBK48AA) is reused. It connects to the
SDI port on the Chassis.

This chassis, the main chassis in the system, will now become known as
IPMG 00.

──────────────── **End of Procedure** ────────────────

**Procedure 60**
**Removing the SSC Card**

**1** Disconnect the SSC daughterboard.

**2** Disconnect and label any cables from the SSC card faceplate.

**3** Unscrew and unlatch the SSC card.

**4**    Remove the SSC card from its slot.

> ⚠ **IMPORTANT!**
>
> The SSC card should be preserved for a minimum of 5 days.

―――― **End of Procedure** ――――

## Installing a DSP Daughterboard

The following procedure describes how to install a DSP Daughterboard on an MGC card:

**Procedure 61**
**Installing a DSP Daughterboard**

**1**    Place the MGC on a safe ESD surface.

**2**    Place the DSP DB in either DB position 1 (for DSP DB-96) or DB position 2 (for DSP DB-32), or both, depending on how the Daughterboards will be configured from a TN perspective.

**3**    Ensure the DSP DB is securely attached to the MGC (using the four supplied screws and standoffs).

―――― **End of Procedure** ――――

For each additional IPMG, repeat Procedure 59 to Procedure 61 on .

*Note:*  Note: Call Server dongles do not need to be retained for IPMGs.

## Superloop/Shelf determination

Cards are identified by their IPMG location. This information is an important part of the software installation process (for example, the IPMG location is required in Overlay 117). Entering the IPMG location of your cards ensures that all card slots are accounted for, and helps identify where cards may be added (if you need to expand or upgrade at a later date).

An IPMG is made up of superloop and shelf. All references to an IPMG are based on the superloop/shelf location. For example, the location of the Main Chassis is 00, which translates into superloop 0, shelf 0, and the expansion chassis is 01.

Translations from a numeric IPMG number to the associated superloop shelf no longer exist. All system messages, displays, and user interface communications with the administrator are in the form of LOOP Shelf when referencing an IPMG.

## Installing the software and restoring the database

The following procedure describes the process of installing the CP PM software and customer database.

**Procedure 62**
**CP PM Software installation**

**1**   Connect the terminal to port 0 with the NTAK19EC cable.

**2**   Insert the CF card into the Call Server faceplate.

**3**   Reboot the card. When prompted (see Figure 50), enter **F** to "force board to boot from faceplate drive" (prompt may appear twice).

**Figure 50**
**Upgrade boot sequence**

```
+--------------------------------------------------------------------+
|        System BIOS Configuration, (C) 2005 General Software, Inc.   |
+-----------------------------------+--------------------------------+
| System CPU        : Pentium M     | Low Memory        : 632KB      |
| Coprocessor       : Enabled       | Extended Memory   : 1011MB     |
| Ide 0 Type        : 3             | Serial Ports 1-2  : 03F8 02F8  |
| Ide 1 Type        : 3             | ROM Shadowing     : Enabled    |
| Ide 2 Type        : 3             | BIOS Version      : NTDU74AA 11|
+-----------------------------------+--------------------------------+

Press F to force board to boot from faceplate drive.
...............................................
Attempting to boot from faceplate drive.
```

The VxWorks banner screen appears (see Figure 51 on ):

**Figure 51**
**VxWorks banner**

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

        #####
       #########   ########
      ########`` `#############
      ########     ``  `#############
     #######`        ######```####
     #######      ######``    `###              NORTEL
    ######   #####``          ####
    ####### #####`            ####    Communication Server 1000 Software
    `#########`               ####`
     #######`                #####      Install Tool version 29
     `#######               #####`
     ##########             `###`       Copyright 1992 - 2007
     ##``##########           #
    ##   `########################
    `#      `########################
      ##########################``
       `````````  ````####`````

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


▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲
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

▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲
WARNING:

Upgrading from pre-Release 4.5 software to Release 4.5 or higher
will result in the system PDT passwords being reset to default.

Proceed with the upgrade? (Y/N) y
```

**4**    Enter **y** for both software warnings to proceed with the upgrade.

*Note:* PE/EPE is not applicable for this upgrade as it only applies to large systems.

5    The Software Installation Tool Main Menu appears (see Figure 52 on page 283).

*Note:* If the keycode files reside on a separate CF card, remove the software CF card and insert the CF card containing the keycode files.

**Figure 52**
**Software Installation Tool Main Menu**

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

                          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>
```

**6**    Enter **<CR>** or **u** to access the Install Menu. The following screen appears (see Figure 53).

**Figure 53**
**Keycode files**

```
 The following keycode files are available on the removable media:

               Name                          Size      Date        Time
          --------------------              ------  -----------   -------
 <CR> -> <1> - keycode.kcd                   1114    Jan-17-2007   12:14
         <q> - Quit

         Enter choice>



>Validating keycode ...
>Copying "/cf2/keycode/495H_CPPM.kcd" to "/u/keycode" -

>The provided keycode authorizes the install
>of X210495 software (all subissues)
>for machine type 4021 (CPPM processor on CS 1000E).
```

**7**    The keycode file appears in the list. Select the appropriate keycode file for this system and install the keycode.

*Note:* If the CF card was exchanged, insert the CF card containing CS 1000 Release 5.0.

**8**    Enter **<CR>** or **y** to confirm that the keycode matches the system software on the RMD (see Figure 54 on ).

**Figure 54**
**Keycode confirmation**

```
       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>
>Obtaining database file names ...
```

9    The Install Menu appears (see Figure 55 on ). Enter **b** to install the software, database, and CP-BOOTROM.

**Figure 55**
**Install Menu**

```
        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
        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> -> <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> b
```

The following screen appears (see Figure 56 on ):

10    Enter **<CR>** or **y** to confirm that the call processor is set to side 0.

**Figure 56**
**Side information**

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

        This CS 1000 Call Processor is set to side 0

        Please confirm that the side information is correct.


        Please enter:
<CR> -> <y> - Yes, the side information is correct.
        <n> - No, the side information is incorrect. Go on to Side Setting Me

        Enter choice>
```

11   The location information screen appears (see Figure 57), indicating that the call processor is located in loop 0 and shelf 0 of the IPMG. Enter **<CR>** or **y** to confirm their location.

**Figure 57**
**Call processor location**

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

         This CS 1000 Call Processor is currently located in the IPMG
         configured as:

         loop   0
         shelf  0

         Please confirm that the IPMG loop and shelf information is correct.

         Note: If the IPMG has not been configured yet, the IPMG loop and
               shelf information can be left as the current value. To update
               the loop and the shelf information later, use OVL117.


         Please enter:
<CR> -> <y> - Yes, the IPMG loop and shelf information is correct.
        <n> - No, the IPMG loop and shelf information is incorrect.
              Go on to Loop/Shelf Setting Menu.

         Enter choice>
```

12   If not already present in the CF drive, insert the CF card containing CS 1000 Release 5.0 (see Figure 58).

**Figure 58**
**Insert RMD**

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

         Please insert the Removable Media Device into the drive on Core 0.


         Please enter:
<CR> -> <a> - RMD is now in drive. Continue with s/w checking.
        <q> - Quit.

         Enter choice>
```

13   Enter **<CR>** or **y** to confirm that you have the correct software version (see Figure 59 on ).

**Figure 59**
**Confirm software version**

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

         The RMD contains System S/W version X2105XX_X.

         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>
```

14   Enter **<CR>** or **y** to install dependency lists and continue with the upgrade (see Figure 60 on ).

**Figure 60**
**Install Dependency Lists**

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

         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>
```

15   Enter **<CR>** or **y** (the default) to enable the Automatic Centralized Software Upgrade (CSU) feature (see Figure 61 on ).

**Figure 61**
**Centralized Software Upgrade**

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

      Enable Automatic Centralized Software Upgrade (CSU) Feature ? (Defaul

      Please enter:
<CR> -> <y> - Yes
        <n> - No

      Enter choice>
```

> **16**  Set the CSU feature to Sequential by entering either **<CR>** or **y** (see
> Figure 62).

**Figure 62**
**Automatic Centralized Software Upgrade Mode**

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

      Set Automatic Centralized Software Upgrade Mode to:

      Please enter:
<CR> -> <1> - Sequential
        <2> - Simultaneous

      Enter choice>
>Processing the install control file ...
```

> The Installation Status Summary screen appears (see Figure 63 on
> ).

**Figure 63**
**Installation Status Summary**

```
>Installing release 05XXX

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

        +================+========+========+===========================+
        |     Option     | Choice | Status |          Comment          |
        +================+========+========+===========================+
        | SW: RMD to FMD |  yes   |        | install for rel 0495H     |
        +----------------+--------+--------+---------------------------+
        | Dependency Lists|  yes  |        |                           |
        +----------------+--------+--------+---------------------------+
        | AUTO-CSU Feature|  SEQ  |        | SEQ-CSU Enabled           |
        +----------------+--------+--------+---------------------------+
        | IPMG Software: |  yes   |        | install for rel 0495H     |
        +----------------+--------+--------+---------------------------+
        | Database       |  yes   |        |                           |
        +----------------+--------+--------+---------------------------+
        | CP-BOOTROM     |  yes   |        |                           |
        +----------------+--------+--------+---------------------------+

        Please enter:
<CR> -> <y> - Yes, start installation.
        <n> - No, stop installation. Return to the Main Menu.

        Enter choice>
>Checking system configuration
```

**17**   Enter **<CR>** or **y** to begin the installation (see Figure 64).

**Figure 64**
**Install Tool**

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

        You selected to install Software release: 05XXX 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>
```

**18**  A prompt appears warning you that old system files will be deleted as a result of the installation. Enter **<CR>** or **y** to continue with the installation.

**19**  The PSDL Installation Menu appears (see Figure 65). Select the appropriate location based on your geographical location.

**Figure 65**
**The PSDL Installation Menu**

```
**************************************************************
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 ->1

>Copying new PSDL ...
```

**20**  Enter **<CR>** to continue.

A message appears indicating that the installation on Core 0 was successful (see Figure 66).

**Figure 66**
**Core 0 software installation complete**

```
Communication Server 1000 Software/Database/BOOTROM RMD Install Tool
====================================================================
Software release 05XXX was installed successfully on Core 0.

All files were copied from RMD to FMD.

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

**21**  Enter **<CR>** to continue.

The following screen appears (see Figure 67).

**Figure 67**
**Database installation**

```
        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 and DEFAULT accounts.
               The System S/W media must be in drive.)
        <d> - Transfer Small System database.
               The RMD containing the database must be in the drive
        <e> - Check the database that exists on the Fix Media Device.
        <q> - Quit.

        Enter choice> d
```

22  Remove the software CF card and insert the CF card containing the archived database.

23  Enter **d** to transfer the database.

As this is an upgrade from a small system to a large system, you must select option "d" (not "a") at this point to ensure the transfer of the small system database and the proper conversion of the TNs from a two-field format to a four-field format.

24  Enter **b** to install the archived small system database.

25  Enter **3** to select the archived CS 1000 database from the RMD (see Figure 68).

**Figure 68**
**Select archived database**

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

<CR> -> <1> - 450W_CP
        <2> - 450WBASE
        <3> - CS1000SU
        <q> - Quit

        Enter choice>
```

26  The database file name saved to the RMD appears. Enter **<CR>** or **a** to continue with the installation (see Figure 69).

**Figure 69**
**Database file**

```
          Communication Server 1000 Software/Database/BOOTROM RMD Install Tool
          ================================================================
          Small System Archived Database /cf2/arch_db/CS1000SU from release 450
          created on Dec-12-2006 22:53 is available on the RMD.

          Please enter:
<CR> -> <a> - Continue with installation.
          <q> - Quit.

          Enter choice>
```

27  Enter **<CR>** or **a** to confirm your selection.

28  The Installation Status Summary screen appears, indicating that the installation was a success (see Figure 70). Enter **<CR>** to continue.

**Figure 70**
**Installation Status Summary**

```
Database Restore operation completed from SSC to CPPM.

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

      +================+========+========+===========================+
      |     Option     | Choice | Status |          Comment          |
      +================+========+========+===========================+
      | SW: RMD to FMD |  yes   |   ok   | install for rel 0495H     |
      +----------------+--------+--------+---------------------------+
      | Dependency Lists| yes   |   ok   |      None   Available     |
      |                |        |        |                           |
      +----------------+--------+--------+---------------------------+
      | AUTO-CSU Feature|  SEQ  |        | SEQ-CSU Enabled           |
      +----------------+--------+--------+---------------------------+
      | IPMG Software: |  yes   |   ok   | install for rel 0495H     |
      +----------------+--------+--------+---------------------------+
      | Database       |  yes   |        |                           |
      +----------------+--------+--------+---------------------------+
      | CP-BOOTROM     |  yes   |   ok   |                           |
      +----------------+--------+--------+---------------------------+

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

29   The Install Menu appears (see Figure 71 on ). Enter **q** to quit the Install Tool.

**Figure 71**
**Install Menu**

```
        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
        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> -> <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
```

30   Enter **<CR>** or **y** to confirm your selection (see Figure 72).

**Figure 72**
**Quit Install Tool**

```
        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>
```

**31**  Enter **<CR>** or **y** to reboot the system (see Figure 73). Once the system has completed its reboot, remove the CF from the faceplate.

**Figure 73**
**System reboot**

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

        You selected to quit the Install Tool.
        You may reboot the system or return to the Main Menu.
        ---------------------------------
        DO NOT REBOOT USING RESET BUTTON!!!
        ---------------------------------

        Please enter:
<CR> -> <a> - Reboot the system.
        <m> - Return to the Main Menu.

        Enter choice>

>Rebooting system ...
```

> *Note:* Upon sysload, small system to large system TN conversion occurs. Please refer to "Conversion and mapping information" on .

**32**  Once the reboot is complete, the final conversion takes place:

```
SYSLOAD HAS TAKEN PLACE CPU 0
SYSDB RLS/ISS: 450W DATE/TIME: 6/11/2006 10:01:16 RECS: 86
SEQNO: 911
DATA CONVERSION
CS 1000 RELEASE 4.50W TO CS 1000 X21 ISSUE 5.xx

  CONFIG:  IDLE_SET_DISPLAY GTE
  DONE

INI000 00000000 02 21 08 00000000 00000000 00000000
00000000 0 ? 00000000
```

**33**  The following TN Mapping Summary appears:

```
TN MAPPING  SUMMARY
```

```
    THE   FOLLOWING SDI DEVICES ARE DELETED

SDI:8

       LSL

SDL5203
```

─────────── **End of Procedure** ───────────

## Configuring the IPMG zone and IP address

The next step in the process involves configuring the IPMG zone and IP
address in Overlay 97 on the Call Server.

**1**   Log into Overlay 97 to configure the MGC that will register to the call
server:

```
>ld 97

SCSYS000

MEM AVAIL: (U/P): 103979814    USED U P: 230475 59531
TOT: 104269820

REQ  prt
TYPE supl
SUPL
```

```
 SUPL  SUPT SLOT XPEC0   XPEC1   IPMG   ZONE0/1  IPR0/1

 000   IPMG ---- -- - -  -- - -   001    ---    ------------
                                  002    ---    ------------
 004   IPMG ---- -- - -  -- - -   003    ---    ------------
                                   004    ---     ---------
 008   IPMG ---- -- - -  -- - -   005    ---    ------------
                                  006    ---    ------------
 096   ---- ---- VIRTUAL -- - -    ---  --- -  --- ---------
```

```
100 ---- ---- VIRTUAL -- - -   --- --- - --- ----------
104 ---- ---- VIRTUAL -- - -   --- --- - --- ----------
112 ---- ---- VIRTUAL -- - -   --- --- - --- ----------

REQ  chg

TYPE supl

SUPL 0

SLOT

SUPT ipmg

IPR0 10.0.5.5

IPMG_TYP0 mgc

ZONE0 1

 **** ALL VWG CHANNELS MUST BE OUTED AND RECONFIGURED AFTER
IPMG ZONE CHANGE

 DES0

 -CE

cppm-cs
```

## Configuring initial IP addressing on the MGCs

Following a reboot of the MGC, initial IP addressing must be configured
along with TLAN information if a DSP DB is attached. Connect a terminal to
the SDI port on each MGC card. Once the reboot is complete, the following
prompt appears.

```
Please define the data networking parameters for this MG
1000E now.

Hostname           :  IPMG0-0

ELAN IP            : 0.0.0.0 10.0.5.5
```

```
ELAN subnet mask     : 0.0.0.0 255.255.255.0
ELAN gateway IP      :  10/0/      .0         0.0.0.0
TLAN IP              : 0.0.0.0 47.17.155.245
TLAN subnet mask     : 0.0.0.0 255.255.255.224
TLAN gateway IP      :  47.15.155.225
Primary CS Hostname  :  CS1000E BL60
Primary CS IP        :  10.0.5.1
Leading Secondary CS Hostname :
Leading Secondary CS IP     : 0.0.0.0
Secondary CS Hostname :
Secondary CS IP      : 0.0.0.0
You have entered the following parameters for this MG
1000E:
Attaching interface lo0... done
Attached IPv4 interface to eln unit 0
```

## Rebooting the MGC

The MGC reboots and registers with the Call Server.

```
Found device : INTEL 82365SL
Engcode:NTDW60BA REL 08
ELAN mac address is:00:13:65:ff:ee:ed
TLAN mac address is:00:13:65:ff:ee:ec
RESET reason: Hard Reset.
Daughter board 1:NTDW62AA R02    00:13:65:ff:f8:fd.
Daughter board 2:NOT INS

                        VxWorks System Boot
Copyright 1984-2005  Wind River Systems, Inc.
CPU: Chagall

Version: VxWorks5.5.1
```

```
Bootcode version: MGCBAA20

Creation date: Sep  7 2006, 15:11:15

 5

 4

 3

 2

 1

 0

auto-booting...

Loading MSP from CF...1375736

Booting ARM0 (MSP) at 0x00000100 ...

Loading CSP from CF...6643712 + 5849088

Booting ARM1 (CSP) at 0x80010000 ...

Found device : INTEL 82365SL

Loading symbol table from /p/mainos.sym ...done
```

## Loadware upgrade

If the MGC loadware is out of date (compared to the loadware on the Call Server), an upgrade of the loadware occurs based on the Centralized Upgrade setting defined during the software install and the values set in overlay 143. The default values are set so that the upgrade starts automatically once registration is achieved with the Call Server.

There are six pieces of loadware that are updated on the MGC. These updates are downloaded from the Call Server.

```
-> Received an upgrade request. Preparing MGC for upgrade.

Auto commit option has been enabled.

Upgrade of CSP loadware initiated.

OMM: IP link is UP between Primary Call Server and MGC 1

->
```

```
-> ->
->
Upgrade of MSP loadware initiated.
Upgrade of APP loadware initiated.
Upgrade of FPGA loadware initiated.
Upgrade of DBL1 initiated.
->
->
->
->
->
-> 0x86f8bc30 (tMGCInst):
Upgrading FPGA Loadware...
logTask: 1 log messages lost.
0x86f8bc30 (tMGCInst): Programming FPGA ...
0x86f8bc30 (tMGCInst): FPGA Upgrade completed.
0x86f8bc30 (tMGCInst): Upgrading Application Loadware ...
0x86f8bc30 (tMGCInst): Gold CSP image upgraded
0x86f8bc30 (tMGCInst): mgcBootLineFix:fixing the bootline
0x86f8bc30 (tMGCInst): Upgrade Application Loadware
completed
0x86f8bc30 (tMGCInst): Rebooting MGC to take the upgrade
in effect.
```

> ✔ At this point the IPMGs synchronize with the Call Server.

# Upgrading and configuring the Signaling Server

To upgrade and configure the Signaling Server, see "Upgrading and configuring the Signaling Server" on page 209.

# Configuring the IPMG in Element Manager

## Configuring the MGC

Procedure 63 on page 301 describes how to configure an IPMG in Element Manager.

**Procedure 63**
**Configuring the MGC**

**1**    In Element Manager, select **IP Network** > **Media Gateways**. Choose your Superloop Number and Shelf. Click **Add**.

**Figure 74**
**Add IPMG**



**2**    The preceding screen appears (see Figure 74 on page 301). Enter the IP address, zone number, and the Media Gateway type (in this case, a Media Gateway Controller). Selecting "MGC" automatically fills in the remaining fields ("CE", "E1", "E", "CT", "T2", and "T"). Click **Submit**.

**Note:**  The IP address entered here is the same IP address as the one configured on the MGC in an earlier procedure.

The following screen appears (Figure 75):

**3**    Enter the Gateway IP addresses and Voice LAN IP addresses. If the MGC has DSP daughterboards connected, select the type and enter the IP addresses.

**Figure 75**
**IPMG MGC configuration**
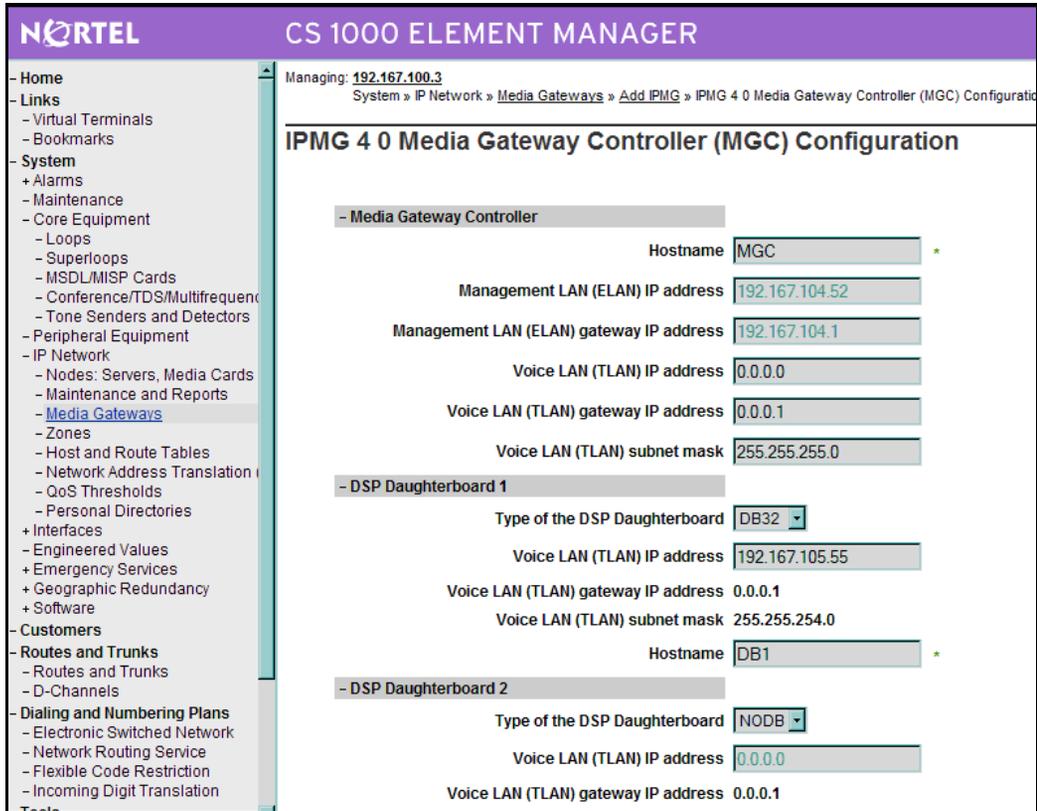


Once configuration of the MGC is complete, the following screen appears (see Figure 76):

4 The Media Gateways screen lists the superloop and shelf numbers, IP address, zone, and type of the MGC you just configured. Select the **More Actions** drop-down list and select **Add VGW channels**.

**Figure 76**
**Media Gateways**
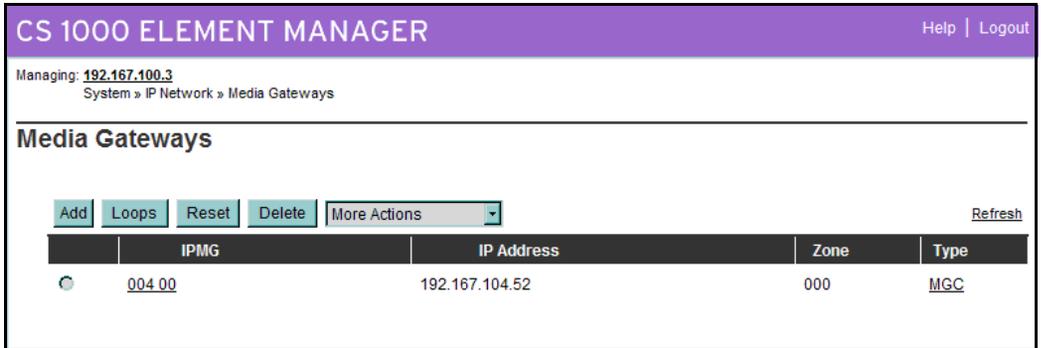


The following screen appears (see Figure 77):

**5**   In this screen, select the number of required channels, the Terminal Number (the superloop and shelf numbers of the MGC, the card number, and the unit). Provide a name and the daughterboard and customer type. Click **Save**.

**Figure 77**
**Add VGW channels**
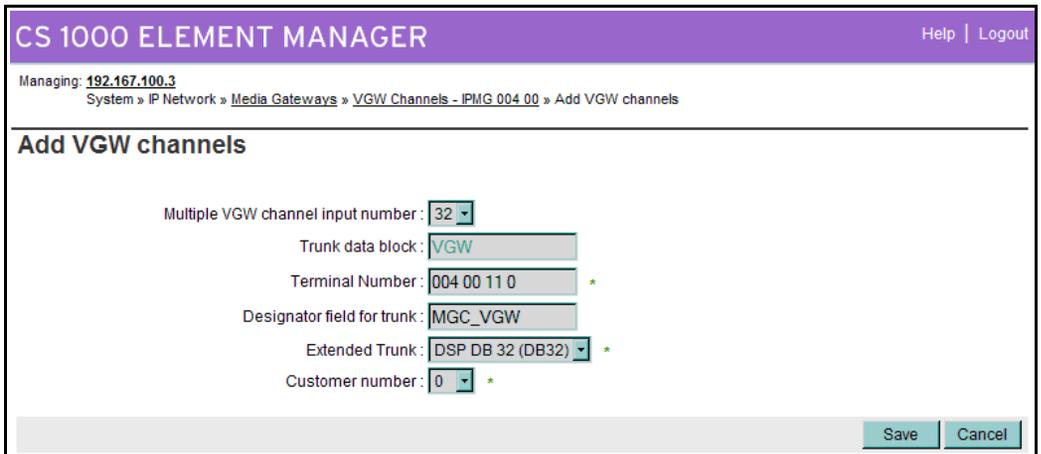


The following screen appears (Figure 78):

The MGC you configured has been added to the list.

**Figure 78**
**VGW Channels - IPMG**



*Note:* The system must be rebooted in order for the changes to take effect.

──────── **End of Procedure** ────────

# Upgrading to a High Availability system

## Campus Redundancy (High Availability) Package Support

The CP PM CS project introduces a package for enabling and disabling the Campus Redundancy or High Availability (HA) feature, package 410 HIGH_AVAIL HIGH AVAILABILITY. Software performs a check to determine whether the HIGH_AVAIL HIGH AVAILABILITY package is present in the keycode. If the package is present, the CP PM call server uses

the HSP to try to detect the presence of the other core. If the other core is detected, then both cores negotiate to determine which core is the active core and which core is the standby core.

If the CP PM Call Server is unable to detect the other core, it comes up as a single core system. If the HIGH_AVAIL HIGH AVAILABILITY package is not present in the keycode, then the existing Call Server software is modified to block the HSP connection so that the CP PM call server does not attempt to detect the presence of the core. In the absence of the HA package, the CP PM call server runs as a single core system even in a system with two cores and the HSP ports on both cores are connected.

## Campus Redundancy with co-located Call Servers

Figure 79 on depicts the configuration of the CS 1000E CP PM system with co-located call servers. Utilizing the dual homing feature of the MGC, the ELAN of the CP PM call server/MGC and the TLAN of the Signaling Server/MGC is dual homed to the Baystack switches. If one of the LAN links to the switches fails, or the switch is out of service then the dual homing feature allows the CS 1000E CP PM system to continue to function normally. The HSP is connected directly from one CP PM call server to the other CP PM call server and allows for redundancy between call servers.

**Figure 79**
**Campus Redundancy with CP PM call servers co-located**
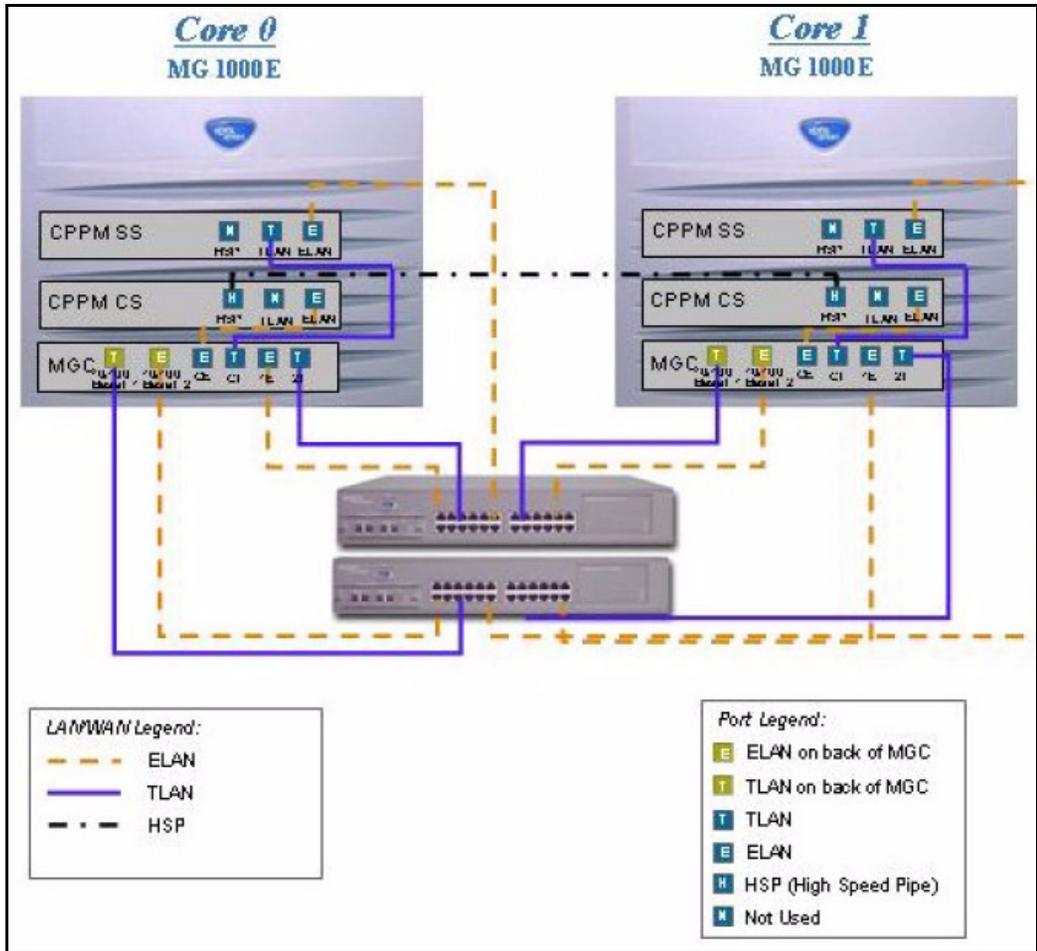
# Network check

## Checking the status of the HSP ports

Use LD 137 STAT HSP command to check the status of the HSP. The following is a sample output of the STAT HSP command.

LD 137

.stat hsp

HSP LINK CARRIER: OK

Auto Negotiation: Enabled

Auto Negotiation Completed: YES

Actual Line Speed: 1000 Mbps

Actual Duplex Mode: Full Duplex

LCS HSP STATE is UP

Ethernet (gei unit number 1):

Internet address: 127.2.0.2

Broadcast address: 127.255.255.255

Ethernet address: 00:c0:8b:07:a5:9f

Netmask: 0xff000000; Subnetmask: 0xff000000

39698 packets received; 80156 packets sent

0 input errors; 0 output errors

0 collision

# Upgrading MG 1000T (Option 2)

## Contents

This section contains information on the following topics:

# Introduction

Option 2 involves migrating the MG 1000T functions into a CS 1000E system. Each existing MG 1000T chassis requires a Media Gateway Controller Card. The current PRI and media cards in the MG 1000T are maintained. All MG 1000T chassis are added to the CS 1000E as new IPMGs, and all PRI loops and DSP resources have to be added to the CS 1000E database. The NARS/BARS database on the MG 1000T must be replicated on the CS 1000E. MG 1000T Signaling Server NRS functionality can be moved to the CS 1000E node or remain as is. The NRS dialing plan must be changed accordingly.

Figure 80 on shows a CS 1000E system before the Option 2 upgrade. Figure 81 on shows a CS 1000E system after the Option 2 upgrade is completed.

# NARS/BARS/Trunking Considerations

Impacts on customer trunking must be evaluated when designing and planning an upgrade. The MG 1000T is a tandem endpoint that may provide PRI PSTN access to a standalone CS 1000E and satellite locations. Each upgrade option impacts customer trunking in the following ways:

Trunking must be transitioned (both hardware and software) to the CS 1000E. A high level of ESN and PRI programming knowledge is required to move the trunking functions from the MG 1000T to the CS 1000E during both the planning and implementation phases of the upgrade. Typically the bulk of ESN programming is done on the MG 1000T and SPN's are used to steer PSTN calls between nodes. The NRS dialing plan entries also must be changed during the upgrade to move existing numbers associated with the MG 1000T endpoint to the CS 1000E endpoint. Special care must be taken to ensure 911 service functions as expected post-upgrade. The out of service time for the trunks vary site to site. Inbound DID/COT/TIE trunk routes could be split and cut over to the CS 1000E in a phased approach. Outbound DOD/COT/TIE trunks could be split and cutover using temporary RLIs to steer NPA, NXX and SPN calls (including 911). Tie routes that are H323/SIP can be redirected in the NRS assuming the ISM parameters have been moved to the CS 1000E and the ESN programming is in place.

# Signaling Server considerations

For CS 1000 Release 5.0, all Signaling Servers must have a minimum of 1 GByte of memory.

If the MG 1000T is upgraded to a CS 1000E, the Signaling Servers can be re-used. If the MG 1000T is migrated to the CS 1000E the Signaling Servers can be re-deployed or used as spares.

# Call Server considerations

After completing the Option 2 upgrade, MG 1000T SSC cards are no longer needed. SSC dongles must be discarded.

**Figure 80**
**Basic CS 1000E system**
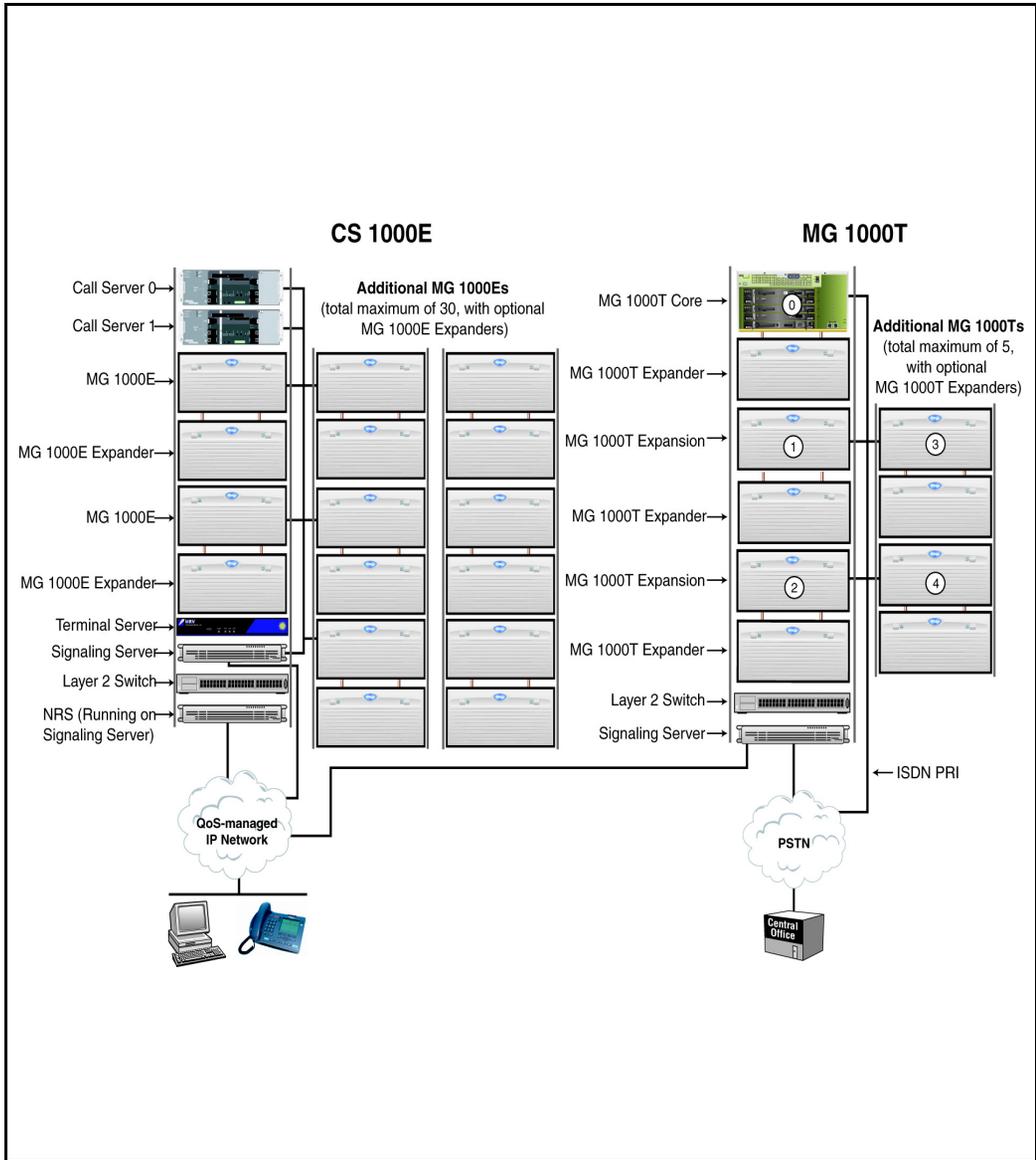
**Figure 81**
**Option 2 CS 1000E system**
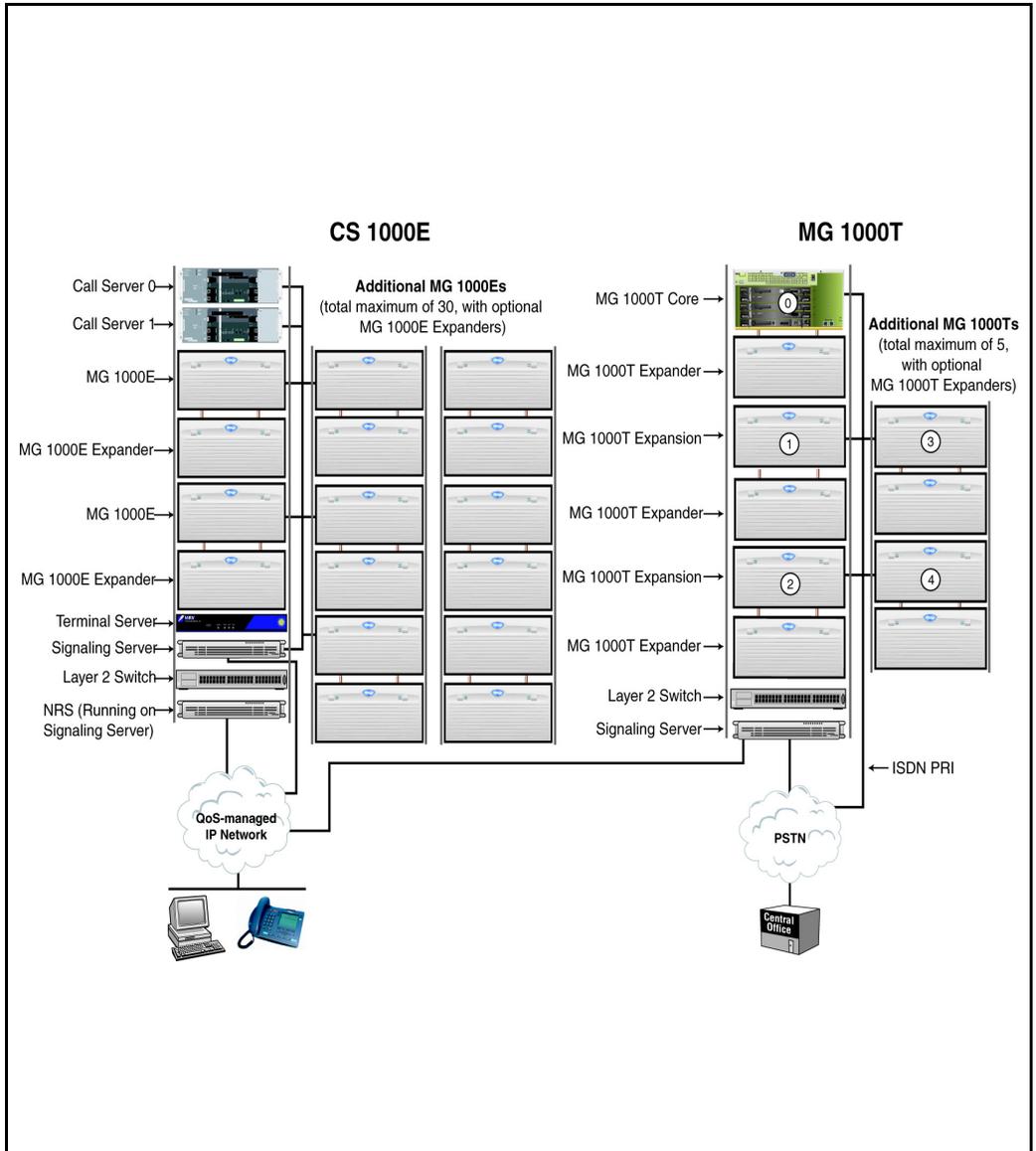
# Task flow summary

Table 21 provides a task flow summary of the steps involved in an MG 1000T Option 2 upgrade.

**Table 21**
**Option 2 task flow**

# Planning and preparing

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 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.

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.

- 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 Servers, Voice Gateway Media Cards, Media Gateway Controllers, Signaling Servers and so on).

- Determine the required patches or DEP lists installed on all applications.

- 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.

# Performing the upgrade

## Reviewing upgrade requirements

This section describes the *minimum* hardware and software required for an Option 2 upgrade. 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.

This upgrade assumes that the core CS 1000E is running CS 1000 Release 5.0. This procedure upgrades the existing MG 1000Ts to IPMGs of the core CS1000E.

| | |
|---|---|
| ⚠ | **WARNING**<br><br>**Service Interruption**<br><br>DO NOT proceed with the upgrade if any of the required iitems are missing. All items must be received to complete the upgrade. |

## Check required hardware

Table 22 lists the hardware required for the upgrade.

**Table 22**
**Hardware requirements**

| Order number | Description | Quantity per IPMG |
|---|---|---|
| NTDW60BAE5 | Media Gateway Controller (Figure 82 on page 317) | 1 |
| NTDW62AAE5 (32 Port) NTDW64AAE5 (64 Port) | DSP Daughterboard (Figure 83 on page 318) | Depends on configuration |
| **Note:**  A TLAN IP address is needed for each DSP Daughterboard. | | |

**Figure 82**
**NTDW60BAE5 MGC card**

**Figure 83**
**DSP daughterboard**
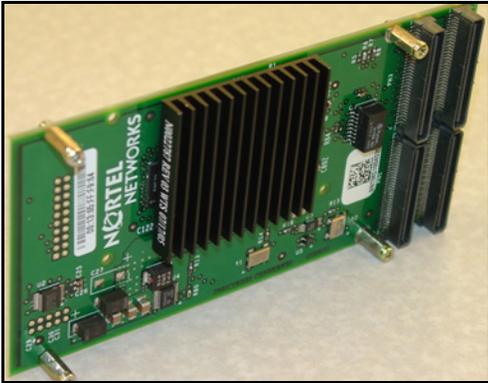


# Configuring the IPMG on the CS 1000E node

Procedure 64 on page 318 describes how to configure an IPMG using the
CLI.  To configure an IPMG using Element Manager see Procedure 65 on
page 320.

**Procedure 64**
**Configuring the IPMG (CLI)**

**1**    Log into Overlay 97 to configure the MGC that will register to the call
server:

```
>ld 97

SCSYS000

MEM AVAIL: (U/P): 103979814    USED U P: 230475 59531
TOT: 104269820

REQ  prt
TYPE supl
SUPL

SUPL  SUPT SLOT XPEC0   XPEC1   IPMG   ZONE0/1  IPR0/1

000   IPMG ---- -- - -  -- - -  001    ---     ------------
                                 002    ---     ------------
004   IPMG ---- -- - -  -- - -  003    ---     ------------
                                 004    ---      ----------
```

```
008   IPMG ---- -- - - -- - -   005   ---    -----------
                                 006   ---    -----------
096 ---- ---- VIRTUAL -- - -    --- --- - --- ----------
100 ---- ---- VIRTUAL -- - -    --- --- - --- ----------
104 ---- ---- VIRTUAL -- - -    --- --- - --- ----------
112 ---- ---- VIRTUAL -- - -    --- --- - --- ----------

REQ  chg

TYPE supl

SUPL 0

SLOT

SUPT ipmg

IPR0 10.0.5.5

IPMG_TYP0 mgc

ZONE0 1

 **** ALL VWG CHANNELS MUST BE OUTED AND RECONFIGURED AFTER
IPMG ZONE CHANGE

 DES0

 -CE
```

───────────────────  **End of Procedure**  ───────────────────

Procedure 65 on describes how to configure the IPMG in Element Manager.

**Procedure 65**
**Configuring the IPMG (Element Manager)**

1    In Element Manager, select **IP Network** > **Media Gateways**. Choose your Superloop Number and Shelf. Click **Add**.

**Figure 84**
**Add IPMG**



2    The preceding screen appears (see Figure 84 on ). Enter the IP address, zone number, and the Media Gateway type (in this case, a Media Gateway Controller). Selecting "MGC" automatically fills in the remaining fields ("CE", "E1", "E", "CT", "T2", and "T"). Click **Submit**.

*Note:* The IP address entered here is the same IP address as the one configured on the MGC in an earlier procedure.

The following screen appears (Figure 85):

3   Enter the Gateway IP addresses and Voice LAN IP addresses. If the MGC has DSP daughterboards connected, select the type and enter the IP addresses.

**Figure 85**
**IPMG MGC configuration**
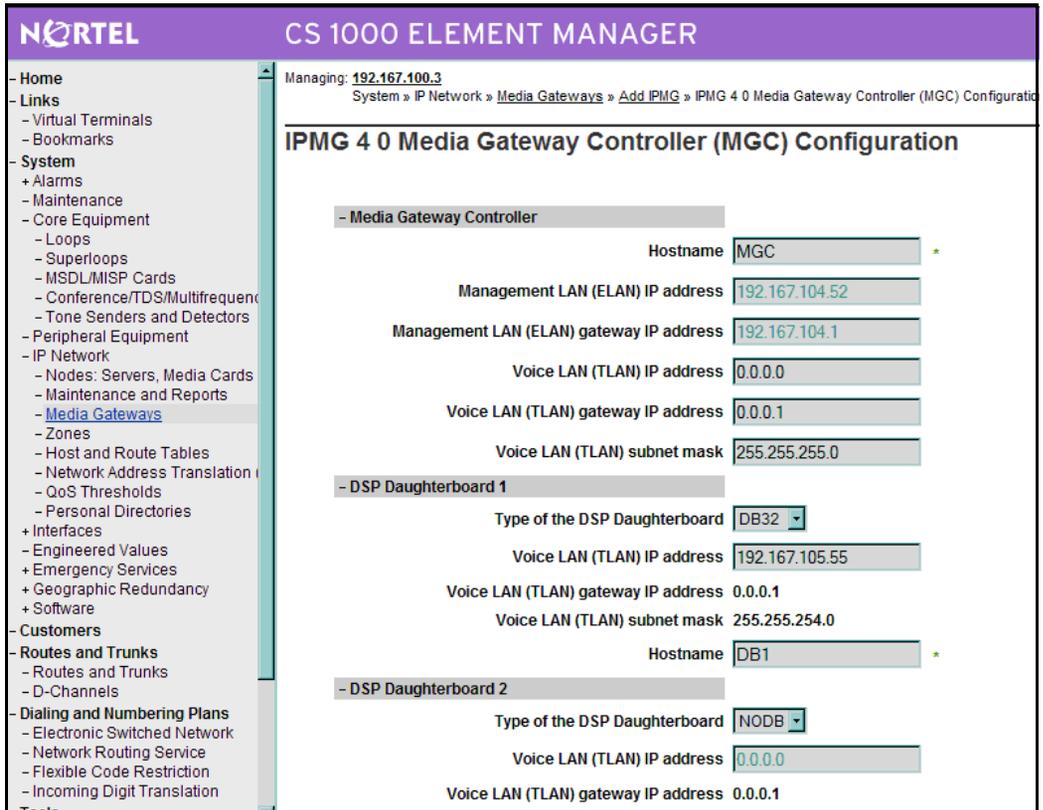


Once configuration of the MGC is complete, the following screen appears (see Figure 86):

4   The Media Gateways screen lists the superloop and shelf numbers, IP address, zone, and type of the MGC you just configured. Select the **More Actions** drop-down list and select **Add VGW channels**.

**Figure 86**
**Media Gateways**



The following screen appears (see Figure 87):

**5**  In this screen, select the number of required channels, the Terminal
Number (the superloop and shelf numbers of the MGC, the card number,
and the unit). Provide a name and the daughterboard and customer type.
Click **Save**.

**Figure 87**
**Add VGW channels**



The following screen appears (Figure 88):

The MGC you configured has been added to the list.

**Figure 88**
**VGW Channels - IPMG**



End of Procedure

# Configuring conference TDS for IPMG

Procedure 66 on page 324 describes how to configure conference TDS for IPMG using the CLI.

**Procedure 66**
**Configure conference TDS (CLI)**

**1**  Enter LD 17.

```
>ld 17

 CFN000

 MEM AVAIL: (U/P): 99278047     USED U P: 4965412 26361
TOT: 104269820
```

```
 DISK SPACE NEEDED: 20 KBYTES
 DCH              AVAIL:  255   USED:   0   TOT:  255
AML              AVAIL:   16   USED:   0   TOT:   16
 REQ  chg
TYPE cequ
MPED
TERM
REMO
TERD
REMD
TERQ
REMQ
DDCS
DTCS
XCT
MGTDS 126
IPMG x x
MGTDS
MGCONF 127
IPMG 0 0
MGCONF
MFSD
DTDT
DLOP
PRI2
APVL
DTI2
EXT0
EXT1
SYNM
```

```
MEM AVAIL: (U/P): 99277361    USED U P: 4966043 26416
TOT: 104269820

DISK SPACE NEEDED: 20 KBYTES
```

──────────  **End of Procedure**  ──────────

# Configuring DSP Daughterboard Voice gateway channels

Procedure 67 on describes how to configure DSP Daughterboard Voice gateway channels using the CLI.

**Procedure 67**
**Configure DSP Daughterboard Voice gateway channels (CLI)**

**1** .Enter LD 14

```
>ld 14

REQ  new 32

TYPE vgw

TN  4 0 0 0

DES  db32

XTRK db32

CUST 0

NEW TRK    TN  004 0 00 00    RT  0    MB  0

MEM AVAIL: (U/P): 15721651    USED U P: 6241131 26590
TOT: 21989372

DISK SPACE NEEDED: 24 KBYTES

2MB BACKUP DISKETTE(S) NEEDED: 1  (PROJECTED LD43 - BKO)

TNS              AVAIL: 32751   USED:   16   TOT: 32767

...

>ld 20

REQ: prt

TYPE: vgw

TN  <enter>

CDEN <enter>
```

```
CUST <enter>
XTRK <enter>
DATE <enter>
PAGE <enter>
DES  DB32
TN   004 0 00 00  VIRTUAL
TYPE VGW
CUST 0
XTRK DB32
ZONE 004
...
```

**End of Procedure**

Procedure 68 on describes how to configure DSP Daughterboard Voice gateway channels using Element Manager.

**Procedure 68**
**Configure DSP Daughterboard Voice gateway channels**
**(Element Manager)**

**1** Enter the Gateway IP addresses and Voice LAN IP addresses. If the MGC has DSP daughterboards connected, select the type and enter the IP addresses.

**Figure 89**
**IPMG MGC configuration**

Once configuration of the MGC is complete, the following screen appears (see Figure 86):

**2**   The Media Gateways screen lists the superloop and shelf numbers, IP address, zone, and type of the MGC you just configured. Select the **More Actions** drop-down list and select **Add VGW channels**.

**Figure 90**
**Media Gateways**

The following screen appears (see Figure 87):

**3**  In this screen, select the number of required channels, the Terminal Number (the superloop and shelf numbers of the MGC, the card number, and the unit). Provide a name and the daughterboard and customer type. Click **Save**.

**Figure 91**
**Add VGW channels**

The following screen appears (Figure 88):

The MGC you configured has been added to the list.

**Figure 92**
**VGW Channels - IPMG**

# Configuring card data in CS 1000E

# Upgrading MG 1000T hardware

## Removing the SSC card from the MG 1000T

**Procedure 69**
**Removing the SSC Card**

**1**   Unscrew and unlatch the SSC card.

**2**   Remove the SSC card from its slot.

> **IMPORTANT!**
>
> The SSC card should be preserved for a minimum of 5 days.

———— **End of Procedure** ————

## Installing a DSP Daughterboard

Table 23 lists the configuration options for Position 1 and 2.

**Table 23**
**DSP Daughterboard configurations**

| Position 1 | Position 2 |
|---|---|
| DB32 (card slot 11) | None |
| None | DB32 (card slot 0) |
| DB32 (card slot 11) | DB32 (card slot 0) |
| DB96 (card slot 11, 12 &13) | None |
| DB96 (card slot 11, 12 &13) | DB32 (card slot 0) |

The following procedure describes how to install a DSP Daughterboard on an MGC card. See Figure 93.

**Figure 93**
**DSP Daughterboard**
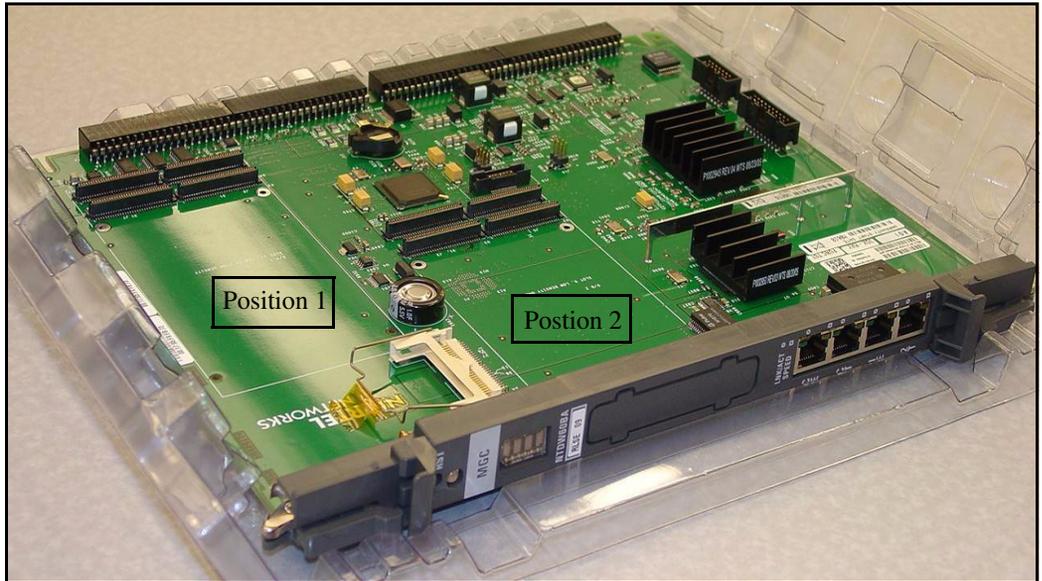


**Procedure 70**
**Installing a  DSP Daughterboard**

**1**     Place the MGC on a safe ESD surface.

**2**     Place the DSP DB in either DB position 1 (for DSP DB-96) or DB position 2 (for DSP DB-32), depending on how the DB will be configured from a TN perspective.

**3**     Ensure the DSP DB is securely attached to the MGC. (using supplied screws).

———————————————— **End of Procedure** ————————————————

# Installing the MGC Card on the MG 1000T

## MGC serial port capabilities

**Table 24**
**MGC Serial Port Capabilities**

| Port | Modem Support? | Used for initial Configuration? |
|------|----------------|--------------------------------|
| SD10 | Yes (requires null modem to connect to a TTY) | Yes |
| SD11 | No (No hardware flow control) | Yes |
| SD12 | No (No hardware flow control) | No (Only available after FPGA is enabled. Not available during initial configuration menu display. |

**Procedure 71**
**Installing the MGC card on the MG 1000T**

> *Note:* The MG 1000T is referred to as an IPMG after the MGC Card is installed.

1   Power down the MG 1000T

2   Remove the SSC Controller

3   Install DSP Daughterboard on the MGC card as describes in Procedure 70 on page 333

4   Insert the new MGC into Slot 0 of the Cabinet

5   Power up the MG 1000E

6   Enter the 'mgcsetup' menu and configure the IP parameters, then reboot the MGC

7   If the Centralized Software Upgrade (CSU) feature is enabled on the Call Server, the firmware for the MGC is downloaded automatically (or if the internal CompactFlash is blank), otherwise initiate the firmware download using Overlay 143 commands.

———————————————    **End of Procedure**    ———————————————

The preceding steps enable users to upgrade the system one MG 1000E at a time.

# Configuring initial IP configuration data on MGC

Note: Coordinate all Nars/Bars and NRS changes to ensure that your cutover plan is designed for minimum downtime.

The MGC must be given a superloop and shelf reference on the Call Server (see Table 25)**.**

**Table 25**
**MGC superloop configuration**

| Loop | Shelf | IPMG # |
|------|-------|--------|
| 000 | 0 | 1 |
| 000 | 1 | 2 |
| 004 | 0 | 3 |
| 004 | 1 | 4 |
| ... | ... | ... |
| 098 | 0 | 49 |
| 098 | 1 | 50 |

**Procedure 72**
**Configuring the MGC on the Call Server**

> *Note:* Initial configuration of the MGC is command line ONLY.

The MGC is shipped with "gold" software in onboard flash memory. If centralized software upgrade is enabled on the Call Server, the MGC is upgraded automatically (or it can be upgraded manually through LD 143).

There are 3 ways to enter mgcsetup:

- If  no IP information exists on the MGC, it will boot directly into the setup menu.

- If IP information does exist, the prompt "Press any key to stop auto-boot and enter mgcsetup…" appears.

- "mgcsetup" may be entered as a shell command.

The MGC Shells can be accessed using the following commands:

- `<CTRL>O<CTRL>A<CTRL>M,` (provide OAM username and password to access OAM shell)

- `<CTRL>L<CTRL>D<CTRL>B,` (provide LDB username and password to access LDB)

**1**    Enter network IP information at the MGC setup menu:

```
Please define the data networking parameters for this MG
1000E now.

Hostname            :  MGC_N313  (optional)

ELAN IP             : 0.0.0.0 192.168.3.33

ELAN subnet mask    : 0.0.0.0 255.255.255.0

ELAN gateway IP     :  192.168.3.1

TLAN IP             : 0.0.0.0 192.168.19.33

TLAN subnet mask    : 0.0.0.0 255.255.255.0

TLAN gateway IP     :  192.168.19.1

Primary CS Hostname :  CS1000E_N313 (optional)
```

```
Primary CS IP        :  192.168.3.32

Leading Secondary CS Hostname :  <enter>

Leading Secondary CS IP       : 0.0.0.0

Secondary CS Hostname :  <enter>

Secondary CS IP       : 0.0.0.0
```

**2**   Enter port and security parameters, if required:

```
Change MGC advanced parameters? (y/[n]) : y

TLAN is set to auto negotiate, change? (y/[n]) : y

Note: Turning off auto negotiate on the TLAN

    : will default it to 100Mbps full duplex.

Set TLAN to auto negotiate? ([y]/n) : y

ELAN is set to auto negotiate, change? (y/[n]) : y

Note: Turning off auto negotiate on the ELAN

    : will default it to 100Mbps full duplex.

Set ELAN to auto negotiate? ([y]/n) : y

ELAN security Disabled, change? (y/[n]) : y

Enable ELAN security ? (y/[n]) : y

Enter security level OPTI, FUNC or FULL : opti

Note: Spaces ~ * ` @ [ ] and # are not supported in
passwords.

Please input PSK(16-32 chars): (input is not echoed)

Strength of PSK: Weak

Please reenter PSK(16-32 chars): (input is not echoed)
```

**3**    Review the network information and enter "y" to confirm.

```
You have entered the following parameters for this MG
1000E:

Hostname            : MGC_N313

ELAN IP             : 192.168.3.33

ELAN subnet mask    : 255.255.255.0

ELAN gateway IP     : 192.168.3.1

TLAN IP             : 192.168.19.33

TLAN subnet mask    : 255.255.255.0

TLAN gateway IP     : 192.168.19.1

Primary CS Hostname : CS1000E_N313

Primary CS IP       : 192.168.3.32

Alternate CS 1 Hostname :

Alternate CS 1 IP      : 0.0.0.0

Alternate CS 2 Hostname :

Alternate CS 2 IP      : 0.0.0.0

TLAN set to auto negotiate.

ELAN set to auto negotiate.

ELAN security Enabled, level is Optimized Security

Is this correct? (y/n/[a]bort) : y
```

**4**    IP changes require a reboot.  Enter "y" at the prompt .

```
Do you want to continue? (y/n/[a]bort) : y

reboot(-1) has been called...
```

After reboot, the MGC connects to the CS and downloads the remaining configuration information.

If centralized software upgrade has been enabled, the MGC will upgrade its loadware by downloading it from the CS.

Once the MGC has registered, the LED display will show the superloop and shelf (eg: 4 0) of the IPMG. Otherwise, it will show "UNRG."

———— **End of Procedure** ————

# Connecting the ethernet cables to the IPMG

## MGC Ethernet Capabilities

An MGC features 6 Ethernet interfaces set to autonegotiate by default. See Figure 94 on .

The MGC backplane connections are as follows:

- E – ELAN, dual homed with faceplate 1E.

- T – TLAN, dual homed with faceplate 2T.

MGC dual-homing considerations are as follows:

- If only one port is connected, it is made active

- If two ports are connected, only one port is made active

- If connection to the active port is lost, the MGC switches to the inactive one

**Figure 94**
**MGC Ethernet capabilities**
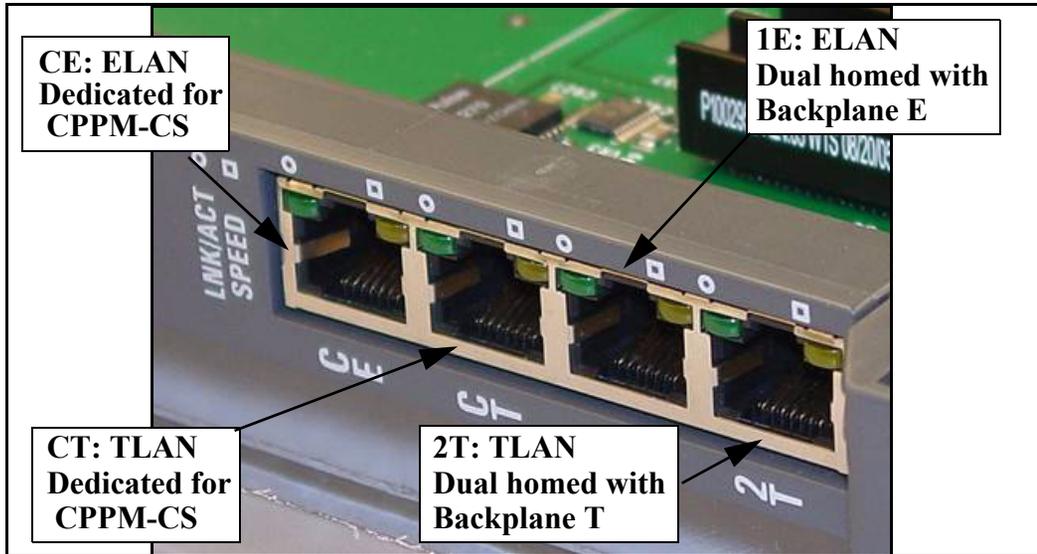
# Installing a new keycode

## Contents

This section contains information on the following topics:

## Introduction

Adding new features and/or modifying License limits requires the installation of a new keycode. Keycodes are delivered by a portable media appropriate for the processor type (floppy diskette for CPT and CP PII, Compact Flash [CF] for CP PIV) or electronic file transfer. They are installed using the keycode management commands in LD 143 or the Software Installation Tool.

---

**IMPORTANT!**

To ensure proper formatting of a CF card, you must use the PC utility (mkbootrmd.exe) found in the utilities folder of the downloaded software image. For more information, read the README_BOOTABLE_RMD.txt file.

---

The following procedures outline the steps to install a new keycode (using the keycode commands in LD 143) that can be activated "instantly" or that requires a Sysload (Cold Restart). More information on the "Instant License" feature can be found in *Features and Services* (NN43001-106).

This section describes how to install a keycode using the commands listed below:

**Table 26**
**Keycode installation**

| Keycode delivery | Keycode Installation command |
|---|---|
| Diskette for CPT (CP3/CP4) | Use the KNEW F0 for Core 0 and KNEW F1 for Core 1 command in LD 143. |
| Diskette for CP PII | Use the KNEW F0 command for both Core 0 and Core 1 in LD 143. |
| CF card for CP PIV | Use the KNEW RMD command for both Core 0 and Core 1 in LD 143. |
| Electronic file on a PC | Use the KUPL command in LD 143, followed by the KNEW HD (CP PII and CPT) or KNEW FMD (CP PIV) command (see note). |
| Faxed to the customer site (paper-based keycode) | Use the KMAN command in LD 143, followed by the KNEW HD (CP PII and CPT) or KNEW FMD (CP PIV) command. |

*Note 1:* For a CP PIV RMD, the new keycode must be in a file directory called keycode. The CF card used for this purpose must be formatted using the PC utility (mkbootrmd.exe) found in the utilities folder of a CP PIV downloaded software image.

*Note 2:* If the keycode is downloaded from the Keycode Distributor Server (KDS), use the KUPL command to install the keycode. Refer to *CS 1000M and Meridian 1 Large System Upgrades Overview* (NN43021-458) for more information about KDS.

# Feature operation

Feature operation is further broken down into five options:

- Feature and License parameter upgrade using a keycode delivered on a floppy diskette (CPT and CP PII)

- Feature and License parameter upgrade using a keycode delivered on a CF card (CP PIV)

- Upgrade feature and License parameter using HyperTerminal

- Upgrade feature and License parameter entered manually

- Revert to the previous keycode with the KRVR command

## Feature and License parameter upgrade using a keycode delivered on a floppy diskette

Follow the steps in Procedure 73 on to perform a feature and License parameter upgrade using a floppy diskette. The floppy diskette must be a standard 2 MB floppy diskette IBM formatted to 1.44 MB.

Leave the system in full redundant mode (hard-disk and CPU redundancy).

**Procedure 73**
**Performing a feature and License parameter**
**upgrade**

**1**   Log in on a system terminal and load LD 143.

>**LD 143**
**CCBR000**

**.**

**2**   Insert the new keycode floppy diskette into the floppy drive on the active Core.

**3**   Print the pending keycode contents.

KSHO F0, F1          print the contents of the candidate keycode in the floppy drive on the active Core. Where:

F0 = Core 0 (CPT)

F0 = Core 0 or 1 (CP PII only)

F1 = Core 1 (CPT only)

**4**    Enter the KDIF command and select keycode comparison options.

*Note:* Ensure that the new keycode does not lower License limits or reduce features compared with the existing keycode. If it has been determined that the keycode lowers License limits or reduces features, do not continue with the KNEW command. Contact the Nortel order management representative.

. KDIF
Please use: KDIF <param1> <param2> with the following parameters:

| | |
|---|---|
| **NEW** | Accepted new keycode |
| **REC** | Currently used keycode |
| **OLD** | Previously used keycode |
| **F0** | Candidate keycode on diskette in /f0 floppy drive |
| **F1** | Candidate keycode on diskette in /f1 floppy drive |
| **HD** | Candidate keycode which was uploaded to hard disk |

Enter the keycode comparison option. The new keycode option is shown in **bold**.

*Note:* In the following example, the (REC) currently used keycode will be compared with the new keycode disk in floppy drive F0. The limits shown are for example purposes only.

.**KDIF REC F0**
Validating Keycode File /p/install/keycode.rec... OK
Validating Keycode File /f0/keycode.kcd... OK

| System parameters | 1st keycode | 2nd keycode |
|---|---|---|
| System Serial Number | : 46XX | 46XX |
| Software Version | : 2511 | 2511 |
| System Type | : Meridian 1 Option 61C | Meridian 1 Option 61C |
| Call Processor | : CP68060 | CP68060 |
| Release | : CS 1000 Release 5.0 | CS 1000 Release 5.0 |
| Issue | : XX | XX |
| NTI Order Number | : | |
| NT SDID - 1 | : | |
| NT SDID - 2 | : | |
| Date and Time of Manufacture | : | |

*Note:* (:) indicates that information is not available

| License Limits | 1st keycode | 2nd keycode |
|---|---|---|
| Loop Limit | : 32 | 32 |
| Sys TNs Limit | : 0 | 200 |
| ACD Agt Limit | : 10 | 10 |
| ACD DNs Limit | : 10 | 10 |
| AST Limit | : 10 | 10 |

......

Common packages for both keycodes:
0-2 4-5 7-25 28-29 32-55 58-65

......

Additional packages in the 2nd keycode:

<   **30-31**

.

**5**    Select the new keycode for activation using the KNEW command.

**KNEW F0 (KNEW F1 if Core 1 is active on CPT only)**

The uploaded keycode is validated against the security device.

If the following system message is displayed:

**CCBR020 New Keycode accepted and activated successfully**.

Sysload is not needed!

This means that the new keycode is eligible for instant activation and no further user action is required. Go to steps 6 and 7.

If the keycode is not eligible for instant activation, a Sysload is needed to activate the new keycode and the following system message is displayed:

**CCBR009 New Keycode accepted. New License limits and feature packages will be activated during the next Sysload (Cold Restart).**

Go to step 8.

6 Load LD 22 and confirm that the new License parameters have been updated.

>**LD 22**
**REQ SLT**

**....**

If License limits are correct, then the keycode installation is complete.

See "Reverting to the previous keycode with the KRVR command" on page 356 if License limits are not increased or problems exist.

7 Once it is confirmed that the keycode changes taken effect as expected, perform a data dump in LD 43.

8 For keycodes that are not eligible for Instant License, place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

For CPT use Procedure 78.

For CP PII and CP PIV use Procedure 79.

———— **End of Procedure** ————

## Feature and License parameter upgrade using a keycode delivered on a CF card (CP PIV)

A directory must be created on the CF card (RMD) named "keycode". The following rules apply:

• All keycode files must reside in this directory

• The directory can contain up to 20 different keycodes

• The keycode filenames must be unique

• The keycode filenames can contain up to eight characters, and must end with a .kcd extension.

Follow the steps in Procedure 74 on page 348 to perform a feature and License parameter upgrade using a keycode delivered on a CF card (CP PIV).

Leave the system in full redundant mode (hard-disk and CPU redundancy).

**Procedure 74**
**Performing a feature and License parameter upgrade**
**using a keycode delivered on a CF card (CP PIV).**

**1**  Log in on a system terminal and load LD 143.

>    **>LD 143**
>    **CCBR000**
>    **.**

**2**  Insert the new keycode CF card into the CF drive on the active Core.

**3**  Print the pending keycode contents.

| | |
|---|---|
| **KSHO RMD** | print the contents of the candidate keycode in the CF drive on the active Core. Where: |
| | RMD = Core 0 or 1 (CP PIV only) |

**4**  Enter the KDIF command and select keycode comparison options.

*Note:*  Ensure that the new keycode does not lower License limits or reduce features compared with the existing keycode. If it has been determined that the keycode lowers License limits or reduces features, do not continue with the KNEW command. Contact the Nortel order management representative.

>    . KDIF
>    Please use: KDIF <param1> <param2> with the following parameters:

| | |
|---|---|
| **NEW** | Accepted new keycode |
| **REC** | Currently used keycode |
| **OLD** | Previously used keycode |
| **RMD** | Candidate keycode on removable CF card |
| **FMD** | Candidate keycode on fixed CF card |

Enter the keycode comparison option. The new keycode option is shown in **bold**.

*Note:*  In the following example, the (REC) currently used keycode will be compared with the new keycode file on the CF card. If choosing from multiple keycode files, ensure you select the correct keycode file. The system limits shown are for example purposes only.

.**KDIF REC RMD**
Validating Keycode File /p/install/keycode.rec ... OK

The following keycode files are available on the removable media:

Name                          Size      Date         Time

--------------------          ------    ----------   -------

 <CR> -> <1> - site_A.kcd      1114   Apr-06-2006    10:09
        <2> - KEYCODE.KCD   1114   Mar-28-2006   11:11

    <q> - Quit

    Enter choice>


Validating Keycode File /cf2/keycode/KEYCODE.KCD ... OK

| System parameters | 1st keycode | 2nd keycode |
|---|---|---|
| System Serial Number | : 46379 | 46379 |
| Software Version | : 3521 | 3521 |
| System Type | : Option 61C | Option 61C |
| Call Processor | : CP PIV | CP PIV |
| Release | : 4 | 4 |
| Issue | : 50 | 50 |
| NTI Order Number | : | |
| NT SDID - 1 | : | |
| NT SDID - 2 | : | |
| Date and Time of Manufacture | : | |

   ***Note:*** (:) indicates that information is not available

| License Limits | 1st keycode | 2nd keycode |
|----------------|-------------|-------------|
| Loop Limit | : 32 | 32 |
| Sys TNs Limit | : 0 | 200 |
| ACD Agt Limit | : 10 | 10 |
| ACD DNs Limit | : 10 | 10 |
| AST Limit | : 10 | 10 |

......

Common packages for both keycodes:
0-2 4-5 7-25 28-29 32-55 58-65

......

Additional packages in the 2nd keycode:

<    **30-31**

.

**5**   Select the new keycode for activation using the KNEW command.

   **KNEW RMD**

| | **CAUTION** |
|---|---|
| ⚠ | A menu appears prompting the user to choose from multiple keycode files. Ensure you select the correct keycode file. |

The uploaded keycode is validated against the security device.

If the following system message is displayed:

**CCBR020 New Keycode accepted and activated successfully**.

Sysload is not needed!

This means that the new keycode is eligible for instant activation and no further user action is required. Go to steps 6 and 7.

If the keycode is not eligible for instant activation, a Sysload is needed to activate the new keycode and the following system message is displayed:

**CCBR009 New Keycode accepted. New License limits and feature packages will be activated during the next Sysload (Cold Restart).**

Go to step 8.

**6**   Load LD 22 and confirm that the new License parameters have been updated.

   **>LD 22**
   **REQ SLT**
   **....**

If License limits are correct, then the keycode installation is complete.

See "Reverting to the previous keycode with the KRVR command" on if License limits are not increased or problems exist.

**7**   Once it is confirmed that the keycode changes taken effect as expected, perform a data dump in LD 43.

**8** For keycodes that are not eligible for Instant License, place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

For CPT use Procedure 78.

For CP PII and CP PIV use Procedure 79.

———————— **End of Procedure** ————————

## Feature and License parameter upgrade using HyperTerminal®

Follow the steps in Procedure 75 to perform a feature and License parameter upgrade using HyperTerminal®. Leave the system in full redundant mode (hard-disk and CPU redundancy).

**Procedure 75**
**Performing a feature and License parameter**
**upgrade**

**1** On a PC, access the system (through a modem) with HyperTerminal®:

Click the Start button | Programs | Accessories | HyperTerminal.

**2** Double-click the HyperTerminal client to the system.

**3** Log into the system.

**4** Load the Keycode Management Program (LD 143).

| | |
|---|---|
| **LD 143** | Load program |
| **KUPL** | Upload keycodes to the hard disk or FMD on the target system |

**5** Click the **Transfer** menu in HyperTerminal and select **Send Text File**.

**6** From the **Files of type** pull-down menu, select **All Files (\*.\*)**.

**7** Locate and select the keycode file on the PC. Use the **Look in** pull-down menu to select the drive on which the keycode is located.

**8** Click **Open**.

The keycode is displayed after the KUPL prompt.

Example:

KUPL    0001PBX 0101
9FPAMSRHNN17KRUQAFFSPREQEVMTHIDHRKDJHRKEJR56

**9**    Press the Enter key.

The Keycode is checked for CRC errors and is uploaded to the hard disk or Fixed Media Device (FMD).

Enter the following command:

**KDIF REC HD**    Compare the existing keycode with the new
                   keycode on the hard disk
**KDIF REC FMD**   Compare the existing keycode with the new
                   keycode on the FMD

Ensure that the new keycode does not lower License limits or reduce features compared with the existing keycode. If it is determined that the keycode lowers License limits or reduces features, do not continue with the KNEW command. Contact the Nortel order management representative.

**10**   Select the new keycode for activation using the KNEW command.

  **KNEW (refer to Table 26 on page 342 for correct command syntax)**

The uploaded keycode is validated against the security device.

If the following system message is displayed:

**CCBR020 New Keycode accepted and activated successfully. Sysload is NOT needed!**

This means that the new keycode is eligible for instant activation and no further user action is required. Go to steps 11 and 12.

If the keycode is not eligible for instant activation, a Sysload is needed to activate the new keycode. The following system message is displayed:

**CCBR009 New Keycode accepted. New License limits and feature packages will be activated during the next Sysload (Cold Restart).**

Go to step 13.

**11**   Load LD 22 and confirm that the new License parameters have been updated.

>LD 22
REQ SLT
....

If License limits are correct, then the keycode installation is complete.

See "Reverting to the previous keycode with the KRVR command" on page 356 if License limits are not increased or problems exist.

**12** Once it is confirmed that the keycode changes taken effect as expected, perform a data dump in LD 43.

**13** For keycodes that are not eligible for Instant License, place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

For CPT use Procedure 78.

For CP PII and CP PIV use Procedure 79.

———————— **End of Procedure** ————————

## Feature and License parameter upgrade entered manually

Before beginning this procedure, obtain a copy of the keycode. The keycode can reside on paper or as an electronic file. To enter the keycode manually, type the keycode in LD 143 as 21 lines, 16 characters per line.

Follow the steps in Procedure 76 on page 354 to perform a feature and License parameter upgrade manually.

**Procedure 76**
**Performing a feature and License parameter upgrade manually**

**1** Log into the system.

**2** Load the Keycode Management Program (LD 143).

| | |
|---|---|
| **LD 143** | Load program |
| **KMAN** | Manually enter the keycode to the target system |

**3** Type the keycode file, 21 lines of 16 characters each. Press **Return** to go to the next line.

*Note:* When entering the keycode, do not enter the header information that proceeds the keycode.

**4** Type "end" at line 22 to end the process.

**5** Press **Enter**. The new keycode file is saved on the hard disk or FMD.

Enter the following command:

**KDIF REC HD**       Compare the existing keycode with the new
                      keycode on the hard disk.

**KDIF REC FMD**      Compare the existing keycode with the new
                      keycode on the FMD

Ensure that the new keycode does not lower License limits or reduce features compared with the existing keycode. If it is determined that the keycode lowers License limits or reduces features, do not continue with the KNEW command. Contact the Nortel order management representative.

6   Select the new keycode for activation using the KNEW command.

    **KNEW (refer to Table 26 on for correct command syntax)**

    The uploaded keycode is validated against the security device.

    If the following system message is displayed:

    **CCBR020 New Keycode accepted and activated successfully. Sysload is NOT needed!**

    This implies that the new keycode is eligible for instant activation and no further user action is required. Go to step 7 and 8.

    If the keycode is not eligible for instant activation, a Sysload is needed to activate the new keycode. The following system message is displayed:

    **CCBR009 New Keycode accepted. New License limits and feature packages will be activated during the next Sysload (Cold Restart).**

    Go to step 9.

7   Load LD 22 and confirm that the new License parameters have been updated.

    **>LD 22**
    **REQ SLT**
    **....**

    If License limits are correct, then the keycode installation is complete.

    See "Reverting to the previous keycode with the KRVR command" on if License limits are not increased or problems exist.

**8**    Once it is confirmed that the keycode changes have taken effect as expected, perform a data dump in LD 43.

**9**    For keycodes that are not eligible for Instant License, place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

For CPT use Procedure 78.

For CP PII and CP PIV use Procedure 79.

——————— **End of Procedure** ———————

# Reverting to the previous keycode with the KRVR command

The terms "old" and "new" keycode, as discussed here, refer to the most recent previous KNEW command. The "old" keycode is the former keycode, prior to the KNEW command. The "new" keycode is the keycode that was activated by the KNEW command. Use KRVR command (as shown in Procedure 77) to revert to the old keycode.

**Procedure 77
Revert to old keycode**

**1**    Log in to the system.

**2**    Load the Keycode Management Program (LD 143).

**LD 143**       Load program
**KRVR**        Replaces the keycode.rec with the keycode.old
                file.

The old keycode is eligible for instant activation with the KRVR command if the only difference between the old keycode and the new keycode is that some or all of the License parameters in the old keycode are *higher*.

If the old keycode is eligible for instant activation, it is activated without further user action. The following system message is displayed:

**CCBR020 New Keycode accepted and activated successfully. Sysload is NOT needed!**

If the keycode is not eligible for instant activation, a Sysload is needed to activate the old keycode and the following system message is displayed:

**CCBR009 New Keycode accepted. New License limits and feature packages will be activated during the next Sysload (Cold Restart).**

Go to step 5.

**3**    Load LD 22 and confirm that the new License parameters have been updated.

>LD 22
REQ SLT
....

If License limits are correct, then the keycode installation is complete.

**4**    Once it is confirmed that the keycode changes taken effect as expected, perform a data dump in LD 43.

**5**    For keycodes that are not eligible for Instant License, place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

For CPT use Procedure 78.

For CP PII and CP PIV use Procedure 79.

———————————————— **End of Procedure** ————————————————

**Procedure 78**
**Parallel reload for CPT**

Place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

**1**    Be sure CP 0 is active and CP1 is standby. It might be necessary to switch CPs:

> **LD 135**
>
> **STAT CPU**
>
> **SCPU**         Switch CPUs if necessary
>
> **\*\*\*\***         Exit program

**2**    Verify that IODU/C 0 is active. It might be necessary to switch IODU/Cs.

> **LD 137**
>
> **STAT**         Get the status of IODU/C
>
> **SWAP**         Switch IODU/Cs if necessary
>
> **\*\*\*\***         Exit program

**3**    In Core 0, set the CP card MAINT/NORM switch to MAINT.

**4**    In Core 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

**5**    Connect a terminal to J25 of Core 1 to monitor reload. Terminal settings are:

> — 9600 BAUD, 8 bits, no parity and 1 stop bit (8N1)

**6**    In Core/Net 1, perform the following three steps in uninterrupted sequence:

> — Press and hold the MAN RST button on the CP card
>
> — Set the MAINT/NORM switch on the CP card to MAINT
>
> — Release the MAN RST button

A Sysload begins (cold start).

**7**    Wait until sysload and INI have completed.

8    In the inactive core (Core 1), load Overlay 143 and confirm that the new License parameters have been updated.

>**LD 143**
**KSHO REC (show currently used keycode)**
**....**

9    Compare license parameters from memory to keycode.rec.

>**LD 22**
**SLT (show current license limits active on system)**
**...**

10   Compare package parameters from memory to keycode.rec

>**LD 22**
**PRT**
**PKG (show current software packages active on system)**
**...**

11   Switch call processing from the active core (Core 0) to the inactive core (Core 1).

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> Call Processing will be interrupted! Perform these next steps carefully and quickly. This is the point at which service is interrupted. Calls in progress are interrupted.

a.   In Core 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

b.   In Core 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS. Call Processing is interrupted.

c.   In Core 1, press the MAN INT button. Call processing is switched from Core 0 to Core 1 when the warm restart is completed.

> The previously inactive core (Core 1) with the new keycode now becomes active.

**12** Return the system to redundant mode, synchronizing the memory and hard drive of the inactive core with the active core. Perform the following actions:

   **a.** Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.

   **b.** Perform the following in uninterrupted sequence:

     — Press and release the MAN RST button in Core/Net 0.

     — When SYS700 messages appears on LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

    In 60 seconds, the LCD displays and confirm the processes with:

    RUNNING ROM OS

    ENTERING CP VOTE

    An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on the Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

   **c.** In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

**13** Synchronize the hard disks.

   **a.** Load LD 137 and synchronize the hard disks. Synchronization can take up to 50 minutes. To be sure that the contents of IODU/C 1 hard disk are copied to IODU/C 0 hard disk, verify that IODU/C 1 is active.

| **LD 137** | |
| --- | --- |
| **STAT** | Get the status of the IODU/C and redundancy |
| **SYNC** | Enter "Yes" to synchronize disks (Wait until the memory synchronization successfully completes before continuing) |
| **TEST CMDU** | Performs hard and floppy disk test |

**14** Test Core/Net 1 and Core/Net 0. Perform the following actions:

**a.** Perform a redundancy sanity test using the following sequence:

**LD 135**

| | |
|---|---|
| **STAT CNI** | Get status of CNI cards |
| **STAT CPU** | Get status of CPU and memory |
| **TEST CPU** | Test the inactive Core/Net |
| **TEST CNI c s** | Test each inactive CNI card |

**b.** Switch Cores and test the other side (Core/Net 0)

| | |
|---|---|
| **SCPU** | Switch cores |
| **TEST CPU** | Test the inactive Core/Net |
| **TEST CNI c s** | Test each inactive CNI card |

*Note:* Testing the CP and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the CP test is complete, the CP the memory is automatically synchronized.

**c.** Clear the display and minor alarms on both Cores.

| | |
|---|---|
| **CDSP** | Clear the displays on the Cores |
| **CMAJ** | Clear major alarms |
| **CMIN ALL** | Clear minor alarms |

**d.** Get the status of the Cores, CNIs, and memory.

| | |
|---|---|
| **STAT CPU** | Get the status of both Cores |
| **STAT CNI** | Get the status of all configured CNIs and memory |

*Note:* It might be necessary to execute the STAT CNI command twice before receiving a response from the system.

| | |
|---|---|
| **\*\*\*\*** | Exit program |

**15**   Perform a data dump. The messages "DATADUMP COMPLETE" and
"DATABASE BACKUP COMPLETE" will appear once the data dump is
complete.

**LD 43**

**EDD**                        Begin the data dump

**\*\*\*\***                   Exit program

─────────────── **End of Procedure** ───────────────

**Procedure 79**
**Parallel reload for CP PII and CP PIV**

Place the system in split mode. This puts a redundant (shadowed) system into
single (non-shadowed) mode.

**1**   Connect a terminal to J25 of Core 1 to monitor reload. Terminal settings
are:

— 9600 BAUD, 8 bits, no parity and 1 stop bit (8N1)

**2**   Ensure CP 0 is active and CP1 is standby. It might be necessary to switch
CPs and split the Cores:

**LD 135**

**STAT CPU**

**SCPU**                       Switch CPs if necessary

**SPLIT**                      Split CPs (CP 1 reloads)

**\*\*\*\***                   Exit program

**3**   Wait until sysload and INI have completed.

**4**   In the inactive core (Core 1), load Overlay 143 and confirm that the new
License parameters have been updated.

**>LD 143**
**KSHO REC (show currently used keycode)**
**....**

**5** Compare license parameters from memory to keycode.rec.

>**LD 22**
**SLT (show current license limits active on system)**
**....**

**6** Compare package parameters from memory to keycode.rec

>**LD 22**
**PRT**
**PKG (show current software packages active on system)**
**...**

**7** Switch call processing from the active core (Core 0) to the inactive core (Core 1). This command must be issued from active Core 0.

| | |
|---|---|
| ⚠️ | **CAUTION — Service Interruption**<br><br>**Service Interruption**<br><br>Call Processing will be interrupted! |

**LD 135**

| | |
|---|---|
| **CUTOVR** | Force Core 1 to become active |
| **\*\*\*\*** | Exit program |

| | |
|---|---|
| ✔️ | The previously inactive core (Core 1) with the new keycode now becomes active. |

**8** Return the system to redundant mode, synchronizing the memory and hard drive of the inactive core with the active core. From the active Core (Core 1) enter LD 135:

**LD 135**

**STAT CPU**

| | |
|---|---|
| **JOIN** | Synchronize CPs with CP 1 as master |
| **\*\*\*\*** | Exit program |

**9**    Wait until synchronization of memory drives is completed.

**10**    From the active Core (Core 1) enter LD 135 and obtain the health status of the Cores:

**LD 135**

**STAT CPU**

**STAT HEALTH**    CP 1 and 0 should have identical health

**\*\*\*\***              Exit program

**11**    Perform a datadump. The messages "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" will appear once the data dump is complete.

| LD 43 | |
|-------|-------------------|
| **EDD** | Begin the data dump |
| **\*\*\*\*** | Exit program |

———————————— **End of Procedure** ————————————

# Parallel reload procedures

Use these procedures to perform a parallel reload for maintenance purposes only.

## Perform a Data Dump

**Procedure 80**
**Performing a data dump**

1   Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

    **LD 43**          Load program

2   When "EDD000" appears on the terminal, enter:

    **EDD**          Begin the data dump

3   When "DATABASE BACKUP COMPLETE" or "DATADUMP COMPLETE" appears on the terminal, enter:

    **\*\*\*\***          Exit program

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump is not successful, do not continue. Contact the technical support organization. A data dump problem must be corrected before proceeding.

——————  **End of Procedure**  ——————

# Determine status (STAT) of the hardware

**Procedure 81**
**Obtaining hardware status**

1   Load LD 137 and get status of the hard disks.

*Note:*  Be sure the hard disks are synchronized. If not, synchronize before proceeding.

| | |
|---|---|
| **LD 137** | Load program |
| **STAT** | Get the status of the hard disks |
| **SYNC** | Synchronize hard disks if necessary (Synchronization may take up to 50 minutes) |
| **TEST CMDU** | Performs hard and floppy disk test |
| **\*\*\*\*** | Exit program |

2   Load LD 135 and determine the status of the CPs, CNIs and memory.

| | |
|---|---|
| **LD 135** | Load program |
| **STAT CPU** | Get the status of both CPs and memory |
| **STAT CNI** | Get the status of all configured CNIs |

3   Test the standby (inactive) CP. Then switch CPs, and test again.

| | |
|---|---|
| **TEST CPU** | Test standby (inactive) CP |

Wait until the terminal returns a complete test message. The message "HWI533 or HWI534" does not mean the test has completed!

| | |
|---|---|
| **SCPU** | Switch CPs |
| **TEST CPU** | Test the standby (inactive) CP |

*Note:*  Testing the CPs can take up to 20 minutes for each test. When the test is complete, the memories are automatically synchronized.

———————— **End of Procedure** ————————

## Split the Core processors

**Procedure 82**
**Splitting the Core processors**

1    Be sure CP 0 is active and CP1 is standby. If necessary, switch CPs again:

   **STAT CPU**

   **SCPU**          Switch CPs (if necessary)

   **\*\*\*\***          Exit program

2    Verify that IODU/C 0 is active. If necessary, switch IODU/Cs.

   **LD 137**

   **STAT**          Get the status of IODU/C

   **SWAP**          Switch IODU/Cs (if necessary)

   **\*\*\*\***          Exit program

3    Connect a terminal from the CPSI port in Core/Net 1 to J25 of the I/O panel at the back of the Core/Net. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.

   **7 data bits, 1 stop bit, Space parity, Full-duplex, XON protocol**

4    Place CP 0 in Maintenance by setting the MAINT/NORM switch to MAINT.

5    In Core/Net 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

**6**    Place CP1 in Maintenance by setting the MAINT/NORM switch to MAINT.

*Note:* Core 1 will now sysload. Allow the system to complete the sysload and INI. Review any sysload errors and correct before proceeding.

System is now is split mode, Core 0 active, Clock Controller 0 is active if equipped with FNF. Rings are in half/half mode.

———————————— **End of Procedure** ————————————

## Exit split mode

**Procedure 83**
**Exiting the split mode**

**1**    Connect CPSI port or maintenance SDI port.

**2**    Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.

**3**    Perform the following in uninterrupted sequence:

- Press and release the MAN RST button in Core/Net 0.

- When SYS700 messages appears on the LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

In 60 seconds, the LCD lights and confirms the processes with:

   **RUNNING ROM OS**

   **ENTERING CP VOTE**

An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

**4**    In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

———————————— **End of Procedure** ————————————

## Test Core/Net 1 and Core/Net 0

**Procedure 84**
**Testing Core/Net 0 and Core/Net 1**

1    Perform a redundancy sanity test using the following sequence:

   **LD 135**

   **STAT CNI**          Get status of CNI cards

   **STAT CPU**          Get status of CPU and memory

   **TEST CPU**          Test the inactive Core/Net/Net

   **TEST CNI c s**      Test each inactive CNI card

2    Switch Core/Nets and test the other side (Core/Net 0)

   **SCPU**              Switch Core/Nets

   **TEST CPU**          Test the inactive Core/Net/Net

   **TEST CNI c s**      Test each inactive CNI card

   ***Note:*** Testing the Call Processor and CNI cards and synchronizing
   memory can take up to 20 minutes for each test. When the Call Processor
   test is complete, the Call Processor the memory is automatically
   synchronized.

3    Clear the display and minor alarms on both Core/Nets.

   **CDSP**         Clear the displays on the Core/Nets

   **CMAJ**         Clear major alarms

   **CMIN ALL**     Clear minor alarms

**4**    Get the status of the Core/Nets, CNIs, and memory.

>    **STAT CPU**    Get the status of both Core/Nets

>    **STAT CNI**    Get the status of all configured CNIs and memory

>    *Note:* You may need to execute the STAT CNI command twice before receiving a response from the system.

>    **\*\*\*\***    Exit program

─────────── **End of Procedure** ───────────

**Procedure 85**
**Switching the Clocks**

**1**    Verify that the clock controller is assigned to the *active* Core.

>    **LD 60**    Load the program

>    **SSCK** *x*    Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1)

>    **SWCK**    Switch the Clock (if necessary)

>    **\*\*\*\***    Exit program

**2**    Verify that the Clock Controllers are switching correctly.

>    **SWCK**    Switch the Clock

>    **SWCK**    Switch the Clock again

─────────── **End of Procedure** ───────────

## Synchronize the hard disks

**Procedure 86**
**Synchronizing the hard disks**

1   Access LD 137 and synchronize the hard disks. Synchronization can take up to 50 minutes. To ensure that the contents of IODU/C 1 are copied to IODU/C 0, verify that IODU/C 0 is disabled.

| | |
|---|---|
| **LD 137** | Load program |
| **STAT** | Get the status of the IODU/C and redundancy |
| **SYNC** | Enter "Yes" to synchronize disks<br>(Wait until the memory synchronization<br>successfully completes before continuing) |
| **TEST CMDU** | (Perform hard and floppy disk test) |

2   Get the status of the CMDU's and be sure CMDU 0 is active. Switch if necessary.

| | |
|---|---|
| **STAT** | Get the status of IODU/C and redundancy |
| **SWAP** | Switch CMDU (if necessary) |
| **STAT CMDU** | Get the status of the IODU/Cs<br>(Be sure the same IODU/C and CPU are active) |
| **\*\*\*\*** | Exit program |

──────── **End of Procedure** ────────

# Upgrade checklists

## Contents

This section contains information on the following topics:

## 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 27**
**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 28**
**Upgrade details**

| | |
|---|---|
| Current Software - Generic | |
| Target Software - Generic | |
| Hardware being added | |
| Feature Upgrade | |
| License Upgrade | |

# Pre-upgrade checklists

## Software Upgrade

### Software audit

**Table 29**
**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 30**
**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 31**
**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 32**
**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 32**
**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 will new software if required |
| Ld 117 - PRT SEL 500 - Same as above |

# Post-conversion checks

**Table 33**
**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

This chapter contains utilities that are useful during a system upgrade. To access these utilities, follow Procedure 87 "Accessing the Utilities menu" on .

## 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 87**
**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 bootup 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 397.

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 382.

**Procedure 88**
**Verifying and upgrading boot ROM**

**1** From the **Utilities** menu (Procedure 87 on page 380), 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:*  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 89 on when upgrading the software on the MG 1000E with the Centralized Software Upgrade feature ().

---

### 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 89 to upgrade the bootROM on the SSC card.

**Procedure 89**
**Upgrading bootROM on the SSC card**

**1**   Access the Utilities menu (see Procedure 87 on ).

**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 90 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 90**
**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.

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 384.

    b.   Enter **2 <CR>** (Remove Customer database), and go to Step 8 on
         page 385.

    c.   Enter **3 <CR>** (Archive a Customer database), and go to Step 9 on
         page 385.

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 91 to install an archived database using a Software Delivery card.

**Procedure 91**
**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 .

———————————— **End of Procedure** ————————————

# Restore a database

Procedure 92 is an advanced installation procedure or a rescue operation.

**Procedure 92**
**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 .

**c.**   If selecting item 3, go to Step 7 on .

**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 389.

**c.**  If not restoring the database, type **n** (for no), press **<CR>**, and return to Step 3 on page 387.

**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 389.

**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 93 describes how to obtain an installation summary.

**Procedure 93**
**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            : 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 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 94 describes how to revert to the previous release of software using the Software Delivery Card.

> *Note:* This procedure is a rescue operation.

**Procedure 94**
**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 95 to download software from the Nortel Software Download web site

**Procedure 95**
**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 5.0 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

<table>
<tr><td>⚠️</td><td><strong>WARNING</strong><br>Ensure that the MG 1000Es and the MG 1000T Expansions do not contain a Software Delivery Card during the Centralized Software Upgrade.</td></tr>
</table>

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 Commissioning* (NN43031-310).

# 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 5.0 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 .

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.

2   Use the LD 143 command **ENL AUTOUPGMG.** See "Automatic feature operation" on 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.

**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 .

**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 34 to estimate the automatic upgrade time in simultaneous mode and sequential mode. These times are for an SSC upgrade only. The MGC upgrade may take considerably less time.

**Table 34**
**Automatic upgrade estimates**

| Simultaneous mode | | | | |
|---|---|---|---|---|
| Call Server (2 x 21 minutes) | + | 8 or less MG 1000Es (35 minutes) | = | 1 hour, 17 minutes |
| Call Server (2 x 21 minutes) | + | 9 to 16 MG 1000Es (2 x 35 minutes) | = | 1 hour, 52 minutes |
| Call Server (2 x 21 minutes) | + | 17 to 24 MG 1000Es (2 x 35 minutes) | = | 2 hours, 27 minutes |
| Call Server (2 x 21 minutes) | + | 25 to 30MG 1000Es (2 x 35 minutes) | = | 3 hours, 2 minutes |
| Sequential mode | | | | |
| Call Server (2 x 21 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 5.0 (CP PII)" on
page 67. With the Centralized Software Upgrade feature, the installation
menu changes appear only on the Call Server.

**Procedure 96**
**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 5.0 (CP PII)" on
> page 67.

**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.

**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><br><br>Default entry is SIM | Immediately initiates a manual centralized upgrade of software and bootROM installed on the Call Server (CS 1000 Release 5.0 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 5.0 software installed. MG 1000Es that contain the same software release are not upgraded.<br><br>Available options are:<br><br>• **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.<br><br>• **SIM**: MG 1000E upgrade is performed in a simultaneous manner. A maximum of 8 MG 1000Es can be upgraded at the same time.<br>The following warning is posted to the user when the SIM option is chosen:<br><br>`WARNING: Call Processing is not guaranteed to operate on the call server during simultaneous upgrade. Do you wish to proceed? (y/ n)`<br><br>Upon selection of **y**, the simultaneous upgrade commences. Selection of **n** cancels the upgrade request. |

**LD 143 - Enable or disable Centralized Software Upgrade (Part 2 of 3)**

| Command | Description |
|---|---|
| UPGMG <MG 1000E number> | Immediately initiates a manual upgrade of software and bootROM installed on the Call Server (CS 1000 Release 5.0 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.<br><br>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. |
| UPGMGBOOT <MG 1000E number> | 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.<br><br>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. |

**LD 143 - Enable or disable Centralized Software Upgrade (Part 3 of 3)**

| Command | Description |
|---|---|
| ENL AUTOUPGMG <SEQ/SIM>  Default entry is SIM | Enables the automatic Centralized Software Upgrade option. The sub options of this command are:  **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.  **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:  `WARNING: Call Processing is not guaranteed to operate on the call server during simultaneous upgrades. Do you wish to proceed? (y/n)`  Enter **y** to enable the automatic Centralized Software Upgrade option for simultaneous upgrades. |
| 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

To help customers obtain maximum benefit, reliability, and satisfaction from their CS 1000E systems, Nortel provides technical assistance in resolving system problems. Table 35 on page 408 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 35**
**Customer Technical Services (Part 1 of 2)**

| Location | Contact |
|---|---|
| Nortel<br>Global Networks Technical Support (GNTS)<br>PO Box 833858<br>2370 Performance Drive<br>Richardson, TX<br>75083 USA | North America<br><br>Telephone: 1 800 4NORTEL |
| Nortel Corp.<br>P.O. Box 4000<br>250 Sydney Street<br>Belleville, Ontario<br>K8N 5B7 Canada | North America<br><br>Telephone: 1 800 4NORTEL |
| Nortel Service Center - EMEA | EMEA<br><br>Telephone: 00 800 8008 9009 or<br>+44 (0)870 907 9009<br><br>E-mail: emeahelp@nortel.com |
| Nortel<br>1500 Concord Terrace<br>Sunrise, Florida 33323<br>USA | Brazil<br>Telephone: 5519 3705 7600<br>E-mail: entcts@nortel.com<br><br>English Caribbean<br>Telephone: 1 800 4NORTEL<br><br>Spanish Caribbean<br>Telephone: 1 954 858 7777<br><br>Latin America<br>Telephone: 5255 5480 2170 |

**Table 35**
**Customer Technical Services (Part 2 of 2)**

| Location | Contact |
|----------|---------|
| Network Technical Support (NTS) | Asia Pacific<br>Telephone: +61 28 870 8800<br><br>Australia<br>Telephone:1800NORTEL (1800 667835) or +61 2 8870 8800<br>E-mail: asia_support@nortel.com<br><br>People's Republic of China<br>Telephone: 800 810 5000<br>E-mail: chinatsc@nortel.com<br><br>Japan<br>Telephone: 010 6510 7770<br>E-mail: supportj@nortel.com<br><br>Hong Kong<br>Telephone: 800 96 4199<br>E-mail: chinatsc@nortel.com<br><br>Taiwan<br>Telephone: 0800 810 500<br>E-mail: chinatsc@nortel.com<br><br>Indonesia<br>Telephone: 0018 036 1004<br><br>Malaysia<br>Telephone: 1 800 805 380<br><br>New Zealand<br>Telephone: 0 800 449 716<br><br>Philippines<br>Telephone: 1 800 1611 0063 or 632 917 4420<br><br>Singapore<br>Telephone: 800 616 2004<br><br>South Korea<br>Telephone: 0079 8611 2001<br><br>Thailand:<br>Telephone: 001 800 611 3007 |

# 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 36 on page 411 and Table 37 on page 412 describe the service classifications.

**Table 36**
**Technical service emergency classifications**

| Class | Degree of failure | Symptoms |
|---|---|---|
| E1 | Major failure causing system degradation or outage | System out-of-service with complete loss of call-processing capability. |
| | | Loss of total attendant console capability. |
| | | Loss of incoming or outgoing call capability. |
| | | Loss of auxiliary Call Detail Reporting (CDR) in resale application. |
| | | Call processing degraded for reasons such as trunk group out-of-service: |
| | | • 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 | Standby CPU out-of-service. |
| | | Frequent initializations (one per day or more). |
| | | Disk drive failure. |
| | | Two sets of disks inoperative. |

**Table 37**
**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.<br><br>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.<br><br>System-related documentation errors that directly result in or lead to impaired service. |
| NS | Failure that does not affect service | Documentation errors.<br><br>Software inconsistencies that do not affect service.<br><br>Hardware diagnostic failures (not defined above) that cannot be corrected by resident skills.<br><br>Test equipment failures for which a backup or manual alternative can be used.<br><br>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 38 before you call for service.

**Table 38**
**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 36 and 37) | |
| Description of assistance required | |
| | |
| | |

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Upgrades

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