
Nortel Communication Server 1000

Nortel Communication Server 1000 Release 4.5

Communication Server 1000M and Meridian 1

Large System Upgrade Procedures (Book 1 of 3)

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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 4.5, click one of the links below.

Latest Software	Takes you directly to the Nortel page for CS 1000 Release 4.5 software.
Latest Documentation	Takes you directly to the Nortel page for CS 1000 Release 4.5 documentation.

About this document

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

Subject

Use this document to perform upgrades on Meridian 1 Large Systems. This document also contains information on database transfers, Call Processor card upgrades, and network group upgrades.

This document also contains information on converting Release 19.0x or later software to CS 1000 Release 4.5 or later on Meridian 1 Options 51C, 61C, 81, 81C, CS 1000M SG and CS 1000M MG systems. For software conversion procedures prior to Release 19.xx, refer to the *Software conversion procedures* (553-2001-320) NTP for software Release 24.



IMPORTANT!

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

Note on legacy products and releases

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

www.nortel.com/

Applicable systems

This document applies to the following systems:

- Communication Server 1000M Half Group (CS 1000M HG)
- Communication Server 1000M Single Group (CS 1000M SG)
- Communication Server 1000M Multi Group (CS 1000M MG)
- Meridian 1 PBX 51C
- Meridian 1 PBX 61C
- Meridian 1 PBX 81
- Meridian 1 PBX 81C

Note: When upgrading software, memory upgrades may be required on the Signaling Server, the Call Server, or both.

System migration

When particular Meridian 1 systems are upgraded to run CS 1000 Release 4.5 software and configured to include a Signaling Server, they become CS 1000M systems. Table 1 lists each Meridian 1 system that supports an upgrade path to a CS 1000M system.

Table 1
Meridian 1 systems to CS 1000M systems

This Meridian 1 system...	Maps to this CS 1000M system
Meridian 1 PBX 51C	CS 1000M Half Group
Meridian 1 PBX 61C	CS 1000M Single Group
Meridian 1 PBX 81	CS 1000M Multi Group
Meridian 1 PBX 81C	CS 1000M Multi Group

Upgrade paths

This document contains information on the following Large System upgrades:

- Meridian 1 Options 51, 61, 71, 51C, 61C, 81C, CS 1000M SG, and CS 1000M MG
- upgrades to FNF
- software upgrades
- network additions

The upgrades documented in this NTP are structured as source platform to target platform upgrades.

Intended audience

This document is intended for individuals responsible for upgrading Large Systems.

This document is intended for individuals responsible for software conversion and memory upgrades.

Conventions

Terminology

The following systems are referred to generically as “Large System”:

- Communication Server 1000M Half Group (CS 1000M HG)
- Communication Server 1000M Single Group (CS 1000M SG)
- Communication Server 1000M Multi Group (CS 1000M MG)
- Meridian 1 PBX 51C
- Meridian 1 PBX 61C
- Meridian 1 PBX 81
- Meridian 1 PBX 81C

NTP feedback

Nortel strives to provide accurate documentation for our customers. However, if you feel there are errors or omissions in this document, your feedback is welcome.

Send comments via email to gntsdoc@nortel.com or open a problem report via the normal procedures.

Please provide as much information as possible including the NTP number, standard version and date of the document, as well as the page, problem description, and any supporting documentation and capture files.

Related information



CAUTION — Data Loss

Only personnel who are familiar with the system and with conversion procedures should perform the conversion.

Read the applicable procedures carefully before beginning any the conversion.

Note: Converting software on single CPU systems disrupts call processing and allows service only to those telephones connected to Power Failure Transfer Units (PFTU).



CAUTION WITH ESDS DEVICES

To avoid damaging equipment from electrostatic discharge, wear a properly connected antistatic wrist strap when working on system equipment.

Follow pre-conversion and post-conversion procedures for every system conversion.

Throughout this document the term *media* refers to tape, disk, CD-ROM or Compact Flash (CF), whichever applies to the system.

The term **source** refers to the hardware and software that is currently running. The term **target** refers to the new hardware and software to which the system is converting.

**CAUTION — Data Loss**

Read “General software conversion information” in Book 1 before performing any operations.

It contains information vital to the conversion process.

NTPs

The following NTPs are referenced in this document:

- *Product Compatibility* (553-3001-156)
- *Converging the Data Network with VoIP* (553-3001-160)
- *Circuit Card: Description and Installation* (553-3001-211)
- *Signaling Server: Installation and Configuration* (553-3001-212)
- *IP Peer Networking: Installation and Configuration* (553-3001-213)
- *Features and Services* (553-3001-306)
- *Software Input/Output: Administration* (553-3001-311)
- *Element Manager: System Administration* (553-3001-332)
- *IP Trunk: Description, Installation, and Operation* (553-3001-363)
- *IP Line: Description, Installation, and Operation* (553-3001-365)
- *ISDN Basic Rate Interface: Features* (553-3001-380)
- *Software Input/Output: Maintenance* (553-3001-511)
- *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)
- *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210)
- *Communication Server 1000M and Meridian 1: Large System Maintenance* (553-3021-500)

- *Communication Server 1000S: Overview (553-3031-010)*
- *Communication Server 1000S: Installation and Configuration (553-3031-210)*
- *Communication Server 1000S: Upgrade Procedures (553-3031-258)*

Online

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

www.nortel.com

CD-ROM

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

Technical support

For technical support contact information, see “Technical Assistance service” on [page 991](#).

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.

Overview

Contents

This section contains information on the following topics:

[NTP structure](#) 35

NTP structure

This NTP is comprised of three books, Book 1 of 3, Book 2 of 3 and Book 3 of 3. Upgrade procedures in these books are written from source software or system to target software or system and are organized by source system number. The basic, key chapter structure of the 3 books is as follows:

Book 1 of 3
General hardware upgrade information
General software conversion information
Software conversion
Overview of upgrading to Meridian 1 PBX systems
Meridian 1 PBX systems upgrade procedures
Upgrading from Meridian 1 Option 51/51C
Upgrading from Meridian 1 Option 61
Upgrading from Meridian 1 Option 61C

Book 2 of 3

Upgrading from Meridian 1 Option 71
Upgrading from Meridian 1 Option 81
Upgrading from Meridian 1 Option 81C

Book 3 of 3

Using the Keycode Retrieval Utility
Replace NT4N46 CP PII Core/Net with NT4N40
Adding a Network Group (NT4N40)
Adding a Network Group (NT4N46)
Adding an NT8D35 Network Group to Option 81 (NT5D60)
Adding a Network Group to Option 81C CP3, CP4 (NT5D21)
Installing IODU/C cards, CP cards, CP memory
Using the Distributor Keycode Application
Terminal and modem connections
Troubleshooting the upgrade

General hardware upgrade information

Contents

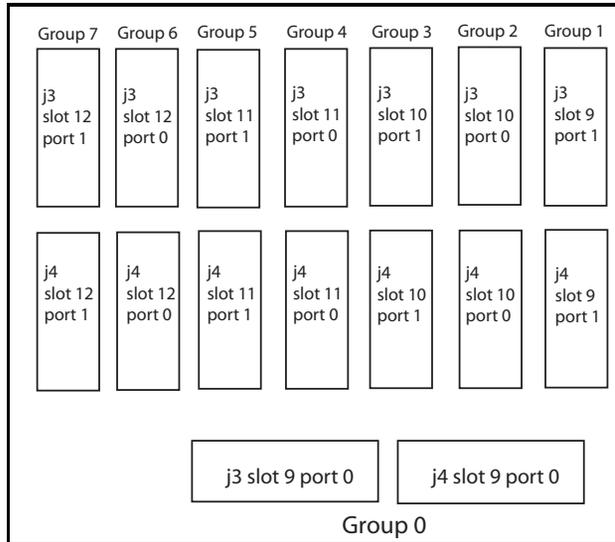
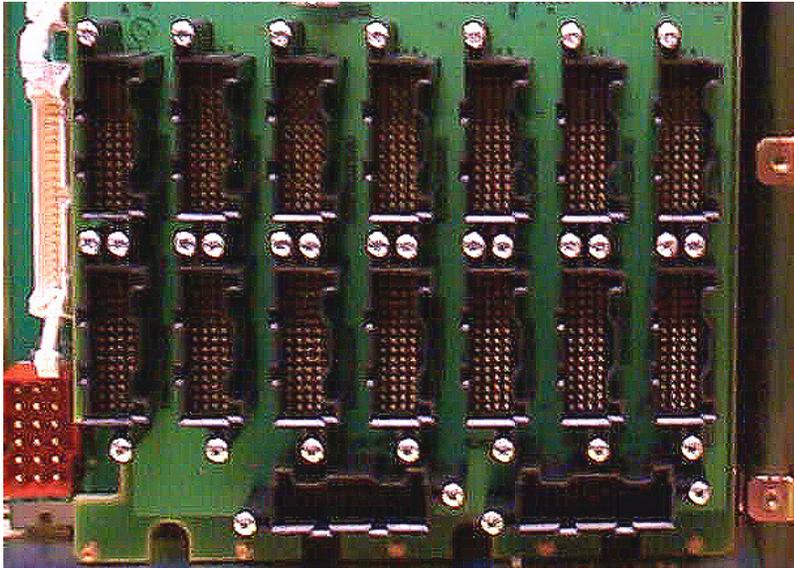
This section contains information on the following topics:

NT4N40 Core/Net module	37
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Upgrading the CP PIV BIOS	44
Upgrade strategy	46
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NT4N40 Core/Net module

The Meridian 1 PBX 61C and Meridian 1 PBX 81C CPP systems feature an NT4N40 Core/Net (see Figure 1 on [page 38](#)), allowing CS 1000 Release 4.5 to support a unified hardware platform for both single group and multi-group configurations. This platform allows: upgrades from single group to

Figure 2
Fanout panel (backplane)



The NT4N40 Core/Net shelf is identical for Meridian 1 PBX 61C CP systems and Meridian 1 PBX 81C CP systems, with the following exceptions for Meridian 1 PBX 61C:

- Only one cCNI card is required. This card must be installed in slot c9 in the Core/Net shelf and configured as group 0.
- Only one connection is required between the cCNI and the 3PE for group 0 using cable NT4N29.
- IGS/FNF cards and associated cables are not required.
- The Clock Controller card occupies card slot 9 in group 0.

System Utility card

The NT4N48 System Utility card is located in slot c15 of the Core/Net module (see Figure 4 on [page 42](#)).

The Core ID switch is now located on the system utility card (see Figure 3 on [page 41](#)).

Figure 3
Core Module ID switch

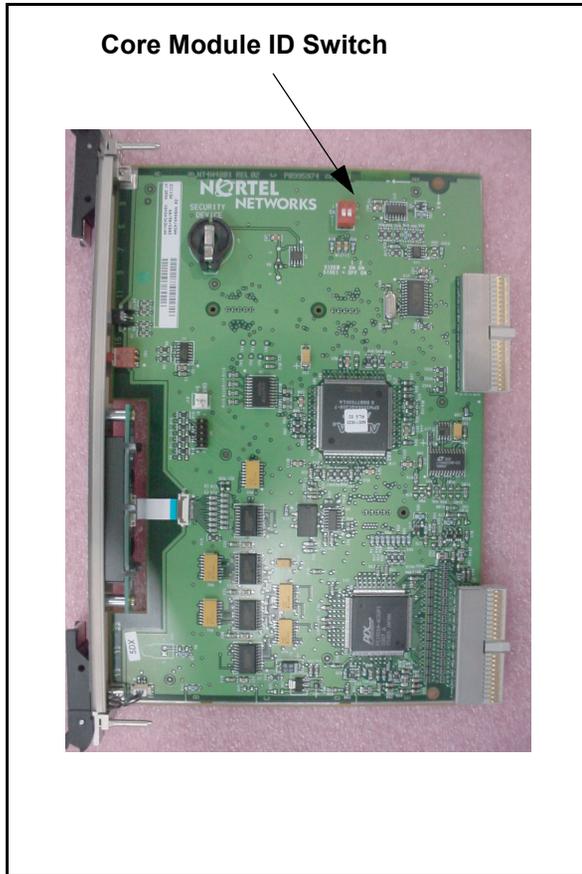
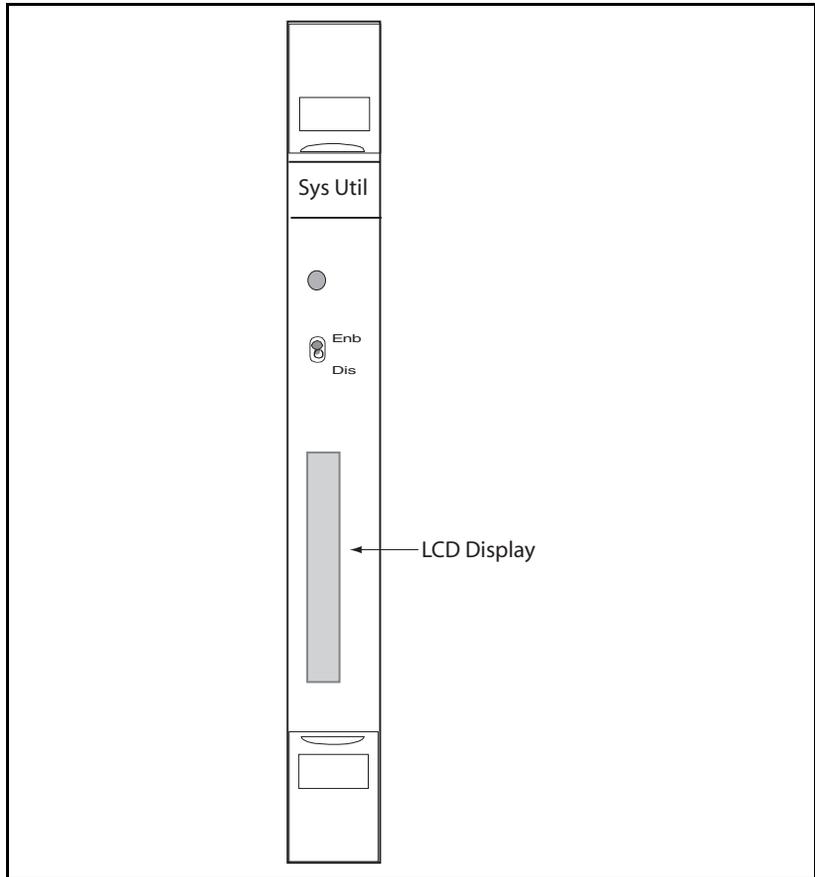


Figure 4
NT4N48 System Utility card



Security Device

The Security Device fits into the NT4N48 System Utility card (see Figure 5 on [page 43](#)).

Figure 5
System Utility card Security Device



Upgrading Signaling Server Memory

To enable customers to redeploy their current NTDU27AA 01, 02 or 03 Signaling Servers into a large CS 1000 Release 4.5 environment, a Signaling Server Memory Upgrade Kit (NTDU80CA) is available. To upgrade the memory using this kit, refer to “Appendix A: Upgrading memory” section of *Signaling Server: Installation and Configuration* (553-3001-212).

Upgrading the CP PIV BIOS

To upgrade the CP PIV circuit card BIOS version, follow the steps in Procedure 1.

Procedure 1 Upgrading the CP PIV BIOS

- 1 Insert the RMD in the CF slot on the CP PIV face plate.

```
>Obtaining and checking system configuration ...

      Please insert the media containing the
Installation S/W, into the drive.

      Please enter:

<CR> -> <a> - Installation S/W media is now in
the drive.

      <q> - Quit.

Enter choice>
```

- 2 Enter the full BIOS file name (including the extension) from the versions available on the RMD, or enter 'q'/Q' to quit and return to the previous menu without replacing the BIOS version.

```
The following BIOS versions are available on the
removable media.

Please, select the one to be installed.

Name                Size      Date        Time
-----            -
Please enter:
<CR> ->
<1> - <name>.<ext>  9540   Jan-12-2005  12:46:56
<2> - <name>.<ext>  9520   Jan-08-2005  01:00:50
...
<q> - Quit.
Enter choice>
```

End of Procedure

Upgrade strategy

CS 1000 Release 4.5 supports Automatic Inline Conversion from Release 19 and later in Meridian 1 Option 51C and CPP systems.

When upgrading your system, the hardware upgrade and software conversion path you follow depends on the system type you are upgrading from and its current release.

The hardware upgrade to CPP systems is performed as part of the software upgrade to CS 1000 Release 4.5. This eliminates the requirement of interim hardware.



IMPORTANT!

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

Security device and keycode

The security device and keycode are used together to customize software installation for a specific system. The keycode can only be validated and “unlocked” by the security devices for which it was made. Security devices are produced as part of each software order. One security device is mounted onto each IODU/C card on the Meridian 1 Option 51C and Meridian 1 Option 61C.

For CPP systems, the security device is mounted on the System Utility Card in the NT4N40 shelf (see Figure 5 on [page 43](#)) or in the Security Device Holder for a NT4N46 Shelf.

A keycode is also generated as part of the customer software order. The keycode is customized based on the following parameters:

- a specific release and issue of software
- a specific software generic (representing the combination of the system type and Call Processor type)

- a specific set of feature packages and License limits
- a specific set of security devices

A new keycode is required whenever any of these parameters are changed.

Each software order contains the Security Device Kit.

The contents of the Security Device Kit for CP PII are listed in Table 2.

Table 2
Contents of the Security Device Kit

Item	Quantity	Description
Keycode diskette (2 MByte media)	1	A 2 MByte diskette containing the keycode file.
Keycode acknowledgment	1	A hard-copy printout of the keycode file, including a listing of the parameters for which the keycode was created.
Security devices		The number of security devices provided is determined based on the type order and the number of security devices previously provisioned:
	0	When security devices have already been provisioned
	1	For single CPU systems
	1	For upgrades from single CPU to dual CPU systems
	1	For replacing single, lost, or damaged security devices
	2	For dual CPU systems
	2	For replacing two lost or damaged security devices
Database diskettes (2 MByte media)	2	One 2 MByte diskette containing the CE database and one 2 MByte diskette containing CE/IPE database.

The contents of the Security Device Kit for CP PIV are listed in Table 2

Table 3
Contents of the Security Device Kit

Item	Quantity	Description
Keycode diskette (2 MByte media)	1	A 2 MByte diskette containing the keycode file.
Keycode acknowledgment	1	A hard-copy printout of the keycode file, including a listing of the parameters for which the keycode was created.
Security devices		The number of security devices provided is determined based on the type order and the number of security devices previously provisioned:
	0	When security devices have already been provisioned
	1	For single CPU systems
	1	For upgrades from single CPU to dual CPU systems
	1	For replacing single, lost, or damaged security devices
	2	For dual CPU systems
	2	For replacing two lost or damaged security devices
Database diskettes (2 MByte media)	2	One 2 MByte diskette containing the CE database and one 2 MByte diskette containing CE/IPE database.

Tools

Table 4 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed with that procedure.

Table 4
List of recommended tools (Part 1 of 2)

— Digital Multimeter (DMM)
— Pliers, needlenose

Table 4
List of recommended tools (Part 2 of 2)

- | |
|---------------------------------------|
| — Pliers, standard |
| — Screwdriver, 3/16" flat blade |
| — Screwdriver, #2 Phillips |
| — Wire cutters |
| — Electrical insulation tape |
| — 5/16" socket wrench |
| — Electric drill and drill bits |
| — Hammer and sheet metal center punch |
| — 1/4" socket wrench |
| — 3/8" socket wrench |
| — 1/4" nut driver |
| — 7/16" socket driver |
| — 11/32 Deep Socket |
| — Flashlight |

Upgrade preparation

Before beginning an upgrade, read the important information on the next few pages pertaining to connection of a system monitor or modem, and backplane connections. Then perform a thorough audit of the system you are upgrading:

- Verify the suitability of the upgrade package you are considering.
- Resolve any existing operational problems, error messages, or other problems.
- Check for minimum vintage requirements on all circuit cards that will remain in the system. A table is provided in each upgrade section. For more information see *Product Compatibility* (553-3001-156).
- Verify that all equipment needed for the upgrade has been identified.

- Identify the target platform.
- Identify the source platform.
- Check for minimum software requirements on each application. See *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120).
- Check current installed patches and Dep lists.

- Check required Dep list for the target platform and applications.

Terminal and modem connections

During an upgrade, and for continuing system operation, connect a terminal to an SDI port in a network slot to provide an I/O interface to the active CPU in the system. Connect another terminal or a modem (for remote access) to either the DTE port on the inactive Core/Net module backplane (in split mode) to provide communication with the Call Processor cards in the system. The terminals must be RS-232 and capable of 9600 baud.

The Call Processor card serial interface ports (CPSI ports) or CP card COM ports are active only when the Core/Net associated with the CP card is active. Therefore, the CPSI/COM ports should not be used as the only I/O connection for the system.

Note: When transferring call processing to a Core/Net module during an upgrade, one I/O address is required for a CPSI/COM port. If there is no address available, a SYS4532 error displays. You must make available one port assignment for a CPSI/COM port.

When the upgrade is complete, leave a terminal and/or modem connected to the system. One SDI port in a network slot must be permanently connected to a terminal or modem. On the CPSI/COM ports you can do one of the following:

- disconnect the ports
- leave terminals connected for local monitoring
- connect modems for remote monitoring

Refer to “Terminal and modem connections” in Book 3 for instructions on connecting terminals and modems to the system.

Meridian 1 Options 61C/81C CP and Meridian 1 Options 51C, 61C, 81C, and 81 shelf backplane connections

The following backplanes have a primary side and a secondary side:

- NT4N40 backplanes on Meridian 1 Options 61C/81C CPP

- NT5D21 backplanes used on Meridian 1 Options 51C, 61C and 81C
- NT6D60 backplanes on the Meridian 1 Option 81

The primary side (the side that faces the front of the shelf) contains the primary shrouds that provide mechanical guidance for the pins of the card edge connectors. The secondary side of the backplane (the side that faces the rear of the shelf) contains the secondary shrouds that provide mechanical guidance for cable connectors.

Before you connect cables to the backplane, visually inspect the secondary shroud connectors to make sure there are no bent pins. To connect cables, do the following:

- 1 Hold the cable so that the connector is perpendicular to the backplane, with the cable extending down at a 45-degree angle.
- 2 Partially insert the cable connector so its guides mate to the corresponding backplane connector.
- 3 Apply a small amount of pressure to push the cable connector straight into the backplane connector. You will feel a distinct click when the connector seats.



CAUTION — Service Interruption

Damage to Equipment

Do not push the connector in any further after you hear the click. Pins may be bent or broken if you force the cable connector or insert it at an angle.

Using the cable extraction tool on NT4N40, NT5D21, NT6D60, and NT9D11 equipped systems

To disconnect cables from the Core/Network module backplane, you will be required to use the extraction tool provided, located in the rear of the module (behind the I/O safety panel).



CAUTION — Service Interruption

Damage to Equipment

You must use the extraction tool to disconnect cables from the backplane in modules to avoid bending or breaking backplane pins. Do not improvise with common hand tools.



WARNING

Damage to Equipment

Do not pry against the connector with the extraction tool. Simply inserting the tool between the connector and the securing clip is sufficient to unlock the connector. Prying may cause damage to the connector or the backplane pins.

Procedure 2 Removing cable connectors

Follow the steps below to remove cable connectors from the backplane. Use extreme caution to avoid bending or breaking backplane pins. Do not insert the extraction tool unless the cable connector is locked into the securing clip; a gentle tug on the cable will allow you to determine whether or not the connector is secured. Do not force the extraction tool deeper than the tab on side of the cable connector hood, and do not pry with the tool.

- 1 Grasp the cable just behind the connector hood.
- 2 Center the long flat edge at the angled end of the tool between the cable connector hood and the securing clip.

- 3** There are two versions of the extractor tool. If the straight end of the tool is notched, use that end if the connector can be accessed straight-on. If you must approach the connector from any angle at all, use the angled end.
- 4** Gently insert the extraction tool and gradually apply pressure in the direction directly toward the backplane while gently pulling the cable away from the backplane. A gentle side-to-side rocking motion may be used on the cable if needed.
- 5** Stop applying pressure as soon as the cable connector comes loose from the backplane.
- 6** Slowly remove the extraction tool and the cable connector.

End of Procedure

General software conversion information

Contents

This section contains information on the following topics:

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Introduction

Conversion procedures vary with the system type and software release.



IMPORTANT!

Database conversion for pre-IODUC systems must be completed by Nortel Software Conversion Lab. Consult the current Nortel price book for cost and contact information.

Conversion media

For Release 24 and later systems, the following media are required for new software installations:

- CD-ROM – a generic CD-ROM that contains all software generics.
- Security device– provides a unique program for each system. The device does not contain feature or software release-specific information.
- Install diskette – activates the Software Installation Tool. The Software Installation Kit contains three Install diskettes to support each Call Processor card. Use the Install diskette that corresponds with the CP card type.
- 2 MByte customer database diskettes – a blank DOS formatted disk for archiving the customer database.
- Database Transfer Utility diskette – supports the transfer of 4 MByte databases to 2 MByte.
- Customer database media converter tool (CP PIV)– supports the transfer of a backed-up customer database to a CF card.
- Keycode diskette – consists of “keycodes” that contain software feature data. The keycodes must validate against the security device. In addition to receiving a keycode diskette from Nortel, a keycode diskette can be created on site using the following methods:
 - Downloading a keycode from the Nortel Keycode Distributor Server to a PC and creating a diskette. See “Using the Distributor Keycode Application” in Book 3 for more information.
 - Entering a keycode manually using the commands in LD 143. Using this method, the keycode is entered as 21 lines of 16 characters. The keycode file is then saved to a 2 MByte diskette in the floppy drive.
 - Entering a keycode manually in the Meridian 1 Software Installation Tool. Using this method, the keycode is entered as 21 lines of 16 characters. The keycode file is then saved to a 2 MByte diskette in the floppy drive.

All keycode files must be named keycode with no extension. When the keycode diskette is created, the keycode is entered into the system by:

- the KNEW command in LD 143
- the Software Installation Tool

The keycode is automatically activated on the next system Sysload.

The keycode contains the system software release information. For new features or License limits, a new keycode is required. A new CD-ROM, security device, or Install diskette is not required.

Software packaging

Verify the system packages prior to conversion. Be sure the Target software contains all the packages required to support system operation.

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. A new kit must be obtained when upgrading to a new release or issue of software.

Table 5 lists the contents of the Software Install Kit.

Table 5
Contents of the Software Install Kit

Item	Quantity	Description
Software CD-ROM	1	Each CD contains all nine generics for a given release and issue of software.
Install Program diskettes (2 MByte media)	3	Used to launch the Install Program and to download software from the CD-ROM. Each 2 MByte diskette supports one processor type (68060 or 68060E).
Database Transfer Utility diskettes (4 MByte media)	3	Used to transfer the customer database from an IOP/ CMDU drive onto 2 MByte diskettes that can be ready by the IODU/C. Each 4 MByte diskette supports one processor type (68060 or 68060E).
Distributor Keycode Application diskette (2 MByte media)	1	A Windows 95 utility that supports download of keycodes from a keycode server.
Database diskettes (blank, 2 MByte media)	2	Blank 2 MByte diskettes that can be used to archive the customer database.
Keycode diskette (blank, 2 MByte media)	1	A blank 2 MByte diskette that can be used to store a back-up copy of the keycode file.

General conversion information

This document supports conversions for Meridian 1 Options 51C, 61C/61C CP PII and Meridian 1 Options 81/81C/81C CP PII systems only.



IMPORTANT!

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

Be sure the system has enough memory to complete the conversion. If there is not enough memory, refer to “Installing IODU/C cards, CP cards, CP memory” in Book 3 **before beginning the conversion**. Refer to Table 6 on [page 64](#) for details concerning CS 1000 Release 4.5 system capacity requirements.

In systems equipped with Superloops, calls drop during initialization when Peripheral Software Download (PSDL) occurs. The Superloop Network card (NT8D04) and Controller card (NT8D01) download peripheral software prior to initialization completion. This can increase the time required for system initialization when completing a conversion.

If a Force Download occurs during a parallel reload, initialization can take up to 15 minutes. Calls in process are interrupted.

When a software upgrade is performed to add new feature packages, perform a Sysload or parallel reload to enable the new software.



CAUTION — Service Interruption

Loss of Data

Do not attempt backward data dumping between software versions, upissues, or releases. This corrupts the data.

Patches

Software patches

For Meridian 1 Options 51C, Meridian 1 Options 61C/61C CP PII and Meridian 1 Option 81/ 81C/81C CP PII systems, software patches are deleted when converting to a new software release, or when performing a software upissue. Software patches are not deleted when the same software release is re-installed in the system, however you must manually activate them.

If a software patch is included in the software, a plus sign (+) appears next to the software issue number in LD 22.

Loadware patches using DPSD

For Meridian 1 Option 51C, Meridian 1 Options 61C and Meridian 1 Options 81/81C/ systems, loadware patches are deleted when converting to a new software release, or when performing a software upissue. Loadware patches are also deleted when the same software release is re-installed in the system.

If there are one or more loadware patches fully installed in the software, a plus sign (+) prints next to the PSWV version and the modified loadware issue number in LD 22.

Loadware patches are only fully installed once the psdl.rec successfully rebuilds and the system initializes (INI) and reboots.

FIJI Download

On FNF based systems after the INI, a FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, download up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

Normal message output appears on the active side.

From the Meridian 1 side:

NEW STATE RING 0 : NONE

RING 1 : FULL

FIJI061 RING 0 : STARTING AUTOMATIC DOWNLOAD

FIJI062 FIJI 0 0 : ENABLING FIJI CARD

FIJI062 FIJI 1 0 : ENABLING FIJI CARD

etc.

COMPLETE

FIJI063 FIJI 1 0 : DOWNLOAD DONE. TESTING CARD

COMPLETE

FIJI063 FIJI 3 0 : DOWNLOAD DONE. TESTING CARD

etc.

FIJI064 FIJI 1 0 : SELFTEST DONE

FIJI064 FIJI 3 0 : SELFTEST DONE

FIJI055 [Clock switch]

FIJI007 [Ring state change. Change to none/full.]

FIJI061 RING 1 : STARTING AUTOMATIC DOWNLOAD

FIJI062 FIJI 0 1 : ENABLING FIJI CARD

FIJI062 FIJI 1 1 : ENABLING FIJI CARD

etc.

COMPLETE

FIJI063 FIJI 0 1 : DOWNLOAD DONE. TESTING CARD

COMPLETE

FIJI063 FIJI 1 1 : DOWNLOAD DONE. TESTING CARD

etc.

FIJI064 FIJI 0 1 : SELFTEST DONE

FIJI064 FIJI 1 1 : SELFTEST DONE

CS 1000 Release 4.5

CS 1000 Release 4.5 supports Automatic Inline Conversion from Release 19, 20, 21, 22, 23, 24 in Meridian 1 Option 51C, Meridian 1 Option 61C and Meridian 1 Options 81/81C systems. Software installation and conversion is supported on CD-ROM using an IODU/C or MMDU drive.

Fiber Network Fabric

Fiber Network allows the expansion of Meridian 1 Option 81/81C/81C CP PII systems from five to eight Network groups. The Intergroup cards and module in current Meridian 1 systems are replaced by a Dual Ring fiber optic network. This Fiber Network provides complete non-blocking communication between the network groups, which eliminates the incidence of busy signals for calls switched between groups. Fiber Network Fabric is supported in release 25 or higher.

With CS 1000 Release 4.5, Meridian 1 Option 51C, Meridian 1 Option 61C, and Meridian 1 Option 81/81C systems can use any of the following processors:

- 68060E NT5D03 CP card
- 68060 NT5D10 CP card

With CS 1000 Release 4.5, Meridian 1 Option 61C and Meridian 1 Option 81C must use the NT4N64 CP PII processor card.



IMPORTANT!

Release 25 introduced new Flash and DRAM memory requirements. Call Processor cards that meet the “total” memory requirement might not meet the individual Flash and DRAM memory requirement. Refer to Table 6 for CS 1000 Release 4.5 flash and DRAM memory requirements.

Table 6
CS 1000 Release 4.5 memory requirements

Minimum memory requirement for 68060/68060E Processors			
System type	Flash memory requirement	DRAM memory requirement	Total memory requirement
Meridian 1 Options 51C/61C with CP3 (68060) or CP4 (68060E)	64 MByte	64 MByte	128 MByte
Meridian 1 Options 81/81C with or without Fibre Network Fabric	64 MByte	96 MByte	160 MByte
Minimum memory requirement for CP processors			
<p>Note: The minimum memory requirement for CP PII processors running CS 1000 Release 4.5 is 256 MByte. The minimum memory requirement for CP PIV processors running CS 1000 Release 4.5 is 512 MByte.</p>			
System type	Flash memory requirement	DRAM memory requirement	Total memory requirement
Meridian 1 Option 61C CP PII	NA	256 MByte	256 MByte
Meridian 1 Option 81C CP PII with or without Fibre Network Fabric	NA	256 MByte	256 MByte
Meridian 1 Option 61C CP PIV	NA	512 MByte	512 MByte
Meridian 1 Option 81C CP PIV with or without Fibre Network Fabric	NA	512 MByte	512 MByte
<p>Note 1: CP1 (68030) and CP 2 (68040) Call Processors are not supported.</p> <p>Note 2: All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PII systems are equipped with 256 MByte.</p> <p>Note 3: All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PIV systems are equipped with 512 MByte.</p>			

Software release supported by machine type

Table 7 below shows the software release associated with each system and its available release levels. The last two digits in the “software system number” column indicate the software generic; the first one or two digits indicate the system type. For example, the system number for Meridian 1 Option 81C is 1911.

Table 7
Software generic by machine type (Part 1 of 3)

System type	Software system number	Lowest supported release	Highest supported release
STE	1511	18	21
NT	1111	8	21
XT	1211	8	21
RT	1311	12	21
Option 21E	1511	18	21
Meridian 1 Option 51	1111	15	21
Meridian 1 Option 51C equipped with NT5D10 CP card	2421	23	CS 1000 Release 4.5 2421
Meridian 1 Option 51C equipped with NT5D03 CP card	2821	23.5X	CS 1000 Release 4.5 2821
Meridian 1 Option 61	1111	15	21
Meridian 1 Option 61C equipped with NT5D10 CP card	2521	23	CS 1000 Release 4.5 2521
Meridian 1 Option 61C equipped with NT5D03 CP card	2921	23.5X	CS 1000 Release 4.5 2921
Meridian 1 Option 61C CP PII equipped with NT4N64 CP PII card***	3221	CS 1000 Release 4.5	CS 1000 Release 4.5 3221

Table 7
Software generic by machine type (Part 2 of 3)

System type	Software system number	Lowest supported release	Highest supported release
Meridian 1 Option 61C CP PIV equipped with NT4N39 CP PIV card***	3521	CS 1000 Release 4.5	CS 1000 Release 4.5 3521
Option 71	1211	15	21
Meridian 1 Option 81 equipped with NT5D10 CP card*	2611	23	25
Meridian 1 Option 81 equipped with NT5D03 CP card*	3011	23.5X	25
Meridian 1 Option 81 equipped with NT5D10 CP card*	2621	23	CS 1000 Release 4.5 2621
Meridian 1 Option 81 equipped with NT5D03 CP card*	3021	23.5X	CS 1000 Release 4.5 3021
Meridian 1 Option 81C equipped with NT5D10 CP card**	2621	23	CS 1000 Release 4.5 2621
Meridian 1 Option 81C equipped with NT5D03 CP card**	3021	23.5X	CS 1000 Release 4.5 3021
Meridian 1 Option 81C CP PII equipped with A0810496 CP PII card***	3311	25.xx	25.40b
Meridian 1 Option 81C CP PII equipped with NT4N64 CP PII card***	3321	25.xx	CS 1000 Release 4.5 3321

Table 7
Software generic by machine type (Part 3 of 3)

System type	Software system number	Lowest supported release	Highest supported release
Meridian 1 Option 81C CP PIV equipped with NT4N39 CP PIV card***	3621	CS 1000 Release 4.5	CS 1000 Release 4.5 3621
*Meridian 1 Option 81 systems require Package 298.			
**Meridian 1 Option 81C systems require Package 299.			
*** Meridian 1 Option 61C and Option 81C systems require Package 368.			

H.323 Gatekeeper database migration

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

Software conversion

Contents

This section contains information on the following topics:

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Software pre-conversion



IMPORTANT!

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. See “Database transfer” on [page 197](#).

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

All systems can be converted by Nortel Networks in the software conversion lab.

Introduction

Read “General software conversion information” on [page 55](#) before beginning the conversion procedures. The conversion procedure used depends on the release of the Source and Target software. Obtain all necessary hardware and software. Save a copy of the data-dumped **Source** software until it is determined that all site data converted successfully.



IMPORTANT!

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

Use these procedures to convert from one software release to a later release or to up-issue software within the same software release. These procedures are for software conversions only. Do not use this procedure for any other purpose. After the conversion is completed, perform the post-conversion procedures in “Post-conversion procedure” on [page 258](#).

Note: These procedures do not include instructions for installing new IODU/C cards, CP cards or CP memory. If required, refer to “Installing IODU/C cards, CP cards, CP memory” in Book 3.

Have the following items available before proceeding:

- The General Release Bulletin for the new software.
- The appropriate software and conversion media.
- The CD-ROM and diskettes (as required).
- A temporary SDI card and a local TTY or remote TTY modem may be required.
- To perform parallel reload in dual CPU systems.
- Required Dependency list patches for the target system.
- A capture file should be maintained during all processes.

CS 1000 compatibility

Consult *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120) for CS 1000 Release 4.5 product compatibility.

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. A new kit must be obtained when upgrading to a new release or issue of software.

Table 8 lists the contents of the Software Install Kit.

Table 8
Contents of the Software Install Kit

Item	Quantity	Description
Software CD-ROM	1	Each CD contains all nine generics for a given release and issue of software.
Install Program diskettes (2 Mbyte media)	3	Used to launch the Install Program and to download software from the CD-ROM. Each 2 Mbyte diskette supports one processor type (68060 or 68060E).
Database Transfer Utility diskettes (4 Mbyte media)	3	Used to transfer the customer database from an IOP/CMDU drive onto 2 Mbyte diskettes that can be ready by the IODU/C. Each 4 Mbyte diskette supports one processor type (68060 or 68060E).
Distributor Keycode Application diskette (2 Mbyte media)	1	A Windows 95 utility that supports download of keycodes from a keycode server.
Database diskettes (blank, 2 Mbyte media)	2	Blank 2 Mbyte diskettes that can be used to archive the customer database.
Keycode diskette (blank, 2 Mbyte media)	1	A blank 2 Mbyte diskette that can be used to store a back-up copy of the keycode file.

Meridian 1 CP PII software upgrade procedures

Prepare for upgrade

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

Each 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.

Each 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.

Table 9
Prepare for upgrade steps

Procedure Step	Page
Plan upgrade	73
Upgrade Checklists	74
Prepare	74
Identifying the proper procedure	75
Connect a terminal	75
Perform a template audit	79
Back up the database (data dump)	80

Plan upgrade

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.
- Ensure Sufficient power for new columns/modules or applications
- 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.
- Determine if software can be converted on site or must be sent to Nortel Networks.
- Prepare a contingency plan for backing out of the upgrade.

Upgrade Checklists

Upgrade checklists can be found in the “Upgrade checklists” on [979](#) of this book. Engineers may print this section in order to facilitate the upgrade.

Prepare

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Determine the current patch or Dep lists installed at the source platform.
- Determine the required patch or Dep lists at the target platform.

- 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.

Identifying the proper procedure

Each procedure has been written in a source to target format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.



IMPORTANT!

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

Connect a terminal

Procedure 3

Connecting a terminal

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2 The settings for the terminal are:
 - a. 9600 Baud
 - b. 8 data
 - c. parity none

- d. 1 stop bit
 - e. full duplex
 - f. XOFF
- 3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

End of Procedure

Print Site Data

Print site data to preserve a record of the system configuration (Table 10). 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 4)

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

Table 10
Print site data (Part 2 of 4)

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

Table 10
Print site data (Part 3 of 4)

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

Table 10
Print site data (Part 4 of 4)

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

Perform a template audit

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

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



CAUTION — Service Interruption

Loss of Data

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

**TEMPLATE 0001 USER COUNT LOW CHECKSUM
OK**

**TEMPLATE 0002 USER COUNT CHECKSUM
HIGH OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

**TEMPLATE 0001 USER COUNT OK CHECKSUM
OK**

•

•

**TEMPLATE 0120 USER COUNT OK CHECKSUM
OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

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

Procedure 4 Performing a data dump

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

LD 43 Load the program

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

EDD Begin the data dump



CAUTION — Service Interruption

Loss of Data

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

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

**** Exit the program

End of Procedure

Perform upgrade



CAUTION WITH ESDS DEVICES

To avoid damaging equipment from electrostatic discharge, wear a properly connected anti-static wrist strap when working on or near Meridian 1 equipment.

Perform a parallel reload

Software must be installed on both Core hard drives. Follow the procedures in this section to complete the installation.

Note: To complete these procedures, the system must be working and connected to a terminal.

Verify memory

Determine whether the system requires additional memory. Refer to “Installing IODU/C cards, CP cards, CP memory” in Book 3 for memory requirements and upgrade procedures.

Check the status of the hardware

Follow the steps in Procedure 5 to determine the status of the hardware.

Procedure 5 Determining hardware status

- 1 Load LD 137 to check the status of the hard disks.

LD 137 Load program

STAT Get the status of the hard disks

- 2 Load LD 135 and check the status of the CPs, CNIs and memories.

LD 135 Load program

STAT CPU Get the status of both CPs and memory

STAT CNI Get the status of all configured CNIs

End of Procedure

Check that Core 0 is active

Check that Core 0 is active. If Core 1 is active, make Core 0 active:

LD 135 Load program

STAT CPU Get the status of the CPUs

SCPU Switch to Core 0 (if necessary)

Split the Cores

From the active side, split the cores.:

LD 135	Load program
SPLIT	Enter Split on the active core
****	Exit program



System is in split mode, CP 0 is active, clock 0 is active, Core/Net 1 is in split mode.

Install the software on Core/Net 1

For CP PII systems, follow the steps in Procedure 6 to install the software on Core/Net 1.

Procedure 6 Upgrading the software on CP PII systems

- 1 Install the CD-ROM into the CD-ROM drive in the CP PII MMDU:
 - 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 facing up. Use the four tabs to secure the CD-ROM drive.
 - c. Press the button to close the CD-ROM disk holder. Do not push the holder in by hand.

Note: If the CD-ROM is not in the CD-ROM drive, the installation will not continue. Insert the CD-ROM to continue.

- 2 Place the CP PII Install floppy disk into the CP PII MMDU floppy drive.

Note: If a problem is detected during the system verification, the install stops, prints an error message, and aborts the installation. If the verification is not successful, do not continue; contact the technical support organization.

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

Before the install runs, the system validates hard disk partitioning which takes about five minutes.

```
Testing partition 0
    0 percent done...1 percent done.....99
    percent done....100 percent done

Testing partition 1
    0 percent done...1 percent done.....99
    percent done....100 percent done

Testing partition 2
    0 percent done...1 percent done.....99
    percent done....100 percent completed!

Disk physical checking is completed!
```

```
Validate hard drive partition number and size...

There are 3 partitions in disk 0:
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte

Disk partitions and sectors checking is
completed!
```

The system then checks the partitions for any errors. The screen displays the following for each partition.

```
Copyright (c) 1993-1996 RST Software Industries
Ltd. All rights reserved

ver: X.X FCS

Disk Check In Progress...

    total disk space (bytes) : XX
    bytes in each allocation unit: XX
    total allocation units on disk: XX
    bad allocation units: XX
    available bytes on disk: XX
    available clusters on disk: XX
    maximum available contiguous chain (bytes):
    XX
    available space fragmentation (%): XX
    clusters allocated: XX

Done Checking Disk.

    checks for PART_X OK!

    pmDosFsCheck is completed!
```

4 Select yes or (no) when asked if a Signaling Server is connected.

```
System Date and Time now is:  
    Day-Month-Year, Hour:Min:Sec  
    Succession Enterprise Software/Database/  
BOOTROM CDROM INSTALL Tool  
    Does this System have a Signaling  
Server.....? (Default - No)  
    Please enter:  
<CR> -> <n> - No  
    <y> - Yes  
    Enter Choice>
```

- 5 The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

```
                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> <CR>

>Validating Keycode

    The provided keycode authorizes the install of
    XXXXXXXX software

    (all subissues) for machine type XXXX

    (XXX processor on XXXX System)
```

IMPORTANT!

Remove install floppy disk at this time and insert the keycode diskette.

- 6 The screen displays the Install Menu. Confirm that the keycode matches the CD-ROM release.

```
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> <CR>
```

```
>Obtain database file names
```

7 Enter **a** to install the Software, Database and CP-BOOTROM.

```

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
```

8 Verify the CD-ROM version.

```
Please insert the installation CDROM into the
drive on Core X.
```

```
        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> <CR>
```

```
The installation CDROM contains version XXXXXXXX_X.
```

```
        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> <CR>
```

```
        >copying direct.rec from /cd0/0300_KMR.N33/
target/p/s11/direct.rec to /u/direct.rec
```

```
        >Updating /u/direct.rec
```

9 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.

Note: Dependency Lists must always be loaded.
If out of date, MDP refresh may be used to update
the DepList.

10 Confirm all options before installing the software.

```

>Processing the Install Control file
  >Installing release XXXXX

      INSTALLATION STATUS SUMMARY
-----
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| SW: CD to disk | yes | | install for rel XXXXX|
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| Dependency Lists | yes | |
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| AUTO-CSU Feature | no | AUTO-CSU Disabled |
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| IPMG Software | no | |
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| Database | no | |
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| CP-BOOTROM | yes | |

```

```
XXXX to release: XXXXX.  
  
This will erase all old system files.  
  
Please enter:<CR> -> <y> - Yes, start  
Installation.  
  
          <n> - No, stop Installation. Return to the  
Main Menu.  
  
Enter Choice> <CR>  
  
>Checking System Configuration  
  
You selected to upgrade the system from release:  
  
Database files will NOT be erased. You may  
continue installing the software or quit now and  
leave your system unchanged.  
  
Please enter:  
  
<CR> -> <a> - Continue with Upgrade.  
  
<q> - Quit.  
  
Enter Choice> <CR>  
  
>Starting Software Install  
  
          >Upgrading from release XXXX to release  
XXXXXX
```

- 11** After a number of files are copied over, select a PSDL file to install. The PSDL file 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

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

12 Enter **<CR>** when prompted, returning the system to the Install Menu.

13 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
```

14 The system then prompts you to confirm and reboot.

```
You selected to Quit the Software Installation
Tool.

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

Remove all disks from the system before rebooting.

-----

DO NOT REBOOT USING BUTTON!!!

-----

Please enter:

<CR> -> <a> - Reboot the system.
      <m> - Return to the Main menu.
Enter Choice> <CR>

>Removing (temporary files)

>Rebooting system ...
```

Before completing the next procedure, wait for Core/Net 1 to Initialize.

End of Procedure

Check for peripheral software download

Access LD 22 and print the Target peripheral software version.
(The Source peripheral software version was printed during the pre-conversion procedure.)

If there is a difference between the Source and Target peripheral software version, a forced download occurs during initialization when coming out of parallel reload. System initialization takes longer and established calls on IPE are dropped.

LD 22	Load program
REQ	Print
TYPE	PSWV
ISS	Print issue and release
TID	Print Tape/Aux ID
ISSP	Print System, DepList, and Patch information
SLT	Print system parameters
****	Exit program

Transfer call processing from Core/Net 0 to Core/Net 1



CAUTION — Service Interruption

Service Interruption

Call Processing will be interrupted! Perform these next steps carefully. This is the point at which service is interrupted. Calls in process are interrupted, especially if Peripheral Software Download takes place.



WARNING

System initialization may take up to 15 minutes or longer.



IMPORTANT!

Power down all applications.

From Core/Net 0, the active side, transfer call processing to Core/Net 1

To transfer call processing, do the following:

- | | |
|---------------|-------------------------------|
| LD 135 | Load the program |
| CUTOVR | The inactive CP become active |



Core/Net 0 is in split mode, CP 1 is active, Clock 1 is active.

FIJI Download



IMPORTANT!

On FNF based systems after the INI, a FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, download up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all Fiji's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

Test Core/Net 1

Follow the steps in Procedure 7 to test call processing on Core/Net 1.

Procedure 7 Testing call processing on Core/Net 1

- 1 Check for dial tone.
- 2 Make internal, external, and network calls.
- 3 Check attendant console activity.
- 4 Check DID trunks.
- 5 Check any auxiliary processors.

End of Procedure

Note: From this point forward Core/Net 0 is being upgraded with new software.

Install software on Core/Net 0

For CP PII systems, follow the steps in Procedure 6 on [page 84](#) to install the new software on Core/Net 0. Where “Core/Net 1” appears, assume “Core/Net 0”.

Note: Move cable to J25 of Core/Net 0.

Enable system redundancy

Follow the steps in Procedure 8 to enable system redundancy.

Procedure 8 Enabling system redundancy

1 From the active CPU, Core/Net 1, enable redundancy:

LD 135 Load program

JOIN Synchronize the memory and drives



System is now in redundant mode,

Test Core/Net 1 and Core/Net 0

Follow the steps in Procedure 9 to test Core/Net 1 and Core/Net 0.

Procedure 9

Testing Core/Net 1 and Core/Net 0

From the active CPU, Core/Net 1, perform these tests:

- 1 Perform a redundancy sanity test using the following sequence.

LD 135	Load program
STAT CNI c s	Get status of cCNI cards
STAT CPU	Get status of CPU and memory
TEST CPU	Test the CP card in both Core/Nets
TEST CNI c s	Test each cCNI card (core, slot)
STAT SUTL	Get status of System Utility card
TEST SUTL	Test the System Utility card
TEST IPB	Test the Inter Processor Bus

- 2 Test system redundancy.

LD 137	Load program
TEST RDUN	Test redundancy
DATA RDUN	
TEST CMDU	Test the CP PII MMDU card
STAT FMD	Status of CP PIV Fixed Media Device (FMD)
STAT RMD	Status of CP PIV Removable Media Device (RMD)

3 Switch Cores and test the other side (Core/Net 0).

LD 135	Load program
SCPU	Switch cores
TEST CPU	Test the inactive Core/Net
STAT CNI c s	Get status of cCNI (both main and Transition) cards
TEST CNI c s	Test cCNI (both main and Transition) cards
STAT SUTL	Get status of System Utility card
TEST SUTL	Test System Utility card
TEST IPB	Test Inter Processor Bus

4 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

5 Get the status of the Cores, CNIs, and memory.

STAT CPU	Get the status of both Cores and redundancy
STAT CNI c s	Get the status of all configured cCNIs (both main and Transition) cards
STAT HEALTH	Get status of CPU and memory (If health is not the same on both Cores and IPL health, the cores will not swap.)
****	Exit program

End of Procedure

Perform a data dump

Follow the steps in Procedure 10 (CP PII) and Procedure 11 (CP PIV) to perform a data dump.

Procedure 10 Performing a data dump (CP PII)

- 1 Load the LD 43. At the prompt, enter:

LD 43 Load the program
- 2 Insert a floppy disk into the CP PII MMDU to capture the backup.
- 3 When “EDD000” appears on the terminal, enter:

EDD Begin the data dump
- 4 When “DATABASE BACKUP COMPLETE” or “DATADUMP COMPLETE” appears on the terminal, enter:

**** Exit the program



CAUTION — Service Interruption

Loss of Data

If the data dump is not successful, do not continue. Contact the technical support organization. Correct any data dump problem before continuing.

End of Procedure

Procedure 11 Performing a data dump (CP PIV)

- 1 Remove the existing CF card from the active Core/Net RMD slot and insert a fresh CF card.
- 2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

LD 43 Load program.

. EDD

- 3 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.

- 4 When “DATADUMP COMPLETE” and “DATABASE BACKUP COMPLETE” appear on the terminal, enter:

******** Exit program

End of Procedure

To complete the parallel reload, proceed to “Post-conversion procedure” on [page 258](#).



The parallel reload procedure is complete.

Back out of a system software upgrade (CP PII)

To back out of a system software upgrade once it is in the redundant mode split the cores and install the old release of software. Perform the following procedures in order.

Split the Cores

Follow the steps in Procedure 12 on [page 106](#) to split the core processors.

Procedure 12
Splitting the cores

- 1 From the active side, split the cores.

LD 135	Load the program
SPLIT	Enter Split on the active core (Allow the former active side to INIT before continuing)
****	Exit program

End of Procedure

Install the software on Core/Net 1

Follow the steps in Procedure 13 to re-install the old release of software.

Procedure 13
Installing the old release of software

- 1 Install the CD-ROM into the CD-ROM drive in the CP PII MMDU.
 - 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 facing up. Use the four tabs to secure the CD-ROM drive.
 - c. Press the button again to close the CD-ROM disk holder.
Do not push the holder in by hand.

Note: If the CD-ROM is not in the CD-ROM drive, the installation will not continue. Insert the CD-ROM to continue.

- 2 Place the Install floppy disk with the old software release into the CP PII MMDU floppy drive.

Note: If a problem is detected during the system verification, the install stops, prints an error message, and aborts the installation. If the verification is not successful, do not continue. Contact the technical support organization.

- 3 Press the manual RESET button on the CP PII card faceplate. Before the install menu runs, the system validates hard disk partitioning which takes about five minutes.

```
Testing partition 0
    0 percent done...1 percent done...99 percent done....100
    percent done
Testing partition 1
    0 percent done...1 percent done...99 percent done....100
    percent done
Testing partition 2
    0 percent done...1 percent done...99 percent done....100
    percent completed!
Disk physical checking is completed!
There are 3 partitions in disk 0:
The size of partition 0 of disk 0 is XX MB
The size of partition 0 of disk 0 is XX MB
The size of partition 0 of disk 0 is XX MB
Disk partitions and sectors checking is completed!
```

- 4 At the terminal, press <cr> to start the software installation.
- 5 When prompted, remove the Install Program diskette and insert the Keycode diskette.
 - <a> Continue with keycode validation.
 - <y> Confirm that the keycode matches the CD-ROM release.
- 6 When the screen displays the Install Menu, select the following options in sequence when prompted:
 - <a> Install software.
 - <a> Verify that the CD-ROM is now in drive.The Installation Status Summary screen appears that lists the options to be installed.

- <y> Start Installation.
- <a> Continue with Upgrade.

7 Enter **b** to install the Software, Database and CP-BOOTROM.

```
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 Select a PSDL file to install. The PSDL file 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> North America 6 Languages (Duplicate of <4>)

The languages contained in each selection are outlined as follows:

- 1 – English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – English, French, German, Spanish, Swedish, Norwegian, Danish, Finnish, Italian, Brazilian Portuguese.
- 3 – English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – English, Spanish, French, Brazilian Portuguese, Japanese Katakana, German.
- 5 – English, French, German, Spanish, Swedish, Italian, Norwegian, Portuguese, Finnish, Japanese Katakana.
- 6 – English, Spanish, French, Brazilian Portuguese, Japanese Katakana, German.

(Current Release) Language groups

- 9 Select a PSDL file to install. The PSDL file 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> North America 6 Languages (Duplicate of <4>)

The languages contained in each selection are outlined as follows:

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

- 10 Continue with ROM upgrade when prompted.
 Select a database to install.

- <cr> Enter carriage return to continue.
- <a> Continue with CP BOOTROM installation.
- <a> Install the CP BOOTROM from hard disk.

<a> Start installation.

<a> Continue with ROM upgrade.

The Installation Status Summary screen appears. Verify that CD to disk, disk to ROM, and CP-BOOTROM were installed.

<cr> Continue.

<q> Quit.
Remove any diskettes and the CD-ROM from the CP PII MMDU drives.

<y> Confirm quit.

<a> Reboot the system.

11 Confirm that the software is installed and working on Core/Net 1:

LD 135 Load program

STAT CPU Display CPU status

STAT CNI Display cCNI status

End of Procedure

Transfer call processing from Core/Net 0 to Core/Net 1



CAUTION — Service Interruption

Service Interruption

The following procedure to transfer call processing can cause service interruptions. Time the procedure to minimize the effect of any breaks in service.



IMPORTANT!

Power down all applications (Meridian Mail, CallPilot, Symposium).



CAUTION — Service Interruption

Service Interruption

The INI may take up to 15 minutes to complete.

From Core/Net 0, the active side, transfer call processing to Core/Net 1:

LD 135 Load program

CUTOVR The inactive CP become active



CAUTION — Service Interruption

Service Interruption

The INI may take up to 15 minutes to complete.



Call processing is now switched from Core/Net 0 to Core/Net 1.

FIJI Download

On FNF based systems after the INI, a FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, download up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all Fiji's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.



IMPORTANT!

Power up all applications (Meridian Mail, CallPilot, Symposium).

Test Core/Net 1

Follow the steps in Procedure 14 to test call processing on Core/Net 1. Testing call processing includes, but is not limited to the following tests.

Procedure 14

Testing call processing on Core/Net 1

- 1 Check for dial tone.
- 2 Make internal, external, and network calls.
- 3 Check attendant console activity.
- 4 Check DID trunks.
- 5 Check any auxiliary processors.

End of Procedure

Note: From this point Core/Net 0 is being upgraded with the replacement software.

Install software on Core/Net 0

Follow the steps in Procedure 13 on [page 106](#) to install the old software on Core/Net 0. Where “Core/Net 1” appears, assume “Core/Net 0”.

Check for peripheral software download

Access LD 22 to print the Target peripheral software version. (The Source peripheral software version was printed during the pre-conversion procedure.)

If there is a difference between the Source and Target peripheral software version, a forced download occurs during initialization when coming out of parallel reload. System initialization takes longer and established calls on IPE are dropped.

LD 22	Load program
REQ	Print
TYPE	PSWV
ISS	Print issue and release
TID	Print Tape/Aux ID
ISSP	Print System, DepList, and Patch information
****	Exit program

Enable system redundancy

Follow the steps in Procedure 15 to enable system redundancy.

Procedure 15 Enabling system redundancy

- 1 From the active CPU, Core/Net 1, enable redundancy:

LD 135	Load program
JOIN	Synchronize the memory and drives



System is now in redundant mode.

Test Core/Net 1 and Core/Net 0

Follow the steps in Procedure 16 to test call processing on Core Net 1 and Core/Net 0.

Procedure 16

Testing call processing on Core/Net 1 and Core/Net 0

- 1 From the active CPU, Core/Net 1, perform a redundancy sanity test using the following sequence:

LD 135	Load program
STAT CNI c s	Get status of cCNI cards
STAT CPU	Get status of CPU and memory
TEST CPU	Test the CP PII card in both Core/Nets
TEST CNI c s	Test each cCNI card (core, slot)
STAT SUTL	Get status of System Utility (main and Transition) cards
TEST SUTL	Test System Utility (main and Transition) cards
TEST IPB	Test Inter Processor Bus
TEST LCD	Test LCDs
TEST LED	Test LEDs

- 2 Test system redundancy:

LD 137	Load program
TEST RDUN	Test redundancy
DATA RDUN	
TEST CMDU	Test the MMDU card

- 3** Switch Cores and test the other side (Core/Net 0).
- | | |
|---------------------|---|
| LD 135 | Load program |
| SCPU | Switch cores |
| TEST CPU | Test the inactive Core/Net |
| STAT CNI c s | Get status of cCNI (both main and Transition) cards |
| TEST CNI c s | Test cCNI (both main and Transition) cards |
| STAT SUTL | Get status of System Utility card |
| TEST SUTL | Test System Util card |
| TEST IPB | Test Inter Processor Bus |
| TEST LCD | Test LCDs |
| TEST LED | Test LED |
- 4** 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 |
- 5** Get the status of the Cores, CNIs, and memory.
- | | |
|---------------------|---|
| STAT CPU | Get the status of both Cores and redundancy |
| STAT CNI c s | Get the status of all configured cCNIs (both main and Transition) cards |
| **** | Exit program |

End of Procedure

Perform a data dump

Follow the steps in Procedure 17 on [page 118](#) to perform a data dump.

Procedure 17 Performing a data dump

- 1 Load the LD 43. At the prompt, enter

LD 43 Load program

- 2 When “EDD000” appears on the terminal, enter

EDD Begin 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. Correct any
data dump problem before continuing.

End of Procedure

Meridian 1 Options 61C, 81 and 81C software upgrade procedure

Prepare for upgrade

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

Each 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.

Each 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 11.

Table 11
Prepare for upgrade steps

Procedure Step	Page
Plan upgrade	120
Upgrade Checklists	120
Prepare	120
Identifying the proper procedure	121
Connect a terminal	121
Print site data	122
Perform a template audit	125
Back up the database (data dump and ABKO)	126
Identify two unique IP addresses	130

Plan upgrade

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.
- Ensure Sufficient power for new columns/modules or applications.
- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.
- Identify and correct outstanding service problems.
- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.
- Determine if software can be converted on site or must be sent to Nortel Networks.
- Prepare a contingency plan for backing out of the upgrade.

Upgrade Checklists

Upgrade checklists can be found in the “Upgrade checklists” on [page 979](#). Engineers may print this section in order to facilitate the upgrade.

Prepare

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.

- Determine the current patch or Dep lists installed at the source platform.
- Determine the required patch or Dep lists at the target platform.
- 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.

Identifying the proper procedure

Each procedure has been written in a source to target format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.



IMPORTANT!

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

Connect a terminal

Procedure 18 **Connecting a terminal**

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 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
- 3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

End of Procedure

Print site data

Print site data to preserve a record of the system configuration (Table 12). 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 12
Print site data (Part 1 of 4)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>

Table 12
Print site data (Part 2 of 4)

Site data	Print command	
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
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV

Table 12
Print site data (Part 3 of 4)

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

Table 12
Print site data (Part 4 of 4)

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

Perform a template audit

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

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



CAUTION — Service Interruption

Loss of Data

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

**TEMPLATE 0001 USER COUNT LOW CHECKSUM
OK**

**TEMPLATE 0002 USER COUNT CHECKSUM
HIGH OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

**TEMPLATE 0001 USER COUNT OK CHECKSUM
OK**

•

•

**TEMPLATE 0120 USER COUNT OK CHECKSUM
OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

To back up system data, complete the following two procedures.

- 1** Perform a data dump to save all system memory to the hard disk.
- 2** Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 19
Performing a data dump

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

LD 43 Load program

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

EDD Begin data dump

**CAUTION — Service Interruption****Loss of Data**

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

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

**** Exit program

End of Procedure

Procedure 20
Performing an ABKO (save the database to floppies)

- 1 Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

Note: If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

- 2 Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

LD 143 Load program

- 3 Run the ABKO backup (LD 143).

ABKO Run backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

- 4 If there are validation errors, repeat the procedure.



CAUTION — Service Interruption

Loss of Data

If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PII.

- 5 Once the backup is complete, type:

**** Exit program

End of Procedure

Procedure 21
Converting the 4 Mbyte database media to 2 Mbyte database media**IMPORTANT!**

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. See "Database transfer" on [page 197](#).

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

All systems can be converted by Nortel Networks in the software conversion lab.

Before the system is upgraded to CP PII, you must convert the database to 2 MB media. Systems with an IODU/C drive already have 2 MB media and can skip this procedure.

If the database is on a 4 MB database media (the system has an IOP/CMDU), the 4 Mbyte customer database must be transferred to 2 MB media.

- 1 Split the Cores and transfer call processing to Core 0.
- 2 Install the Database Transfer Utility diskette into the floppy drive on the IOP or CMDU in Core 1.

- 3 Press the reset button (MAN RST) on the Call Processor card in Core 1 to reboot the system. Start the Database Transfer Utility Tool.



CAUTION — Service Interruption

Select only options:

- <t> Tools Menu from the Install menu, and
- <s> To archive existing database from the Tools menu.

DO NOT select any other options. Other options can result in operating system corruption.

- 4 From the installation menu select:

- | | |
|----------|--|
| <t> | Go to the Tools menu. |
| <s> | Archive existing database. |
| <cr> <a> | Continue with archive (insert blank 2MB diskette from the software kit into the floppy drive in Core 1). |
| <cr> <a> | Diskette is now in floppy drive in Core 1. |

- 5 The message displays “Database backup complete!” and the Tool menu appears again after the backup completes correctly.
- 6 Remove the 2 MB diskette with the customer database from the floppy drive of the IOP or CMDU. Keep the diskette for use after you convert Core 1 to NT4N40 Core/Net 1. Do not reboot the system at this point.

End of Procedure

Identify two unique IP addresses

Each CP PII system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this

configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your systems administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see “Configuring IP addresses” on [page 401](#).

Perform upgrade



CAUTION WITH ESDS DEVICES

To avoid damaging equipment from electrostatic discharge, wear a properly connected anti-static wrist strap when working on or near Meridian 1 equipment.



WARNING

Use the procedures in this section if the system is equipped with NT5D61 Input Output Disk Unit with CD-ROM (IODU/C) card(s). If the system is not equipped with the IODU/C card, do not use these procedures

The procedures in this section describe how to do the following:

- convert one software release to a later release
- perform a software up-issue within in the same software release

The procedure should only be used for systems equipped with IODUC cards.

To better understand the process, read through the entire procedure before beginning the conversion.

Parallel reload the Meridian 1 Option 61C and Meridian 1 81/81C CP3 CP4

Note: This procedure does not include instructions for installing new IODU/C cards, CP cards or CP memory. If required, refer to “Installing IODU/C cards, CP cards, CP memory” in Book 3.

Use the parallel reload procedures to convert from one software release to a later release or to up-issue software within the same software release. These parallel reload procedures are for software conversions only. Do *not* use this procedure for any other purpose. Parallel reloads can be done from either CPU. For the purposes of this document, the parallel reload begins with CPU 0.

If during the software conversion a problem is detected and it is determined that the system should revert back to the source release follow the “Parallel reload procedures” on [page 239](#).

Verify memory

Determine whether the system requires additional memory. Refer to “Installing IODU/C cards, CP cards, CP memory” in Book 3 for memory requirements and upgrade procedures.

Perform a data dump

Follow the steps in Procedure 22 to perform a data dump.

Procedure 22 **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 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

Follow the steps in Procedure 23 to determine the required hardware status.

Procedure 23 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 the 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

Follow the steps in Procedure 24 to split the core processors.

Procedure 24

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

Install software on Core/Net 1

Follow the steps in Procedure 25 to install the system software on Core/Net 1.

Procedure 25

Installing the system software on Core/Net 1

- 1 Place the CP Install disk that corresponds with the installed CP card type into the IODU/C in Core/Net 1.
- 2 Install the CD-ROM into the CD drive:
 - 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. Use the four tabs to secure the CD-ROM drive.
 - d. Press the button again to close the CD-ROM disk holder. Don't push the holder in by hand.
- 3 In Core/Net 1 press and release the MAN RST button on the CP card.

A Sysload begins (cold start). Wait for the Main Menu to appear on the terminal before proceeding.

Note 1: If the CD-ROM is not in the CD drive of the IODU/C, the installation procedure will not continue. Insert the CD-ROM into the drive to continue.

Note 2: If a problem is detected during the system verification, the Install process stops, prints an error message, and aborts the installation. If the verification is not successful, do not continue. Contact the technical support organization.

- 4 Press <CR> to continue.
- 5 Log into the system. Enter the time and date, when prompted.

- 6 Select yes or (no) when asked if a Signaling Server is connected:

```

System Date and Time now is:

    Day-Month-Year, Hour:Min:Sec

    Succession Enterprise Software/Database/BOOTROM
CDROM INSTALL Tool

    Does this System have a Signaling Server.....? (Default - No)

    Please enter:

<CR> -> <n> - No

    <y> - Yes

    Enter Choice>

```

- 7 The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

```

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> <CR>

    >Validating Keycode

    The provided keycode authorizes the install of X210300 software
(all subissues) for machine type XXXX
(XXX processor on XXXX System)

```



IMPORTANT!

Remove keycode floppy disk at this time and insert the database backup disk.

- 8 The screen displays the Install Menu. Confirm that the keycode matches the CD-ROM release:

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> <CR>

>Obtain database file names

9 Enter **b** to install the Software, Database and CP-BOOTROM:

I N S T A L L M E N U

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

Please enter:

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

 - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> **b**

10 Verify the CD-ROM version:

Please insert the installation CDROM into the drive on Core X.

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> **<CR>**

The installation CDROM contains version X210300_K.

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> **<CR>**

>copying direct.rec from /cd0/0300_KMR.N33/target/p/sl1/
direct.rec to /u/direct.rec

>Updating /u/direct.rec

>Processing the Install Control file

>Installing release 4.x

11 Confirm all options before installing the software:

```

          INSTALLATION STATUS SUMMARY
          -----
          =====+=====+=====+=====
          | Option   | Choice | Status | Comment   |
          =====+=====+=====+=====
          | SW: CD to disk | yes   |      | install for rel 4.x |
          =====+=====+=====+=====
          | Option   | Choice | Status | Comment   |
          =====+=====+=====+=====
          | Database | yes   |      |           |
          =====+=====+=====+=====
          | Option   | Choice | Status | Comment   |
          =====+=====+=====+=====
          | CP-BOOTROM | yes   |      |           |

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

          Enter Choice> <CR>
          >Checking System Configuration

          You selected to upgrade the system from release: XXXX to release:
          4.x.

          This will erase all old system files.

```

Database files will NOT be erased. You may continue installing the software or quit now and leave your system unchanged.

Please enter:

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

<q> - Quit.

Enter Choice> <CR>

>Starting Software Install

>Upgrading from release XXXX to release 4.x

- 12** After a number of files are copied over, select a PSDL file to install. The PSDL file 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

The languages contained in each selection are outlined as follows:

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

13 Continue with upgrade when prompted. Select a database to install:

Software release 4.x was installed successfully on Core X.

All files were copied from CDROM to the hard disk.

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

You will now perform the database installation.

Note: If you are installing the Database from a floppy disk, please insert the correct disk now.

Please enter:

<CR> -> <a> - Install CUSTOMER Database
(the customer database diskette must be in the Core X disk drive).

 - Install DEFAULT Database
(the installation CDROM must be in the Core X disk drive).

<c> - Transfer the previous system Database.

<e> - Check the Database that exists on the hard disk.

<q> - Quit.

Enter Choice> **<CR>**

14 Confirm database transfer:

You selected to transfer the database from the floppy disk - release: XXXX to the hard disk on Core X. release: XXXX.

This will erase the database on the hard disk.

The database diskette has been inserted into the floppy disk drive.

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

Please enter:

<CR> -> <a> - Continue with Database Install.

<q> - Quit.

Enter Choice> **<CR>**

The system then informs you of the database details and prompts you to confirm:

```
You have chosen to restore database dated: Jul 07 14:10:00 2003
```

```
Please confirm.
```

```
Please enter:
```

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

```
<n> - No, DO NOT load.
```

```
Enter Choice> <CR>
```

- 15** The system restores the database and provides a status summary.

Note: The hard drive on a new system displays an error message that no database is found on hard drive. This message can be ignored.

- 16** Enter <CR> when prompted, returning the system to the Install Menu.

17 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.

 - 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**

18 The system then prompts you to confirm and reboot:

```
You selected to Quit the Software Installation Tool.  
You may reboot the system or return to the Main Menu.  
Before rebooting the system, remove Install diskette from the floppy  
drive(s).
```

```
-----  
DO NOT REBOOT USING BUTTON!!  
-----
```

```
Please enter:
```

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

```
<m> - Return to the Main menu.
```

```
Enter Choice> <CR>
```

```
>Removing temporary files
```

```
>Remove /u/diskXXXX.sys
```

```
>Quit Install. Reboot system...
```

End of Procedure

If the system fails to load, or system messages indicate data corruption, back out of the parallel reload process by performing the steps in “Back out of the parallel reload and re-install old software” on [page 168](#).

Determine peripheral software version

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed during the pre-conversion procedure. If there is a difference between the Source and Target peripheral software version, a forced download will occur during initialization when coming out of parallel reload. System initialization will take longer and established calls on IPE will be dropped.

LD 22	Load program
REQ	PRT
TYPE	PSWV
****	Exit program

Switch call processing to Core/Net 1



CAUTION — Service Interruption

Service Interruption

Call Processing will be interrupted! Perform these next steps carefully. This is the point at which service is interrupted. Calls in process are interrupted, especially if Peripheral Software Download takes place. Some calls might be dropped.



WARNING

System initialization may take up to 15 minutes or longer.



IMPORTANT!

Power down all applications (Meridian Mail, CallPilot, Symposium).

Follow the steps in Procedure 26 to switch call processing from Core/Net 0 to Core/Net 1.

Procedure 26

Switching call processing from Core/Net 0 to Core/Net 1

- 1 In Core/Net 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.
- 2 In Core/Net 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS and unseat it.
- 3 In Core/Net 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.
- 4 In Core/Net 1, press the MAN INT button.

End of Procedure

FIJI Download

On FNF based systems after the INI, a FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, download up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all Fiji's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.



CAUTION — Service Interruption

Service Interruption

The INI may take up to 15 minutes to complete.



CP1 is active, Clock 1 is active, IODU/C is active. If equipped, the FIJI ring is in half/half mode.

Call processing is now switched from Core/Net 0 to Core/Net 1.



IMPORTANT!

Power up all applications (Meridian Mail, CallPilot, Symposium).

Test Core/Net 1

Procedure 27

Testing Core/Net 1

- 1 Check dial tone.
- 2 Make internal, external and network calls.
- 3 Check attendant console activity.
- 4 Check DID trunks.

- 5 Check applications (CallPilot, Symposium, Meridian Mail, etc.).

End of Procedure

Install new software on Core/Net 0

Follow the steps in Procedure 28 to install the new software on Core/Net 0.

Procedure 28

Installing the software and converting the database

- 1 Check that a terminal is connected to J25 on Core/Net 0.
- 2 In Core/Net 0, install the CD-ROM into the CD-ROM drive in the IODU/C:
 - 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: If the CD-ROM is not in the CD-ROM drive, the installation will not continue. Insert the CD-ROM to continue.

- 3 Place the CP PII Install floppy disk into the IODU/C floppy drive.

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.

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

- 5 Select yes or (no) when asked if a Signaling Server is connected:

```
System Date and Time now is:
      Day-Month-Year, Hour:Min:Sec
      Succession Enterprise Software/Database/BOOTROM
CDROM INSTALL Tool
      Does this System have a Signaling Server.....? (Default - No)
      Please enter:
<CR> -> <n> - No
      <y> - Yes
      Enter Choice>
```

- 6 The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

```
                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> <CR>
      >Validating Keycode

      The provided keycode authorizes the install of X210300 software
      (all subissues) for machine type XXXX
      (XXX processor on XXXX System)
```

**IMPORTANT!**

Remove keycode floppy disk at this time and insert the database backup disk.

- 7 The screen displays the Install Menu. Confirm that the keycode matches the CD-ROM release:

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> <CR>

>Obtain database file names

8 Enter **b** to install the Software, Database and CP-BOOTROM:

I N S T A L L M E N U

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

Please enter:

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

 - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> **b**

9 Verify the CD-ROM version:

Please insert the installation CDROM into the drive on Core X.

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> **<CR>**

The installation CDROM contains version X210300_K.

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> **<CR>**

>copying direct.rec from /cd0/0300_KMR.N33/target/p/sl1/
direct.rec to /u/direct.rec

>Updating /u/direct.rec

>Processing the Install Control file

>Installing release 4.x

10 Confirm all options before installing the software:

```

                                INSTALLATION STATUS SUMMARY
                                -----
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| SW: CD to disk | yes | | install for rel 4.x |
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| Database | yes | | |
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| CP-BOOTROM | yes | | |

Please enter:<CR> -> <y> - Yes, start Installation.
<n> - No, stop Installation. Return to the Main Menu.
Enter Choice> <CR>
>Checking System Configuration
You selected to upgrade the system from release: XXXX to release:
4.x.
This will erase all old system files.
```

Database files will NOT be erased. You may continue installing the software or quit now and leave your system unchanged.

Please enter:

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

<q> - Quit.

Enter Choice> <CR>

>Starting Software Install

>Upgrading from release XXXX to release 4.x

- 11** After a number of files are copied over, select a PSDL file to install. The PSDL file 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

The languages contained in each selection are outlined as follows:

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

12 Continue with upgrade when prompted. Select a database to install:

Software release 4.x was installed successfully on Core X.

All files were copied from CDROM to the hard disk.

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

You will now perform the database installation.

Note: If you are installing the Database from a floppy disk, please insert the correct disk now.

Please enter:

<CR> -> <a> - Install CUSTOMER Database

(the customer database diskette must be in the Core X disk drive).

 - Install DEFAULT Database

(the installation CDROM must be in the Core X disk drive).

<c> - Transfer the previous system Database.

<e> - Check the Database that exists on the hard disk.

<q> - Quit.

Enter Choice> <CR>

13 Confirm database transfer:

You selected to transfer the database from the floppy disk - release: XXXX to the hard disk on Core X. release: XXXX.

This will erase the database on the hard disk.

The database diskette has been inserted into the floppy disk drive.

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

Please enter:

<CR> -> <a> - Continue with Database Install.

<q> - Quit.

Enter Choice> <CR>

The system then informs you of the database details and prompts you to confirm:

```
You have chosen to restore database dated: Jul 07 14:10:00 2003

Please confirm.

Please enter:

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

        <n> - No, DO NOT load.

Enter Choice> <CR>
```

- 14 The system restores the database and provides a status summary.

Note: The hard drive on a new system displays an error message that no database is found on hard drive. This message can be ignored.

- 15 Enter <CR> when prompted, returning the system to the Install Menu.

16 Enter **q** to quit:

INSTALL MENU

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

Please enter:

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

 - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> **q**

17 The system then prompts you to confirm and reboot:

You selected to Quit the Software Installation Tool.
You may reboot the system or return to the Main Menu.
Before rebooting the system, remove Install diskette from the floppy drive(s).

DO NOT REBOOT USING BUTTON!!

Please enter:

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

<m> - Return to the Main menu.

Enter Choice> **<CR>**

>Removing temporary files

>Remove /u/diskXXXX.sys

>Quit Install. Reboot system...

End of Procedure

Exiting split mode

Follow the steps in Procedure 29 to exit the split mode.

Procedure 29

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

Follow the steps in Procedure 30 to test Core/Net 0 and Core/Net 1.

Procedure 30

Testing Core/Net 0 and Core/Net 1

- 1 Perform a redundancy sanity test. Use 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

Switch the Clocks

Procedure 31 Switching the Clocks

- 1 Verify that the clock controller is assigned to the *active* Core.

LD 60 Load 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

If equipped, stat the FIJI rings

Procedure 32

Stat the rings

- 1 Check the status of Ring 0 and Ring 0.

LD 39 Load program

STAT RING To get the status of Ring 0
0 (Ring state should be HALF/HALF)

- 2 Check the status of Ring 0 and Ring 1.

LD 39 Load program

STAT RING To get the status of Ring 0
1 (Ring state should be HALF/HALF)

End of Procedure

Synchronize the hard disks

Follow the steps in Procedure 33 to synchronize the hard disks.

Procedure 33

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 (Wait until the memory synchronization 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 (Be sure the same IODU/C and CPU are active)
****	Exit program

Perform a data dump

Procedure 34 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 the following:
 **** Exit program

Proceed to "Post-conversion procedure" on [page 258](#).



The parallel Reload process is complete. The system is now running on the target release
System is now in redundant mode.

End of Procedure

Back out of the parallel reload and re-install old software

Follow the steps in Procedure 35 to back out of the parallel reload and re-install the old software.

Procedure 35 Backing out of the parallel reload and re-installing old software

- 1 Place the original Install disk 1 into the IODU/C in Core/Net 1.
- 2 In Core/Net 1, press the MAN RST button.
- 3 Select <u> to initiate the Install Tool.
- 4 Remove the CP Install diskette and insert the source keycode diskette.

- 5 Select <a> to continue with keycode validation.

**IMPORTANT!**

Remove keycode floppy disk at this time.

- 6 When the install screen appears, select the following options in sequence, and insert the **source** database diskette when prompted.
- Install software, database, CP-BOOT ROM, and IOP-ROM.
 - <a> Start installation.
 - <a> Continue with upgrade.
- 7 When the database installation screen appears, select the following:
- <c> Transfer the previous system database (DBMT).
 - <a> Continue with the database install.
 - <y> Delete the hardware infrastructure database files from the hard disk.
- 8 When the ROM installation screen appears, select the following:
- <a> Continue with the ROM upgrade.
- 9 Following the database installation, upgrade the ROMs:
- <a> Continue with ROM upgrade (CP-BOOT).
 - <y> Start installation.
 - <a> Continue with ROM upgrade (IOP-ROM).
- 10 Remove the source database disk from the IODU/C in Core/Net 1.

- 11 From the main menu, select the following options to quit and reload the system:

<q> Quit.

<y> Confirm quit.

- 12 Remove any diskettes from the floppy drive, and type:

<a> Reboot the system.

The system automatically performs a Sysload during which several messages appear on the system terminal. Wait for "DONE" and then "INI" messages to be displayed before continuing.

- 13 In Core/Net 1, perform the following steps:

- Enable the CNI cards by setting the ENB/DIS faceplate switches to ENB.
- Press and release the MAN RST button on the CP card.
- When SYS700 messages appear on the CP 1 LCD display, set CP 1 MAINT/NORM switch to NORM.

Within 60 seconds, the LCD displays the following messages, confirming the process.

RUNNING ROM OS
ENTERING CP VOTE

An "HWI534" message from the CPSI or SDI port indicates the start of memory synchronization. Within 10 minutes, an "HWI533" message on Core/Net 0 CPSI or SDI TTY indicates the memory synchronization is complete. Wait until the memory synchronization is complete before continuing.

- 14 In Core/Net 0, set the MAINT/NORM switch on the CP card to NORM.

15 Perform a redundancy sanity test.

LD 135	Load program
TEST CPU	Test the standby (inactive) Core/Net
SCPU	Switch the Cores
CDSP	Clear display
TEST CPU	Test the standby (inactive) Core/Net
SCPU	Switch the Cores

Note: Testing the CPs can take up to 20 minutes for each test. When the test is complete, the memories are automatically synchronized.

16 Load LD 137 and synchronize hard disks. Synchronization can take up to 50 minutes. To be sure the contents of CMDU 0 are copied to CMDU 1, use the STAT command to verify that CMDU 1 is disabled.

LD 137	Load program
STAT CMDU	Get the status of both CMDUs
SYNC	Synchronize disks
TEST CMDU	Performs hard and floppy disk test

End of Procedure



Backing our of the parallel reload process is complete.
The system is now running on the source release.

System is now in redundant mode.

Proceed to “Post-conversion procedure” on [page 258](#).

Meridian 1 Option 51C software conversion



CAUTION WITH ESDS DEVICES

To avoid damaging equipment from electrostatic discharge, wear a properly connected anti-static wrist strap when working on or near Meridian 1 equipment.



WARNING

Use the procedures in this section if the system is equipped with NT5D61 Input Output Disk Unit with CD-ROM (IODU/C) card(s). If the system is not equipped with the IODU/C card, do not use these procedures

The procedures in this section describe how to do the following:

- convert one software release to a later release
- perform a software up-issue within in the same software release

The procedure should only be used for systems equipped with IODUC cards.

To better understand the process, read through the entire procedure before beginning the conversion.

The following section describes how to convert from one software release to another on Meridian 1 Option 51C systems **only**.

Prepare for upgrade

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

Each 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.

Each 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 13 below:

Table 13
Prepare for upgrade steps

Procedure Step	Page
Plan upgrade	173
Upgrade Checklists	174
Prepare	174
Identifying the proper procedure	175
Connect a terminal	175
Print site data	176
Perform a template audit	178
Back up the database (data dump and ABKO)	180
Identify two unique IP addresses	182

Plan upgrade

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.
- Ensure sufficient power for new columns/modules or applications.
- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.
- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.
- Determine if software can be converted on site or must be sent to Nortel Networks.
- Prepare a contingency plan for backing out of the upgrade.

Upgrade Checklists

Upgrade checklists can be found in the “Upgrade checklists” on [page 979](#). Engineers may print this section in order to facilitate the upgrade.

Prepare

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Determine the current patch or Dep lists installed at the source platform.
- Determine the required patch or Dep lists at the target platform.
- 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.

Identifying the proper procedure

Each procedure has been written in a source to target format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.



IMPORTANT!

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

Connect a terminal

Procedure 36 **Connecting a terminal**

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 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
- 3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

End of Procedure

Print site data

Print site data to preserve a record of the system configuration (Table 14). 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 14
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>

Table 14
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	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>

Table 14
Print site data (Part 3 of 3)

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

Perform a template audit

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

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



CAUTION — Service Interruption

Loss of Data

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

**TEMPLATE 0001 USER COUNT LOW CHECKSUM
OK**

**TEMPLATE 0002 USER COUNT CHECKSUM
HIGH OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

**TEMPLATE 0001 USER COUNT OK CHECKSUM
OK**

•

•

**TEMPLATE 0120 USER COUNT OK CHECKSUM
OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

To back up system data, complete the following two procedures.

- 1 Perform a data dump to save all system memory to the hard disk.
- 2 Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 37

Performing a data dump

- 1 Log into the system.
- 2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:
LD 43 Load program
- 3 When "EDD000" appears on the terminal, enter:
EDD Begin the data dump



CAUTION — Service Interruption

Loss of Data

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

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

**** Exit program

Procedure 38**Performing an ABKO (save the database to floppies)**

- 1 Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

Note: If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

- 2 Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

LD 143 Load program

- 3 Run the ABKO backup (LD 143).

ABKO Run the backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

- 4 If there are validation errors, repeat the procedure.

**CAUTION — Service Interruption****Loss of Data**

If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PII.

- 5 Once the backup is complete, type:

**** Exit program

End of Procedure

Identify two unique IP addresses

Each CP PII system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your systems administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see “Configuring IP addresses” on [page 545](#).

Perform upgrade

Verify memory

Determine whether the system requires additional memory. Refer to “Installing IODU/C cards, CP cards, CP memory” in Book 3 for memory requirements and upgrade procedures.

Perform a data dump

Follow the steps in Procedure 39 below to perform a data dump on the Meridian 1 Option 51C.

Procedure 39

Performing a data dump on the Meridian 1 Option 51C

- 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

End of Procedure



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.

STAT the hardware on the Meridian 1 Option 51C

Follow the steps in Procedure 40 to determine the status of the hardware on the Meridian 1 Option 51C.

Procedure 40

Determining the hardware status on the Meridian 1 Option 51C

- 1 Access LD 137 and get the status of the hard disk.

LD 137 Load program

STAT Get the status of the hard disks

- 2 Access LD 135 and get status of the CP, CNI and memory.

LD 135 Load program

STAT CPU Get the status of the CP and memory

STAT CNI Get the status of the CNI



IMPORTANT!

Power down all applications (Meridian Mail, CallPilot, Symposium).

End of Procedure



CAUTION — Service Interruption

Service Interruption

Meridian 1 Option 51C conversion is service affecting
The procedure takes approximately 30 minutes to complete.

Install new software on Meridian 1 Option 51C

Follow the steps in Procedure 41 below to install the new software on the Meridian 1 Option 51C.

Procedure 41

Installing the software and converting the database

- 1 Install the CD-ROM into the CD-ROM drive in the MMDU:
 - 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: If the CD-ROM is not in the CD-ROM drive, the installation will not continue. Insert the CD-ROM to continue.

- 2 Place the Install floppy disk into the MMDU floppy drive.

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.

- 3 Press the manual RESET button on the CP card faceplate.
- 4 Select yes or (no) when asked if a Signaling Server is connected:

```
System Date and Time now is:
    Day-Month-Year, Hour:Min:Sec
    Succession Enterprise Software/Database/BOOTROM
    CDROM INSTALL Tool
    Does this System have a Signaling Server.....? (Default - No)
    Please enter:
    <CR> -> <n> - No
    <y> - Yes
    Enter Choice>
```

- 5 The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

MAIN MENU

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

Please enter:

<CR> -> <u> - To Install menu

<t> - To Tools menu.

<q> - Quit.

Enter Choice> <CR>

>Validating Keycode

The provided keycode authorizes the install of X210300 software
(all subissues) for machine type XXXX
(XXX processor on XXXX System)



IMPORTANT!

Remove keycode floppy disk at this time and insert the database backup disk.

- 6 The screen displays the Install Menu. Confirm that the keycode matches the CD-ROM release:

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> **<CR>**

>Obtain database file names

- 7 Enter **b** to install the Software, Database and CP-BOOTROM:

INSTALL MENU

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

Please enter:

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

 - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> **b**

8 Verify the CD-ROM version:

Please insert the installation CDROM into the drive on Core X.

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> **<CR>**

The installation CDROM contains version X210300_K.

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> **<CR>**

>copying direct.rec from /cd0/0300_KMR.N33/target/p/sl1/
direct.rec to /u/direct.rec

>Updating /u/direct.rec

>Processing the Install Control file

>Installing release 4.x

9 Confirm all options before installing the software:

```

                                INSTALLATION STATUS SUMMARY
                                -----
                                =====+=====+=====+=====
                                | Option   | Choice | Status | Comment   |
                                =====+=====+=====+=====
                                | SW: CD to disk | yes    |        | install for rel 4.x |
                                =====+=====+=====+=====
                                | Option   | Choice | Status | Comment   |
                                =====+=====+=====+=====
                                | Database | yes    |        |           |
                                =====+=====+=====+=====
                                | Option   | Choice | Status | Comment   |
                                =====+=====+=====+=====
                                | CP-BOOTROM | yes    |        |           |

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

                                Enter Choice> <CR>
                                >Checking System Configuration

                                You selected to upgrade the system from release: XXXX to release:
                                4.x.

                                This will erase all old system files.

```

Database files will NOT be erased. You may continue installing the software or quit now and leave your system unchanged.

Please enter:

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

<q> - Quit.

Enter Choice> <CR>

>Starting Software Install

>Upgrading from release XXXX to release 4.x

- 10** After a number of files are copied over, select a PSDL file to install. The PSDL file 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

The languages contained in each selection are outlined as follows:

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

11 Continue with upgrade when prompted. Select a database to install:

Software release 4.x was installed successfully on Core X.
All files were copied from CDROM to the hard disk.
Please press <CR> when ready... **<CR>**
You will now perform the database installation.
Note: If you are installing the Database from a floppy disk,
please insert the correct disk now.
Please enter:
<CR> -> <a> - Install CUSTOMER Database
(the customer database diskette must be in the Core X disk
drive).
 - Install DEFAULT Database
(the installation CDROM must be in the Core X disk drive).
<c> - Transfer the previous system Database.
<e> - Check the Database that exists on the hard disk.
<q> - Quit.
Enter Choice> **<CR>**

12 Confirm database transfer:

You selected to transfer the database from the floppy disk - release:
XXXX to the hard disk on Core X. release: XXXX.
This will erase the database on the hard disk.
The database diskette has been inserted into the floppy disk drive.
If you quit now, the database will be left unchanged.
Please enter:
<CR> -> <a> - Continue with Database Install.
<q> - Quit.
Enter Choice> **<CR>**

The system then informs you of the database details and prompts you to confirm:

```
You have chosen to restore database dated: Jul 07 14:10:00 2003
```

```
Please confirm.
```

```
Please enter:
```

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

```
<n> - No, DO NOT load.
```

```
Enter Choice> <CR>
```

- 13** The system restores the database and provides a status summary.

Note: The hard drive on a new system displays an error message that no database is found on hard drive. This message can be ignored.

- 14** Enter <CR> when prompted, returning the system to the Install Menu.

15 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.

 - 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**

16 The system then prompts you to confirm and reboot:

```
You selected to Quit the Software Installation Tool.
You may reboot the system or return to the Main Menu.
Before rebooting the system, remove Install diskette from the floppy
drive(s).

-----
DO NOT REBOOT USING BUTTON!!
-----

Please enter:
<CR> -> <a> - Reboot the system.
      <m> - Return to the Main menu.
Enter Choice> <CR>
>Removing temporary files

>Remove /u/diskXXXX.sys

>Quit Install. Reboot system...
```

End of Procedure

Complete the upgrade

Follow the steps in Procedure 42 to complete the upgrade.

Procedure 42 Completing the upgrade

1 Perform a redundancy sanity test using the following sequence:

LD 135	Load program
STAT CNI	Get status of CNI card
STAT CPU	Get status of CPU and memory

2 Clear the display and minor alarms.

CDSP	Clear the displays on the Cores
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms
****	Exit program

Note: Wait for the system to INI.

	IMPORTANT! Power up all applications (Meridian Mail, CallPilot, Symposium).
--	---

Proceed to “Post-conversion procedure” on [page 258](#).

Test Core/Net 1

Procedure 43 Testing Core/Net 1

- 1 Check dial tone.
- 2 Make internal, external and network calls.
- 3 Check attendant console activity.
- 4 Check DID trunks.
- 5 Check applications (CallPilot, Symposium, Meridian Mail, etc.).

End of Procedure

Database transfer

Use the procedures below to transfer the system database on systems equipped with IOP/CMDU 4 MB format to 2 MB format.



IMPORTANT!

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. See "Database transfer" on [page 197](#).

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

All systems can be converted by Nortel Networks in the software conversion lab.

Database requirements

If the system is running pre-release 23 software or the source platform is an STE, NT or XT, Meridian 1 Option 21E, 51, 61, or 71, the database must be sent to Nortel Networks for conversion.

To perform this procedure, an NT5D20 IOP/CMDU and QMM42 security cartridge are required.

Before beginning this procedure:

- The system must be running Release 19, 21,22, or 23 software.
- For dual-CPU systems, the system must be in split mode with Core 0 processing calls.

Perform a Data Dump

Procedure 44 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 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 45 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

Follow the steps in Procedure 46 to split the core processors.

Procedure 46 **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 IOP/CMDU 0 is active. If necessary, switch IOP/CMDUs.

LD 137

STAT Get the status of IOP/CMDU

SWAP Switch IOP/CMDUs (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 in split mode, Core 0 active, Clock Controller 0 is active if equipped with FNF. Rings are in half/half mode.

End of Procedure

Procedure 47

Using the Database Transfer Utility

- 1 Place the database transfer utility disk that matches your system type into the floppy drive of Core/Net 1.
- 2 Press the manual reset button on the CP card in Core/Net 1.
- 3 When the Nortel Networks Logo Screen appears on the terminal, the Database Transfer Utility has loaded. Press <CR> to continue.



CAUTION — Service Interruption

Loss of Data

When using the Database Transfer Utility, do not select options other than those specified by this procedure. Selecting any other options can result in operating system corruption.

- 4 When the Main Menu appears, select <d> *To install Database only.*
- 5 Select <c> *to transfer the previous system database (DBMT).* Follow all on-screen instructions. When DBMT is complete, press <CR> to return to the Main Menu.

6 Select <t> to go to the Tools Menu

<s> to archive existing database

<a> to continue with archive (insert 2.0 Mbyte
diskette into the floppy drive in Core 1)

<a> diskette is now in floppy drive in side 1

The message "Database backup complete!" is displayed and the Tool menu reappears after the backup is successfully completed.

7 Remove the 2.0 MB diskette containing the customer database from the IOP/CMDU floppy drive.



IMPORTANT!

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

8 When the database is converted to 2.0 MB, place it in a safe place for use after the IOP/CMDU card is replaced with an IODU/C card, and continue with the system upgrade.

End of Procedure

Exiting split mode

Procedure 48 Exiting the split mode

- 1 Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 1.
- 2 Perform the following in uninterrupted sequence:
 - Press and release the MAN RST button in Core/Net 1.
 - When SYS700 messages appears on the LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 1.

In 60 seconds, the LCD lights and confirms the processes with:

RUNNING ROM OS

ENTERING CP VOTE

An HWI534 message on Core/Net 0 indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 0 CSPI or SDI terminal indicates the memory synchronization is complete.

- 3 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 49

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

5 Check for dial tone.

6 Make internal, external, and network calls.

7 Check attendant console activity.

8 Check DID trunks.

9 Check any auxiliary processors.

End of Procedure

Procedure 50
Switching the Clocks

- 1 Verify that the clock controller is assigned to the *active* Core.

LD 60	Load program
SSCK <i>x</i>	Get the status of the clock controllers (<i>x</i> 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 51

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. (Wait until the memory synchronization 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 (Be sure the same IODU/C and CPU are active)
****	Exit program

End of Procedure



The database transfer procedure is complete. You are now ready to install CS 1000 Release 4.5 software.

Feature and License upgrade

Prepare for upgrade

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

Each 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.

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

Plan upgrade

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.
- Ensure sufficient power for new columns/modules or applications.
- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.
- Identify and correct outstanding service problems.
- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.
- Determine if software can be converted on site or must be sent to Nortel Networks.
- Prepare a contingency plan for backing out of the upgrade.

Upgrade Checklists

Upgrade checklists can be found in “Upgrade checklists” on [page 979](#). Engineers may print this section in order to facilitate the upgrade.

Prepare

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Determine the current patch or Dep lists installed at the source platform.
- Determine the required patch or Dep lists at the target platform.
- 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.

Identifying the proper procedure

Each procedure has been written in a source to target format. Each procedure features warning boxes and check boxes placed at critical points. Changing

the procedure or ignoring the warning boxes could cause longer service interruptions.

**IMPORTANT!**

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

Connect a terminal

Procedure 52

Connecting a terminal

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 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
- 3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

End of Procedure

Print site data

Print site data to preserve a record of the system configuration (Table 15). 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 15
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>

Table 15
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	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>

Table 15
Print site data (Part 3 of 3)

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

Perform a template audit

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

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



CAUTION — Service Interruption

Loss of Data

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

**TEMPLATE 0001 USER COUNT LOW CHECKSUM
OK**

**TEMPLATE 0002 USER COUNT CHECKSUM
HIGH OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

**TEMPLATE 0001 USER COUNT OK CHECKSUM
OK**

•

•

**TEMPLATE 0120 USER COUNT OK CHECKSUM
OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

To back up system data, complete the following two procedures.

- 1 Perform a data dump to save all system memory to the hard disk.
- 2 Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 53

Performing a data dump

- 1 Log into the system.
- 2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:
LD 43 Load program
- 3 When "EDD000" appears on the terminal, enter:
EDD Begin the data dump



CAUTION — Service Interruption

Loss of Data

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

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

**** Exit program

Procedure 54**Performing an ABKO (save the database to floppies)**

- 1 Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

Note: If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

- 2 Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

LD 143 Load program

- 3 Run the ABKO backup (LD 143).

ABKO Run the backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

- 4 If there are validation errors, repeat the procedure.

**CAUTION — Service Interruption****Loss of Data**

If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PII.

- 5 Once the backup is complete, type:

**** Exit program

End of Procedure

Installing a new keycode

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.

	<p>IMPORTANT!</p> <p>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.</p>
---	--

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* (553-3001-306).

This section describes how to install a keycode using the commands listed below:

Table 16
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).

Table 16
Keycode installation

Keycode delivery	Keycode Installation command
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.
<p>Note 1: For a CP PIV RMD, the new keycode must be in a directory called keycode.</p> <p>Note 2: If the keycode is downloaded from the Keycode Distributor Server (KDS), use the KUPL command to install the keycode. Refer to the Distributor Keycode Application section in this document for more information about KDS.</p>	

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 55 on [page 218](#) 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 55

Performing a parameter upgrade using a floppy diskette.

- 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 Networks 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 4.5	CS 1000 Release 4.5
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 230](#) 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 60](#).

For CP PII and CP PIV use [Procedure 61](#).

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 56 on [page 222](#) 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 56

Performing a parameter upgrade using 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 Networks 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 [page 230](#) 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 60](#).

For CP PII and CP PIV use [Procedure 61](#).

End of Procedure

Feature and License parameter upgrade using HyperTerminal®

Follow the steps in Procedure 57 to perform a feature and License parameter upgrade using HyperTerminal®. Leave the system in full redundant mode (hard-disk and CPU redundancy).

Procedure 57

Performing a parameter upgrade using HyperTerminal®

- 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
9FPAMSRHNN17KRUQAFFSPREQEVMTIDHRKDJHRKEJR56

- 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 Networks order management representative.

- 10 Select the new keycode for activation using the KNEW command.

KNEW (refer to Table 16 on page 216 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 230](#) 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 60](#).

For CP PII and CP PIV use [Procedure 61](#).

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 58 on [page 228](#) to perform a feature and License parameter upgrade manually.

Procedure 58

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 Networks order management representative.

- 6 Select the new keycode for activation using the KNEW command.

KNEW (refer to Table 16 on [page 216](#) 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 [page 230](#) 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 60](#).

For CP PII and CP PIV use [Procedure 61](#).

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 59) to revert to the old keycode.

Procedure 59 **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 60](#).

For CP PII and CP PIV use [Procedure 61](#).

End of Procedure

Procedure 60

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 buttonA 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 paramaters 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 61 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 paramaters 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

Service Interruption

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.

Meridian 1 Options 61C and 81C

Perform a Data Dump

Procedure 62

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 63

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 64

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 65

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 CPSI 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 66

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 67
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

If equipped, stat the FIJI rings**Procedure 68****Stat the rings**

- 1 Check the status of Ring 0 and Ring 0.

LD 39 Load program

STAT RING Get the status of Ring 0
0 (Ring state should be HALF/HALF)

- 2 Check the status of Ring 0 and Ring 1.

LD 39 Load program

STAT RING Get the status of Ring 0
1 (Ring state should be HALF/HALF)

End of Procedure

Synchronize the hard disks

Procedure 69

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
(Wait until the memory synchronization
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
(Be sure the same IODU/C and CPU are active)

******** Exit program

End of Procedure

Parallel reload procedure for Meridian 1 Options 61C, 81, 81C

Perform a data dump

Procedure 70

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 71

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 72

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

Switch call processing to Core/Net 1



CAUTION — Service Interruption

Service Interruption

Call Processing will be interrupted! Perform these next steps carefully. This is the point at which service is interrupted. Calls in process are interrupted, especially if Peripheral Software Download takes place. Some calls might be dropped.



WARNING

System initialization may take up to 15 minutes or longer.



IMPORTANT!

Power down all applications (Meridian Mail, CallPilot, Symposium).

Procedure 73

Switching call processing from Core/Net 0 to Core/Net 1

- 1** In Core/Net 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.
- 2** In Core/Net 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS and unseat it.
- 3** In Core/Net 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

- 4 In Core/Net 1, press the MAN INT button.



CAUTION — Service Interruption

Service Interruption

The INI may take up to 15 minutes to complete.



CP1 is active, Clock 1 is active, IODU/C is active. If equipped, the FIJI ring is in half/half mode.

Call processing is now switched from Core/Net 0 to Core/Net 1



IMPORTANT!

Power up all applications (Meridian Mail, CallPilot, Symposium).

End of Procedure

**Procedure 74
Testing Core/Net 1**

From Core/Net 1, perform these tests:

- 1 Check dial tone.
- 2 Make internal, external and network calls.
- 3 Check attendant console activity.
- 4 Check DID trunks.
- 5 Check applications (CallPilot, Symposium, Meridian Mail, etc.).

End of Procedure

Exit split mode

Procedure 75

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 76

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 77
Switching the Clocks

- 1 Verify that the clock controller is assigned to the *active* Core.

LD 60 Load 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

If equipped, stat the FIJI rings

Procedure 78

Stat the rings

- 1 Check the status of Ring 0 and Ring 0.

LD 39 Load program

STAT RING Get the status of Ring 0
0 (Ring state should be HALF/HALF)

- 2 Check the status of Ring 0 and Ring 1.

LD 39 Load program

STAT RING Get the status of Ring 0
1 (Ring state should be HALF/HALF)

End of Procedure

Synchronize the hard disks

Procedure 79

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 (Wait until the memory synchronization 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 (Be sure the same IODU/C and CPU are active)
****	Exit program

End of Procedure

Post-conversion procedure

Introduction

This procedure verifies that the conversion process was successful, and system data converted completely. This is the last part of the total conversion procedure. Perform these steps **after** completing all other procedures for the system.

The site data should be printed before and after conversion. See Table 17 on [page 262](#). If the data has changed, make the necessary updates on the **Target** release, and datadump to the new system media. Print out the items marked with an asterisk (*) to be sure everything converted properly. All other items on Table 17 on [page 262](#) are provided to be printed if desired.

Check the General Release Bulletin (GRB), and the Conversion notes (earlier in this document) to verify any database updates that need to be made as a result of conversion. Be sure to verify all SYSxxx messages that might appear during the conversion process. These messages might indicate some database updates are required.



CAUTION — Service Interruption

Service Interruption

Test call processing thoroughly. This can include more testing than is described in this procedure, depending on system configuration. This procedure is intended to show some of the basic tests performed to complete the conversion process.

Note: When parallel reload is complete, the attendant consoles will be in Night mode. If performing these procedures during the day, contact the attendant. If these procedures are taking place during the evening, it might not be desirable to perform these call processing steps.

Post-conversion steps

Follow the steps in Procedure 80 to perform the post-conversion procedure.

Procedure 80**Performing the post-conversion procedure**

- 1 Print system data listed in Table 17 on [page 262](#). Verify that all information matches the printouts created before conversions. Make changes if necessary.
- 2 From any unrestricted telephone, dial the access code for an outside line (usually 9), and dial the listed Directory Number (DN) for the customer. Verify that the correct Incoming Call Indicator (ICI) lights at the attendant console.
- 3 If the customer is equipped with more than one console, transfer the call to another console.
- 4 Extend the call to a telephone, and release the call from the console.
- 5 From the called telephone, transfer the call back to the attendant.
- 6 Answer and release the call.
- 7 From any telephone dial the DN for the attendant. Verify that the correct ICI lights at the console, then release the call.
- 8 Busy-out one trunk group using a Trunk Group Busy (TGB) key on the console.
- 9 From any telephone with TGAR 0-7, dial the access code of the busied-out trunk group, to verify that the call is intercepted to the console and receives either overflow tone or a recorded announcement.
- 10 Restore the trunk group to the in-service state using the Trunk Group Busy (TGB) key on the console.
- 11 During the conversion procedure the Central Office might have busied-out the DID trunks. If DID trunks are equipped, from any unrestricted telephone, dial the access code for an outside line, and dial a DID number into the system.
- 12 If a private network is used, from any unrestricted telephone, dial the network access code and place a CDP, ESN, BARS/NARS, or ISDN call as applicable to the system.
- 13 If not done previously, set the time and date. If Call Detail Recording (CDR) is used, system message ERR225 will appear. This is normal.

LD 02**STAD dd mm yyyy hh mm ss**

dd = day (for example, 05 for the fifth)

mm = month (for example, 09 for September)
yyyy = year (last 2 or all four digits, for example, 92 or 1992)
hh = hour (in 24-hour time, for example, 13:00 for 1:00 pm)
mm = minute (for example, 25)
ss = seconds (for example, 00)

Note: Test all applications and call handling

- 14 If auxiliary processors are working with the system, ensure they are powered up. Be sure the Application Module Links (AML) are up. DCH and AML messages might indicate problems during the conversion. Investigate any of these messages.
- 15 Keep one copy of the **Source** software, as it was backed up in the pre-conversion procedure, in case it becomes necessary to reconvert. After the **Target** software has been running well for a few weeks, return the original software to Nortel Networks through the usual distribution channel.
- 16 Load LD 135 to test and switch CPUs. (Omit this step for Option 51C.)

LD 135	Load program
TEST CPU	Test CPU
SCPU	Switch CPUs
****	Exit overlay

- 17 Load LD 137 to get the status of the CMDUs and IOPs.

LD 137	Load program
STAT	Get the status of both CMDUs and IOPs
****	Exit overlay

Note: Check MMDU in CP PII machines.

- 18 Load LD 43 to back up the other set of B1 disks. Insert the B1 disk in the active CMDU.

LD 43	Load program
BKO	Back up to the backup disks and the active CMDU

Note: Back up additional 2 MB floppy disks.

- 19** If not done previously, set the time and date. If Call Detail Recording (CDR) is used, the system message ERR225 will appear. This is normal.

LD 02**STAD dd mm yyyy hh mm ss**

dd = day (for example, 05 for the fifth)

mm = month (for example, 09 for September)

yyyy = year (last 2 or all four digits, for example, 92 or 1992)

hh = hour (in 24-hour time, for example, 13:00 for 1:00 pm)

mm = minute (for example, 25)

ss = seconds (for example, 00)

**** Exit overlay

- 20** Check that Fiber Ring 1 operates correctly:

LD 39 Load the program

STAT RING 1 Check the status of Ring 1

- 21** Reset the Rings:

RSET Reset the Rings and prepare them for redundancy

RSTR Restore both Rings to HALF state

- 22** Check that the Rings operate correctly:

STAT RING 0 Check the status of Ring 0 (HALF/HALF)

STAT RING 1 Check the status of Ring 1 (HALF/HALF)

- 23** If any Ring problems occur, correct them now.

STAT ALRM <X> Check the alarm status of individual
<Y> FIJI cards or all FIJI cards
 (See *Software Input/Output: Administration* (553-3001-311) for more information)

- 24 Verify that call processing operates correctly: this includes, but is not limited to the following:
 - Check for dial tone.
 - Make internal, external, and network calls.
 - Check attendant console activity.
 - Check DID trunks.
 - Check any auxiliary processors.

 - 25 If auxiliary processors are working with the system, ensure they are powered up. Be sure the Application Module Links (AML) are up. DCH and AML messages might indicate problems during the conversion. Investigate any of these messages.

 - 26 Keep one copy of the **Source** software, as it was backed up in the pre-conversion procedure, in case it becomes necessary to reconvert. After the **Target** software has been running well for a few weeks, return the original software to Nortel Networks through the usual distribution channel.
- Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Table 17
Print site data (Part 1 of 4)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>

Table 17
Print site data (Part 2 of 4)

Site data	Print command	
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
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV

Table 17
Print site data (Part 3 of 4)

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

Table 17
Print site data (Part 4 of 4)

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

Upgrading to Meridian 1 PBX systems overview

Contents

This section contains information on the following topics:

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Introduction

The focus of the “Meridian 1 PBX systems upgrade procedures” on [page 287](#) is upgrading Meridian 1 PBX systems. (See “Terminology” on [page 270](#) for an explanation of “Internet-enabled”.) The scenarios and procedures described in this section and in “Meridian 1 PBX systems upgrade procedures” on [page 287](#) do not apply for upgrades to Meridian 1 PBX systems that are not Internet-enabled to any degree.

If your system is not already “Internet-enabled” to any degree, then upgrading to CS 1000 Release 4.5 is no different from any other update to a new release of software. Refer to the appropriate scenario in this NTP.

In order to enable your system for IP telephony, you must equip it with Media Cards and their associated applications. Refer to the following NTPs for more information:

- *IP Line: Description, Installation, and Operation* (553-3001-365)
- *IP Trunk: Description, Installation, and Operation* (553-3001-363)
- *IP Peer Networking: Installation and Configuration* (553-3001-213)

To upgrade your Meridian 1 Large System to a CS 1000M Large System, install a Signaling Server. For more information, refer to *Signaling Server: Installation and Configuration* (553-3001-212).

If your system is already equipped with IP Line, IP Trunk, or both, then upgrading to CS 1000 Release 4.5 involves more than simply updating to a new software release. Similarly, upgrading to a CS 1000M Large System involves more than simply installing a Signaling Server: it involves migrating the network from a node-based dialing plan to a Network Routing Service (NRS) resolved Network Numbering Plan, as well as reconfiguring and cutting over the upgraded system to use IP Peer Virtual Trunks. The scope of the upgrade will depend on the configuration and complexity of the existing network.

If your system is already equipped with IP Line, IP Trunk, or both, make sure that you read and fully understand this section. Then, after you have identified the upgrade scenario that best suits your circumstances, follow the procedures for that scenario in “Meridian 1 PBX systems upgrade procedures” on [page 287](#).

In general, there are three types of upgrade that can be performed on Meridian 1 PBX systems:

- 1 Software and system
- 2 Software only
- 3 System only

Table 18 shows how the upgrade types related to current and desired configurations.

Table 18
Upgrade types for Meridian 1 PBX systems

	Upgrade from this configuration...		To this configuration	
Type	System	Software	System	Software
Software only	CS 1000M	CS 1000 Release 4.0 or earlier	CS 1000M	CS 1000 Release 4.5
Software and system	Meridian 1	Succession 4.0 or earlier	CS 1000M	CS 1000 Release 4.5
Software only	Meridian 1	Succession 4.0 or earlier	Meridian 1	CS 1000 Release 4.5
System only	Meridian 1	CS 1000 Release 4.5	CS 1000M	CS 1000 Release 4.5
<p>Note 1: Within the upgrade scenarios, some procedures apply to Meridian 1 systems with IP Line, others to IP Trunk.</p> <p>Note 2: To complete a system-only upgrade, you must first complete a software-only upgrade.</p> <p>Note 3: Meridian 1 systems without IP Line or IP Trunk should be treated as software-only upgrades. In these cases, a subsequent system-only upgrade should be treated as a new installation of IP Line and IP Peer Networking.</p>				

There are many scenarios for each type of upgrade. This section first presents important information on terminology and specifications, and then proceeds to describe and compare the scenarios in terms of overall approach. The detailed procedures for each scenario are presented in the next section.

IMPORTANT!

- The scenarios contain many of the same procedures, but the task sequence is different. It is very important to follow the order of the steps provided in the respective scenarios.
- The decision about which type of upgrade to perform and which scenario to follow depends on a number of considerations. Make sure that you read this entire section and fully understand it before you decide on an upgrade scenario.

Terminology

The following terms are used in this document:

- **Internet-enabled.** Refers to a Meridian 1 system that is equipped with:
 - IP Line only
 - IP Trunk only
 - both IP Line and IP Trunk

Note: The system is not equipped with a Signaling Server.
- **System upgrade.** Refers to upgrading a Meridian 1 PBX system (Option 61C, 81C) to CS 1000 Release 4.5 with a Signaling Server (CS 1000M HG, CS 1000M SG, CS 1000M MG).
- **Software upgrade.** Refers to any of the following:
 - upgrading any Meridian 1 system to CS 1000 Release 4.5
 - upgrading the ITG Trunk 2.xx application software (also known as loadware) to IP Trunk 3.01
 - upgrading the IP Line 2.20 or 3.00 software (also known as loadware) to IP Line 4.0.
- **Network upgrade.** Refers to upgrading systems and software across a private IP Telephony network in a coordinated way to minimize cost, service interruption, or both. In general, this must be done gradually, system by system.

- **Migration.** Refers to migrating IP Trunk 3.0 nodes from a node-based dialing plan that is managed through Optivity Telephony Manager (OTM) to a Network Routing Service (NRS) resolved Network Numbering Plan that is centrally managed through NRS. Migration denotes a gradual, low-risk, system-by-system reconfiguration and testing of the UDP and CDP dialing plans, Network Numbering Plan, and network routing. For detailed information on Succession 3.0 Gatekeeper migration to CS 1000 Release 4.5, see *Signaling Server: Installation and Configuration (553-3001-212)*.
- **Cutover.** Refers to reconfiguring and cutting over an upgraded CS 1000M system from using IP Trunks to using IP Peer Virtual Trunks. If a large IP Trunk 3.0 network has been completely migrated to using the NRS-resolved Network Numbering Plan, then cutover to using IP Peer Virtual Trunks can proceed gradually, system by system, with low risk of service interruption.
- **Coordinated cutover.** For small networks (for example, 2 to 4 systems) it may be practical to coordinate the simultaneous cutover of all systems from using IP Trunks with node-based dialing plans to using the IP Peer Virtual Trunks and NRS-resolved Network Numbering Plan *in the same maintenance window*. In this case the IP Trunk migration procedures are eliminated.
- **Conversion.** Refers to converting unused IP Trunk cards to Media Cards.
- **IP Line.** Refers to a software application that allows an IP Phone to be connected to a Meridian 1, CS 1000S, or CS 1000M. It also provides echo cancellation, and compresses and packetizes voice for transmission over an IP data network. The IP Line application runs on the Meridian 1 and Call Server, Signaling Server, and Media Cards. On the Media Card, it provides two independent services:
 - UNISlim Line Terminal Proxy Server (LTPS) at system level
 - Voice Gateway (VGW) media ports at customer level

- **IP Trunk.** Refers to the ISDN-Signaling IP Trunk 4.0 application that enables calls in a private telephony network to travel over the converged enterprise IP network. The IP Trunk application runs on Media Cards or ITG-Pentium (ITG-P) cards that are grouped in IP Trunk nodes hosted by Meridian 1 PBX or upgraded CS 1000M systems.

The IP Trunks appear to the Call Server as ISDN Signaling Link (ISL) trunks. MCDN features are supported over IP Trunks, but the Call Servers do not process the H.323 network signaling protocol directly and do not interact with the control signaling for the IP telephony media path. IP Trunk cards have dedicated media ports that are used for all calls.

- **IP Peer Virtual Trunk.** Refers to a software application that supports virtual IP trunks. On CS 1000M and CS 1000S systems, IP Peer Virtual Trunk software runs on the Call Server and Signaling Server.

The IP Peer Virtual Trunks appear to the Call Server as H.323 protocol or Session Initiation Protocol (SIP) trunk routes. The Call Server supports MCDN features H.323, and SIP protocols over IP Peer Virtual Trunks, including control signaling for the IP telephony media path. This enables end-to-end direct media path connections between IP Phones and Voice Gateway media ports over IP Peer Virtual Trunks.

IP Peer Virtual Trunks are called “virtual” because Voice Gateway (VGW) media ports, located on Media Cards, are allocated to IP Peer Virtual Trunks per call as needed. VGW media ports are customer-level resources that are shared by IP Lines and IP Peer Virtual Trunks.

Software specifications

Table 19 lists the software components required to upgrade to CS 1000 Release 4.5.

Note: The information in Table 19 was valid as of date of publication. However, before you begin the upgrade, check the latest General Release Bulletin, Product Bulletins, and the Nortel Software Download web site to confirm that you have the latest versions. In particular, if your upgrade package was shipped some weeks before you begin to perform the upgrade, check the Nortel Software Download web site, in case there has been a maintenance up-issue in the interim.

Table 19
CS 1000 Release 4.5 software components (Part 1 of 2)

Item	Version
Call Server	X21 Release 4.5
Signaling Server (see note below)	FW shipped with CS 1000 Release 4.5
IP Line application (see note below)	IPL 4.50.xx
IP Trunk application	IPT 3.01
Optivity Telephony Manager	OTM 2.2
Media Card firmware (8051XA Controller)	FW shipped with CS 1000 Release 4.5
IP Phone 1120E/1140E	FW shipped with CS 1000 Release 4.5
IP Phone 2001	FW shipped with CS 1000 Release 4.5
IP Phone 2002	FW shipped with CS 1000 Release 4.5
IP Phone 2004	FW shipped with CS 1000 Release 4.5
IP Phone 2007	FW shipped with CS 1000 Release 4.5
IP Phone 2033	FW shipped with CS 1000 Release 4.5
IP Softphone 2050	FW shipped with CS 1000 Release 4.5
Mobile Voice Client 2050	FW shipped with CS 1000 Release 4.5

Table 19
CS 1000 Release 4.5 software components (Part 2 of 2)

Item	Version
IP Phone 2210/2211	FW shipped with CS 1000 Release 4.5
IP Phone 2212	FW shipped with CS 1000 Release 4.5
IP Phone ACD Set	FW shipped with CS 1000 Release 4.5
Web browser	Microsoft Internet Explorer v.6.0.2600 or later Other web browsers (such as Netscape Navigator) are <i>not supported</i> .
<p>Note: The Signaling Server IP Line Terminal Proxy Server (LTPS), Gatekeeper, MG 1000T, Element Manager, IP Line loadware, and IP Phone firmware are contained on the Signaling Server CD-ROM.</p>	

Stand-alone Gatekeepers

You can install stand-alone CS 1000S Gatekeepers for NRS Network Numbering Plan resolution to simplify network management for IP Trunk 3.00 and BCM 3.01 networking in large, complex networks.

You can order duplicate sets of the NTDU27CB Signaling Server hardware/software package and power cord prior to upgrading any Meridian 1 PBX system to CS 1000 Release 4.5 with IP Peer Networking. This package is required to install a Primary and an Alternate stand-alone Gatekeeper for centralized NRS management of the Network Numbering Plan for the IP Trunk 3.01 and BCM 3.6 network.

Collocated stand-alone Gatekeepers can be configured later as Signaling Servers when the systems are upgraded to CS 1000 Release 4.5, with co-resident Gatekeeper, IP Peer Virtual Trunks, and LTPS for IP Line 3.10.

Surplus equipment

The D-Channel PC Card from the IP Trunk node and its cabling is not required after IP Trunk cards have been converted to Media cards. This may be kept as a spare for nodes still running IP Trunk or ITG Trunk applications.

The MSDL card D-Channel port is no longer used.

Choosing a scenario

The decision as to which scenario to follow will depend on your system and circumstances. The primary difference between the scenarios is whether and when:

- you migrate the IP Trunk nodes to an NRS-resolved Network Numbering Plan
- you cut over the upgraded system from using IP Trunks to IP Peer Virtual Trunks

After considering the information provided in “Migration and cutover options” below and “Additional considerations” on [page 277](#), choose the upgrade scenario that best suits your organization.

The scenarios presented in these two chapters are not exhaustive. They are intended to cover the most common situations and the most likely desired configurations. After studying the scenarios, you may decide to contact Nortel for assistance with the upgrade, migration, and conversion procedures. See “Choosing a scenario” on [page 275](#).

Migration and cutover options

There are three ways to approach migrating the IP Trunks and cutting over to IP Peer Virtual Trunks:

- pre-upgrade migration followed by gradual cutover
- post-upgrade migration followed by gradual cutover
- coordinated cutover without migration

Table 20 describes the three methods and explains the differences between them.

Table 20
Comparison of upgrade, migration, and cutover methods (Part 1 of 2)

Pre-upgrade migration	Post-upgrade migration	Coordinated cutover
<p>You can migrate a large Meridian 1 PBX IP Trunk 3.01 network to use Signaling Servers configured as stand-alone Gatekeepers in order to take advantage of a simplified, NRS-managed Network Numbering Plan in advance of the first Meridian 1 PBX system upgrade to CS 1000M.</p>	<p>You can begin to upgrade Meridian 1 PBX systems one by one to CS 1000M in a large IP Trunk 3.0 network that is still using the IP Trunk node-based dialing plans.</p> <p>Note: Upgraded systems must continue to use the IP Trunks until you have migrated the IP Trunk 3.01 network to use co-resident or stand-alone Gatekeepers.</p>	<p>For a small network of Meridian 1 PBX systems with IP Trunk (for example, 2–4 systems), and with sufficient planning, technician resources, and length of maintenance window for IP Trunk service interruption, you may choose to skip the procedures to migrate the IP Trunk network. (You will still need to transfer or duplicate the IP Trunk node-based dialing plans to the NRS-resolved Network Numbering Plan, but you don't migrate the IP Trunks to actually use that numbering plan.)</p>

Table 20
Comparison of upgrade, migration, and cutover methods (Part 2 of 2)

Pre-upgrade migration	Post-upgrade migration	Coordinated cutover
<p>After the IP Trunk 3.01 network migration is complete, you can upgrade the Meridian 1 PBX systems one by one to CS 1000M and immediately reconfigure and cut over each upgraded system to use the IP Peer Virtual Trunks and NRS-resolved Network Numbering Plan.</p> <p>The Signaling Servers configured as stand-alone Gatekeepers can be reconfigured as co-resident Gatekeepers for upgraded CS 1000M systems.</p>	<p>After you have upgraded the first two Meridian 1 PBX systems to CS 1000M with Primary and Alternate Gatekeepers, you can start to migrate a large IP Trunk 3.01 network to use the Signaling Server Gatekeepers to resolve the Network Numbering Plan. However, <i>only after the IP Trunk 3.01 network migration is complete</i> can you begin to reconfigure and cut over the systems one by one to use the IP Peer Virtual Trunks.</p>	<p>Upgrade the Meridian 1 PBX systems one by one to CS 1000M. Continue to use IP Trunks with node-based dialing plans. Finally, in a single maintenance window, simultaneously reconfigure and cut over all the upgraded CS 1000M systems to use the IP Peer Virtual Trunks and NRS-resolved Network Numbering Plan. Thoroughly test the UDP and CDP dialing plans and NRS-resolved Network Numbering Plan.</p>
<p>You can immediately convert the unused IP Trunk cards in the upgraded systems to Media Cards.</p>	<p>You must wait to convert the unused IP Trunk cards to Media Cards until you have completed the IP Trunk 3.01 network migration and reconfigured the upgraded system to use the IP Peer Virtual Trunks.</p>	<p>You can immediately convert the unused IP Trunk cards in the upgraded systems to Media Cards.</p>

Additional considerations

A critical consideration is whether the IP Trunk nodes use local node-based dialing plans or whether the entire IP Trunk network was initially configured, or has been migrated, to use a Signaling Server Gatekeeper to resolve the Network Numbering Plan into Call Signaling IP addresses for the H.323 and SIP endpoints, including IP Trunk and BCM.

When planning upgrades to CS 1000M for an existing network of Meridian 1 PBX systems that are networked using IP Trunk (that is, ISDN-signaling IP trunks), you must consider:

- the size of the network
- the complexity of the dialing plan
- the complexity of the Network Numbering Plan
- the complexity of the public and private trunk routing
- IP Trunk interoperation with BCM systems in the network

You must also consider:

- schedule and budget
- tolerance for temporary service interruption of the IP Trunk network
- the logistics and availability of technicians to simultaneously reconfigure and cut over multiple upgraded systems to use an NRS-resolved Network Numbering Plan

If it is not practical to reconfigure and cut over all the upgraded systems simultaneously to use IP Peer Virtual Trunks, choose either a pre- or post-upgrade migration scenario. Separating the migration, upgrade, and cutover elements of the process allows you to adopt a phased approach that maintains uninterrupted service of the IP Trunk network while the Meridian 1 PBX systems are gradually upgraded to CS 1000M systems.

For a smaller network of Meridian 1 PBX systems (for example, 2 to 4 systems) using the node-based IP Trunk dialing plans, it may be practical to upgrade all systems, one by one, to CS 1000M with IP Trunk, and then simultaneously reconfigure and cut over all the upgraded systems to use IP Peer Networking Virtual IP Trunks within a single maintenance window. In this case you can choose a coordinated cutover scenario.

If you have already completed the migration of a large network of IP Trunk 3.0 and BCM 3.01 nodes (using any of the migration scenarios), you no longer need to consider migration when upgrading any additional Meridian 1 PBX systems to CS 1000M. In these post-migration cases, you can choose a gradual, system-by-system cutover scenario, to immediately

reconfigure and cut over each upgraded system to use the IP Peer Virtual Trunks and NRS-resolved Network Numbering Plan.



WARNING

- 1** CS 1000 Release 4.5 is not backwards compatible with Meridian 1 X11 Release 25.40 and IP Line 4.0 within a single system.
- 2** Prior to cutting over any upgraded CS 1000M system belonging to a large IP Trunk network to use IP Peer Virtual Trunks:
 - a.** All ITG Trunk nodes in the network must be upgraded to run IP Trunk release 3.01 and migrated to use the NRS-resolved Network Numbering Plan.
 - b.** BCM systems using IP trunks must be upgraded to Release 3.01 and migrated to use the NRS-resolved Network Numbering Plan.

Failure to upgrade and migrate all nodes to IP Trunk 3.01 and BCM Release 3.6 using NRS will isolate the non-upgraded nodes in the network from the nodes using NRS for Network Numbering Plan resolution.
- 3** Software releases prior to IP Trunk 3.00 and BCM 3.6 do not interoperate with the CS 1000 Release 4.5 Gatekeeper and therefore cannot support calls to and from the CS 1000 Release 4.5 system using the IP Peer Virtual IP trunks.
- 4** IP Trunk 3.00 interoperates with the CS 1000 Release 4.5 Gatekeeper and IP Peer Virtual IP trunk Gateways, and also with the ITG Trunk 2.xx and BCM 2.50 and 3.00 nodes in the network, because IP Trunk 3.xx supports dual methods of resolving destinations by:
 - a.** node-based dialing plan resolution for interoperation with ITG Trunk 2.xx nodes, BCM 2.50 and 3.00, and IP Trunk 3.00 nodes (if desired — for example, for Network QoS Fallback to PSTN)
 - b.** the CS 1000 Release 4.5 NRS Network Numbering Plan resolution for interoperation with IP Peer Gateways, IP Trunk 3.00, and BCM 3.01.

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 4.5 implements a Unistim File Transfer Protocol (UFTP) download solution. UFTP shares the existing Unistim signaling port (5000) at the IP Phone and RUDP stream; it is a separate protocol on top of the RUDP layer.

UFTP enhances security, because it is a proprietary protocol, as opposed to TFTP which is an open protocol. It enables customers to improve their firewall security by closing port 69 to block TFPT in their firewall and policy-based switches and routers.

For the UFTP IP Phone firmware download to work, it is necessary to explicitly open port 5100 (Unistim signaling) and port 5105 (UFTP signaling).

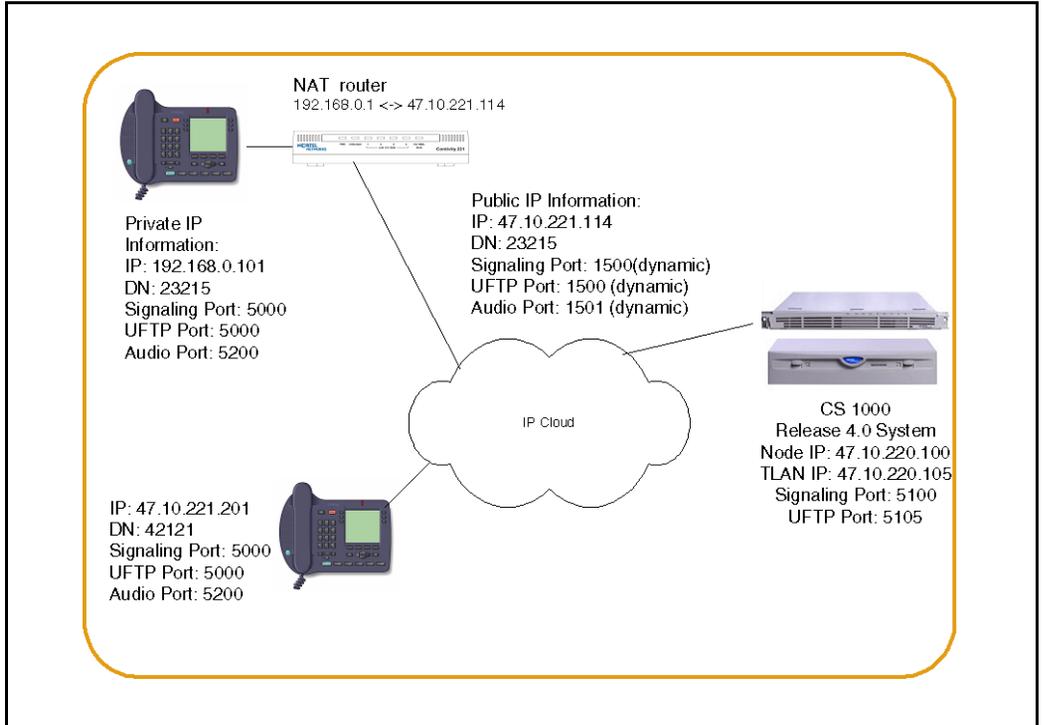
UFTP uses the same IP Phone UDP signaling port (port 5000) as the Unistim messages currently use for the IP Phone messages. UFTP uses port 5105 as the UFTP server port to communicate between the IP Phone and the UFTP server. Both of these ports can be safely enabled by firewalls. See Table 21.

Table 21
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 6 on [page 281](#).

Figure 6
Using NAT with UFTP



Upgrade scenarios

Table 22 lists the upgrade scenarios. See “Meridian 1 PBX systems upgrade procedures” on [page 287](#) for details about the tasks and procedures for each scenario.

Table 22
Upgrade scenarios (Part 1 of 4)

Scenario	Description	General tasks
Software and system upgrades		
1	<p>Software and system upgrade using the pre-upgrade migration method.</p> <p>Refer to “Scenario 1: Software and system (pre-upgrade migration)” on page 290 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Install the stand-alone Signaling Server at two sites and configure Primary and Alternate Gatekeepers to avoid a single point of failure. 2 Migrate the entire IP Trunk 3.0 network and an associated BCM network to use the NRS-resolved Network Numbering Plan. 3 Later, upgrade the Call Server to CS 1000 Release 4.5, and simultaneously upgrade IP Line node to IP Line 3.1. 4 Cut over the upgraded CS 1000M system to use IP Peer Virtual Trunks.
2	<p>Software and system upgrade using the post-upgrade migration method.</p> <p>Refer to “Scenario 2: Software and system (post-upgrade migration)” on page 290 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Upgrade two or more Meridian 1 PBX systems to CS 1000M systems and simultaneously upgrade IP Line node to IP Line 3.10. Continue to use IP Trunks with local node-based dialing plan. 2 Configure Primary and Alternate Gatekeepers to avoid a single point of failure. 3 Migrate the entire IP Trunk 3.01 network to use the NRS-resolved Network Numbering Plan. 4 Cut over the upgraded CS 1000M systems to use IP Peer Virtual Trunks.

Table 22
Upgrade scenarios (Part 2 of 4)

Scenario	Description	General tasks
3	<p>Software and system upgrade using the coordinated cutover method.</p> <p>Refer to “Scenario 3: Software and system (coordinated cutover)” on page 291 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Upgrade all Meridian 1 PBX systems to CS 1000M. Continue to use IP Trunks with local node-based dialing plan. 2 Coordinate the simultaneous cutover of all the upgraded CS 1000M systems to use IP Peer Virtual Trunks and the NRS-resolved Network Numbering Plan.
4	<p>Software and system upgrade of Meridian 1 systems equipped with IP Line only.</p> <p>Refer to “Scenario 4: Software and system (IP Line only)” on page 292 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Upgrade the Meridian 1 PBX system to CS 1000M system and simultaneously upgrade IP Line node to IP Line 3.10.
Software-only upgrades		
5	<p>Software-only upgrade to CS 1000 Release 4.5.</p> <p>Refer to “Upgrade scenarios” on page 288 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Upgrade the OTM application. 2 Upgrade the IP Line application. 3 Upgrade the system software to CS 1000 Release 4.5. 4 Configure IP Telephony Node. 5 Upgrade the IP Trunk application.
System-only upgrades		

Table 22
Upgrade scenarios (Part 3 of 4)

Scenario	Description	General tasks
6	<p>System-only upgrade of a system whose IP Trunk 3.01 network has previously been migrated.</p> <p>Refer to “Scenario 6: System only (post-migration)” on page 293 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Install Signaling Servers on the CS 1000 Release 4.5 system that is being upgraded to CS 1000M. 2 Perform keycode expansion on the Call Server to expand the system limit for IP Peer Virtual Trunks. 3 Cut over the upgraded CS 1000M system to use IP Peer Virtual Trunks.
7	<p>System-only upgrade using the post-upgrade migration method.</p> <p>Refer to “Scenario 7: System only (post-upgrade migration)” on page 293 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Upgrade one or more Meridian 1 Succession 3.0 Software systems to CS 1000M by adding one or more Signaling Servers. 2 Perform keycode expansion on the Call Server to expand the system limit for IP Peer Virtual Trunks. 3 Migrate the entire IP Trunk 3.0 network to use the NRS-resolved Network Numbering Plan. 4 Cut over the upgraded CS 1000M system to use IP Peer Virtual Trunks.

Table 22
Upgrade scenarios (Part 4 of 4)

Scenario	Description	General tasks
8	<p>System-only upgrade using the coordinated cutover method.</p> <p>Refer to “Scenario 8: System only (coordinated cutover)” on page 294 for the detailed list of tasks and procedures.</p>	<p>1 Upgrade one or more Meridian 1 Succession 3.0 Software systems to CS 1000M by adding one or more Signaling Servers.</p> <p>2 Configure the upgraded CS 1000M systems to use IP Peer Virtual Trunks and NRS-resolved Network Numbering Plan.</p>
9	<p>System-only upgrade of Meridian 1 systems equipped with IP Line only.</p> <p>Refer to “Scenario 4: Software and system (IP Line only)” on page 292 for the detailed list of tasks and procedures.</p>	<p>1 Upgrade one or more Meridian 1 Succession 3.0 Software systems to CS 1000M by adding one or more Signaling Servers.</p>

Meridian 1 PBX systems upgrade procedures

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Upgrade scenarios

The sequence in which the procedures must be performed depends on the upgrade scenario you are following. Refer to “Upgrading to Meridian 1 PBX systems overview” on [page 267](#) for important information you must consider before choosing a scenario.

Table 23 lists the upgrade scenarios.

Table 23
Upgrade scenarios

Scenario	Description
1	Software and system upgrade using the pre-upgrade migration method. Refer to “Scenario 1: Software and system (pre-upgrade migration)” on page 290 for the detailed list of tasks and procedures.
2	Software and system upgrade using the post-upgrade migration method. Refer to “Scenario 2: Software and system (post-upgrade migration)” on page 290 for the detailed list of tasks and procedures.
3	Software and system upgrade using the coordinated cutover method. Refer to “Scenario 3: Software and system (coordinated cutover)” on page 291 for the detailed list of tasks and procedures.
4	Software and system upgrade of Meridian 1 systems equipped with IP Line only. Refer to “Scenario 4: Software and system (IP Line only)” on page 292 for the detailed list of tasks and procedures.
5	Software-only upgrade to CS 1000 Release 4.5. Refer to “Scenario 5: Software only” on page 292 for the detailed list of tasks and procedures.
6	System-only upgrade of a CS 1000 Release 4.5 system whose IP Trunk 3.01 network has previously been migrated. Refer to “Scenario 6: System only (post-migration)” on page 293 for the detailed list of tasks and procedures.
7	System-only upgrade using the post-upgrade migration method. Refer to “Scenario 7: System only (post-upgrade migration)” on page 293 for the detailed list of tasks and procedures.
8	System-only upgrade using the coordinated cutover method. Refer to “Scenario 8: System only (coordinated cutover)” on page 294 for the detailed list of tasks and procedures.
9	System-only upgrade of Meridian 1 systems equipped with IP Line only. Refer to “Scenario 9: System only (IP Line only)” on page 294 for the detailed list of tasks and procedures.

List of procedures

This section provides a list of the procedures for each scenario. The procedures must be performed in the order given.

Scenario 1: Software and system (pre-upgrade migration)

To upgrade a Meridian 1 PBX system to CS 1000M using the pre-upgrade migration method, perform the following procedures in the order given:

- 1 “Installing and configuring the Signaling Server” on [page 298](#)
- 2 “Upgrading OTM 1.20 and OTM 2.00 to OTM 2.2” on [page 297](#)
- 3 “Upgrading existing IP Line node to IP Line 4.5 loadware” on [page 301](#)
- 4 “Configuring the Call Server to enable Element Manager” on [page 303](#)
- 5 “Upgrading the Call Server and rebooting the system to run CS 1000 Release 4.5” on [page 305](#)
- 6 “Upgrading the firmware on Media Cards and ITG-P cards” on [page 306](#)
- 7 “Creating the IP Telephony node in Element Manager” on [page 309](#)
- 8 “Configuring OTM to launch Element Manager” on [page 315](#)
- 9 “Configuring IP Peer Virtual Trunks on the Call Server” on [page 317](#)
- 10 “Converting unused IP Trunk cards to Media cards” on [page 327](#)
- 11 “Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on [page 331](#)

Scenario 2: Software and system (post-upgrade migration)

To upgrade a Meridian 1 PBX system to CS 1000M using the post-upgrade migration method, perform the following procedures in the order given:

- 1 “Upgrading OTM 1.20 and OTM 2.00 to OTM 2.2” on [page 297](#)
- 2 “Installing and configuring the Signaling Server” on [page 298](#)
- 3 “Upgrading existing IP Line node to IP Line 4.5 loadware” on [page 301](#)
- 4 “Configuring the Call Server to enable Element Manager” on [page 303](#)

- 5 “Upgrading the Call Server and rebooting the system to run CS 1000 Release 4.5” on [page 305](#)
- 6 “Upgrading the firmware on Media Cards and ITG-P cards” on [page 306](#)
- 7 “Creating the IP Telephony node in Element Manager” on [page 309](#)
- 8 “Configuring OTM to launch Element Manager” on [page 315](#)
- 9 “Configuring IP Peer Virtual Trunks on the Call Server” on [page 317](#)
- 10 “Converting unused IP Trunk cards to Media cards” on [page 327](#)
- 11 “Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on [page 331](#)

Scenario 3: Software and system (coordinated cutover)

To upgrade a Meridian 1 PBX system to CS 1000M using the coordinated cutover method, perform the following procedures in the order given:

- 1 “Upgrading OTM 1.20 and OTM 2.00 to OTM 2.2” on [page 297](#)
- 2 “Installing and configuring the Signaling Server” on [page 298](#)
- 3 “Upgrading existing IP Line node to IP Line 4.5 loadware” on [page 301](#)
- 4 “Configuring the Call Server to enable Element Manager” on [page 303](#)
- 5 “Upgrading the Call Server and rebooting the system to run CS 1000 Release 4.5” on [page 305](#)
- 6 “Upgrading the firmware on Media Cards and ITG-P cards” on [page 306](#)
- 7 “Creating the IP Telephony node in Element Manager” on [page 309](#)
- 8 “Configuring OTM to launch Element Manager” on [page 315](#)
- 9 “Configuring IP Peer Virtual Trunks on the Call Server” on [page 317](#)
- 10 “Converting unused IP Trunk cards to Media cards” on [page 327](#)
- 11 “Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on [page 331](#)

Scenario 4: Software and system (IP Line only)

To upgrade a Meridian 1 PBX system equipped with IP Line only to CS 1000M, perform the following procedures in the order given:

- 1 “Upgrading OTM 1.20 and OTM 2.00 to OTM 2.2” on [page 297](#)
- 2 “Installing and configuring the Signaling Server” on [page 298](#)
- 3 “Upgrading existing IP Line node to IP Line 4.5 loadware” on [page 301](#)
- 4 “Configuring the Call Server to enable Element Manager” on [page 303](#)
- 5 “Upgrading the Call Server and rebooting the system to run CS 1000 Release 4.5” on [page 305](#)
- 6 “Upgrading the firmware on Media Cards and ITG-P cards” on [page 306](#)
- 7 “Creating the IP Telephony node in Element Manager” on [page 309](#)
- 8 “Configuring OTM to launch Element Manager” on [page 315](#)

Scenario 5: Software only

To upgrade a Meridian 1 PBX system to CS 1000 Release 4.5 software, perform the following procedures in the order given:

- 1 “Upgrading OTM 1.20 and OTM 2.00 to OTM 2.2” on [page 297](#)
- 2 “Upgrading existing IP Line node to IP Line 4.5 loadware” on [page 301](#) (if applicable)
- 3 “Upgrading the Call Server and rebooting the system to run CS 1000 Release 4.5” on [page 305](#)
- 4 “Upgrading the firmware on Media Cards and ITG-P cards” on [page 306](#) (if necessary)
- 5 “Configuring IP Telephony node using OTM 2.2” on [page 307](#)
- 6 “Upgrading ITG Trunk 2.xx and IP Trunk 3.00 nodes to IP Trunk 4.0 using OTM 2.X” on [page 308](#)

Scenario 6: System only (post-migration)

To upgrade a previously migrated Meridian 1 CS 1000 Release 4.5 system to CS 1000M, perform the following procedures in the order given:

- 1 “Installing and configuring the Signaling Server” on [page 298](#)
- 2 “Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks” on [page 308](#)
- 3 “Creating the IP Telephony node in Element Manager” on [page 309](#)
- 4 “Configuring OTM to launch Element Manager” on [page 315](#)
- 5 “Configuring IP Peer Virtual Trunks on the Call Server” on [page 317](#)
- 6 “Converting unused IP Trunk cards to Media cards” on [page 327](#)
- 7 “Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on [page 331](#)

Scenario 7: System only (post-upgrade migration)

To upgrade a Meridian 1 CS 1000 Release 4.5 system to CS 1000M using the post-upgrade migration method, perform the following procedures in the order given:

- 1 “Installing and configuring the Signaling Server” on [page 298](#)
- 2 “Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks” on [page 308](#)
- 3 “Creating the IP Telephony node in Element Manager” on [page 309](#)
- 4 “Configuring OTM to launch Element Manager” on [page 315](#)
- 5 “Configuring IP Peer Virtual Trunks on the Call Server” on [page 317](#)
- 6 “Converting unused IP Trunk cards to Media cards” on [page 327](#)
- 7 “Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on [page 331](#)

Scenario 8: System only (coordinated cutover)

To upgrade a Meridian 1 CS 1000 Release 4.5 system to CS 1000M using the coordinated cutover method, perform the following procedures in the order given:

- 1 “Installing and configuring the Signaling Server” on [page 298](#)
- 2 “Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks” on [page 308](#)
- 3 “Creating the IP Telephony node in Element Manager” on [page 309](#)
- 4 “Configuring OTM to launch Element Manager” on [page 315](#)
- 5 “Configuring IP Peer Virtual Trunks on the Call Server” on [page 317](#)
- 6 “Converting unused IP Trunk cards to Media cards” on [page 327](#)
- 7 “Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on [page 331](#)

Scenario 9: System only (IP Line only)

To upgrade a Meridian 1 CS 1000 Release 4.5 system equipped with IP Line only to CS 1000M, perform the following procedures in the order given:

- 1 “Installing and configuring the Signaling Server” on [page 298](#)
- 2 “Creating the IP Telephony node in Element Manager” on [page 309](#)
- 3 “Configuring OTM to launch Element Manager” on [page 315](#)

Summary of scenarios

Table 24 summarizes the upgrade scenarios, for ease of reference. Table 25 on [page 296](#) summarizes and compares the sequence of procedures for each scenario, by indicating the order in which the procedures are performed.

Table 24
Summary of upgrade scenarios

Scenario	Description
1	Software and system upgrade using the pre-upgrade migration method.
2	Software and system upgrade using the post-upgrade migration method.
3	Software and system upgrade using the coordinated cutover method.
4	Software and system upgrade of Meridian 1 systems equipped with IP Line only.
5	Software-only upgrade to CS 1000 Release 4.5.
6	System-only upgrade of a CS 1000 Release 4.5 system whose IP Trunk 3.01 network has previously been migrated.
7	System-only upgrade using the post-upgrade migration method.
8	System-only upgrade using the coordinated cutover method.
9	System-only upgrade of Meridian 1 systems equipped with IP Line only.
Note: Refer to Table 25 on page 296 for a high-level description of the scenarios.	

Table 25
Order of procedures, by scenario

Procedure	Scenario/Sequence								
	1	2	3	4	5	6	7	8	9
Upgrading OTM 1.20 and OTM 2.00 to OTM 2.2 (p. 297)	5	1	1	1	1				
Installing and configuring the Signaling Server (p. 298)	1	2	2	2		1	1	1	1
Upgrading existing IP Line node to IP Line 4.5 loadware (p. 301)	6	3	3	3	2				
Configuring the Call Server to enable Element Manager (p. 303)	7	4	4	4	3				
Upgrading the Call Server and rebooting the system to run CS 1000 Release 4.5 (p. 305)	8	5	5	5	4				
Upgrading the firmware on Media Cards and ITG-P cards (p. 306)	9	6	6	6	5				
Configuring IP Telephony node using OTM 2.2 (p. 307) and/or Upgrading ITG Trunk 2.xx and IP Trunk 3.00 nodes to IP Trunk 4.0 using OTM 2.X (p. 308)					6				
Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks (p. 308)						2	2	2	
Creating the IP Telephony node in Element Manager (p. 309)	10	7	7	7		3	3	3	2
Configuring OTM to launch Element Manager (p. 315)	11	8	8	8		4	4	4	3
Configuring IP Peer Virtual Trunks on the Call Server (p. 317)	12	9	9			5	5	5	
Converting unused IP Trunk cards to Media cards (p. 327)	14	14	11			7	10	7	
Configuring/importing converted Media Cards into an IP Telephony node using Element Manager (p. 331)	15	15	12			8	11	8	

Procedures

The following are the procedures required to complete the upgrade scenarios. Not all the procedures are required for each scenario, and the order in which the procedures are performed is critical. Refer to the applicable “List of

procedures” or to the “Order of procedures, by scenario” on [page 296](#) for the sequence you must follow.



WARNING

Before beginning the system upgrade, ensure that a PWD1 username and password has been configured on the Call Server. If there is no PWD1 username and password, configure them in LD 17. This is necessary to enable login to the Media Cards and Signaling Server.

Upgrading OTM 1.20 and OTM 2.00 to OTM 2.2

Refer to *Optivity Telephony Manager: Installation and Configuration* (553-3001-230) to upgrade OTM 1.20 and OTM 2.00 to OTM 2.2.

Note: If Optivity Telephony Manager (OTM) has already been upgraded on your network, you do not need to perform this procedure.

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	“Upgrading existing IP Line node to IP Line 4.5 loadware” on page 301
2 Software and system (post-upgrade migration)	“Installing and configuring the Signaling Server” on page 298
3 Software and system (coordinated cutover)	“Installing and configuring the Signaling Server” on page 298
4 Software and system (IP Line only)	“Installing and configuring the Signaling Server” on page 298
5 Software only	“Upgrading existing IP Line node to IP Line 4.5 loadware” on page 301

Installing and configuring the Signaling Server

Prior to beginning the procedure, make note of the existing Signaling Server node id and node IP address. This information is used to configure the new Signaling Server in order to reduce impact to existing phone users that use partial DHCP. If new node data is used for full DHCP users, the DHCP scope must be changed at the time of installation to reduce user impact.

When connecting a Signaling Server Leader to the ELAN subnet and TLAN subnet of a system that has an existing IP Line node, you must take care not to disrupt service on the existing IP Line node. To avoid service interruption you must prevent the new Signaling Server Leader from interacting with the existing IP Line node until the node has been appropriately reconfigured (as outlined in step 3).

The SIP Virtual Trunk application resides on the Signaling Server. The SIP Virtual Trunk application can coexist on the server with the MG 1000T (Virtual Trunk) application and other applications.

The following applications can run on the Signaling Server:

- MG 1000T signaling software, including the Converged Desktop Service (CDS)
- MG 1000T signaling software
- IP Line application, including the Line Terminal Proxy Server (LTPS)
- Element Manager

- Network Routing Service (NRS) comprised of the following three components:
 - SIP Redirect Server
 - MG 1000T
 - Network Connection Server (NCS)
- Application Server which includes Personal Directory, Callers List, Redial List, and Password administration.

Procedure 81
Installing and configuring the Signaling Server (Part 1 of 2)

Step	Action
1	Install the Signaling Servers (hardware) and connect all Signaling Servers to the ELAN subnet and TLAN subnet. Refer to: <ul style="list-style-type: none"> • <i>Signaling Server: Installation and Configuration</i> (553-3001-212) • <i>Communication Server 1000S: Installation and Configuration</i> (553-3031-210)
2	Insert the CS 1000 Release 4.5 Signaling Server software installation CD into the Signaling Server. Refer to <i>Signaling Server: Installation and Configuration</i> (553-3001-212) In general: <ol style="list-style-type: none"> 1 Reset the Signaling Server. 2 Follow the online instructions displayed by the Install Tool to prepare the hard disk for installation. 3 From the main menu, choose option (a) to perform a complete Signaling Server software installation (includes Media Card loadware, IP Phone firmware, and basic Signaling Server configuration). 4 Proceed to step 3 when prompted for Basic Signaling Server Configuration. <p>Note: If this step does not automatically take you into Basic Signaling Server Configuration, then manually choose main menu option (e), Basic Signaling Server Configuration, and proceed to step 3.</p>

Procedure 81
Installing and configuring the Signaling Server (Part 2 of 2)

Step	Action
3	<p>Configure the first Signaling Server as Leader of the IP Telephony node during the installation. To prevent conflict with the Node ID and Node IP address of an existing IP Line node:</p> <ol style="list-style-type: none"> 1 Configure a temporary Node ID (for example, 9999). 2 Configure a temporary Node IP address. 3 Configure the Primary (active side) Call Server ELAN network interface IP address when prompted. This action is not required for stand-alone Gatekeeper.
4	<p>Install and configure any additional Signaling Servers as Followers in the IP Telephony node.</p>
5	<p>Reboot the Signaling Server Leader after the software installation and basic configuration is complete.</p> <p>Note: Do not reboot the Signaling Server Followers. They will be rebooted in a later procedure, after they have been manually configured in Element Manager (see “Creating the IP Telephony node in Element Manager” on page 309, step 7).</p>
6	<p>Log in to the Signaling Server from a TTY where:</p> <p>login ID (default) = admin password (default) = admin</p> <p>Note: You will be prompted to change the Signaling Server password after logging in.</p>
7	<p>Use ping to verify the Signaling Server’s Ethernet connection by pinging hosts on the ELAN subnet and TLAN subnet.</p> <p>Refer to “Verifying a successful configuration” in <i>Communication Server 1000S: Installation and Configuration</i> (553-3031-210), section titled “Verifying a successful configuration”.</p>

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	Note: If IP Trunk migration is already completed, or if there is no existing IP Trunk network, or if the existing IP Trunk network is small, proceed to “Upgrading existing IP Line node to IP Line 4.5 loadware” on page 301
2 Software and system (post-upgrade migration)	“Upgrading existing IP Line node to IP Line 4.5 loadware” on page 301
3 Software and system (coordinated cutover)	“Upgrading existing IP Line node to IP Line 4.5 loadware” on page 301
4 Software and system (IP Line only)	“Upgrading existing IP Line node to IP Line 4.5 loadware” on page 301
6 System only (post-migration)	“Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks” on page 308
7 System only (post-upgrade migration)	“Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks” on page 308
8 System only (coordinated cutover)	“Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks” on page 308
9 System only (IP Line only)	“Creating the IP Telephony node in Element Manager” on page 309

Upgrading existing IP Line node to IP Line 4.5 loadware

In general, this procedure describes how to download the IP Line 4.5 application software onto the existing IP Line 4.5 or IP Line 2.2 cards. This upgrade can be achieved by using OTM 2.2 IP Line service that you use to manage the existing IP Line 4.5 or IP Line 2.xx node. For more detailed information, refer to the section on configuring IP telephony nodes using OTM 2.10 in *IP Line: Description, Installation, and Operation*

(553-3001-365), section titled “*Configuration of IP telephony nodes using OTM 2.2.*”

IMPORTANT!

- The Call Server and IP Line nodes within a single system must be upgraded simultaneously to CS 1000 Release 4.5.
- CS 1000 Release 4.5 is not backwards compatible with Meridian 1 X11 Release 25.40 and IP Line 4.5 within a single system.

Procedure 82

Upgrading existing IP Line 3.00 node to IP Line 4.5 software using OTM 2.2 (Part 1 of 2)

Step	Action
1	<p>Download the CS 1000 Release 4.5 IP Line 4.5 software by doing one of the following:</p> <ol style="list-style-type: none"> 1 Download from the Nortel Software Download web page to the OTM Server. OR 2 Place the Signaling Server CS 1000 Release 4.5 CD in the drive of the OTM Server. OR 3 Use FTP client on OTM to download the IP Line 4.5 software (located on the Signaling Server in '/u/fw' directory). <p>Note: In the loadware filename, “xx” represents the issue.</p>
2	<p>Do one of the following:</p> <ol style="list-style-type: none"> 1 Use OTM IP Line service to select the node. or 2 To select all cards in the node of the same host type (e.g., Media Card or ITG-P), right-click the node and choose Synchronize I Transmit, click the appropriate radio buttons for the selected node or selected cards, and check the option box for <i>Card software</i>.

Procedure 82

Upgrading existing IP Line 3.00 node to IP Line 4.5 software using OTM 2.2 (Part 2 of 2)

Step	Action
3	<p>Browse for the IP Line 4.5 software file for the appropriate host type (Media Card (IPL310xx.sa) or ITG-P (IPL310xx.p2)) and click Open. Click the Start Transmit button on the Transmit Options dialog box to start transmitting.</p> <p>Note 1: Monitor progress to ensure the IP Line 4.5 software is successfully transmitted to all selected cards.</p> <p>Note 2: In the loadware filename, “xx” represents the issue.</p> <p>Do not reset cards until you are ready to run CS 1000 Release 4.5 on the Call Server. You will be instructed to reset the cards in the next procedure.</p>

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	“Configuring the Call Server to enable Element Manager” on page 303
2 Software and system (post-upgrade migration)	“Configuring the Call Server to enable Element Manager” on page 303
3 Software and system (coordinated cutover)	“Configuring the Call Server to enable Element Manager” on page 303
4 Software and system (IP Line only)	“Configuring the Call Server to enable Element Manager” on page 303
5 Software only	“Configuring the Call Server to enable Element Manager” on page 303

Configuring the Call Server to enable Element Manager

In CS 1000 Release 4.5, Login Name must be enabled on the call server in order for the Call Server PWD1, PWD2, and PDT2 to synchronize with the

Signaling Server and the Media Cards when the PBX link to each host comes up. Element Manager also depends on this setting.

Procedure 83
Configuring the Call Server to enable operation of Element Manager

Step	Action
1	Configure a minimum of two (preferably four) pseudo TTYs (PTY) on the Call Server in LD 17 using ADAN command.
2	Enable the Login Name feature on the Call Server by configuring LNAME = YES in LD 17 for data block TYPE PWD .
3	Verify the Login Name and Password (in LD 22 using print type PWD) that you must use for logging into Element Manager. You can use PWD01 , PWD02 , or LAPW login names and passwords to log in to Element Manager.
4	Verify the Primary (active CP side) IP address and Secondary (inactive CP side) IP address on the Call Server using LD 117 PRT ELNK command or LD 137 STAT ELNK command.
5	Save configuration changes permanently in LD 43 by entering the command: EDD Note: EDD also synchronizes Call Server PWD01 Login Name and Password with the Signaling Servers and Media Cards if their pbxLinks to the Call Server are established.

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Upgrading the Call Server and rebooting the system to run CS 1000 Release 4.5" on page 305
2 Software and system (post-upgrade migration)	"Upgrading the Call Server and rebooting the system to run CS 1000 Release 4.5" on page 305
3 Software and system (coordinated cutover)	"Upgrading the Call Server and rebooting the system to run CS 1000 Release 4.5" on page 305
4 Software and system (IP Line only)	"Upgrading the Call Server and rebooting the system to run CS 1000 Release 4.5" on page 305
5 Software only	"Upgrading the Call Server and rebooting the system to run CS 1000 Release 4.5" on page 305

Upgrading the Call Server and rebooting the system to run CS 1000 Release 4.5

IMPORTANT!

The call server and IP Line nodes within a single system must be upgraded simultaneously to CS 1000 Release 4.5.

Note: CS 1000 Release 4.5 is not backwards compatible with Meridian 1 X11 Release 25.40 and IP Line 4.5 within a single system.

Upgrade the Call Server software to CS 1000 Release 4.5. Refer to the appropriate upgrade chapter in this NTP.

Option 61C and 81C can be upgraded in split mode to minimize service interruption. If upgrading in this mode, do not force the CS 1000 Release 4.5 CP side to become active until the existing IP Line 3.00 node has been

upgraded to IP Line 3.10 loadware, and the IP Line cards have been reset and are in the process of simultaneously rebooting.

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Upgrading the firmware on Media Cards and ITG-P cards" on page 306
2 Software and system (post-upgrade migration)	"Upgrading the firmware on Media Cards and ITG-P cards" on page 306
3 Software and system (coordinated cutover)	"Upgrading the firmware on Media Cards and ITG-P cards" on page 306
4 Software and system (IP Line only)	"Upgrading the firmware on Media Cards and ITG-P cards" on page 306
5 Software only	"Upgrading the firmware on Media Cards and ITG-P cards" on page 306

Upgrading the firmware on Media Cards and ITG-P cards

You may need to upgrade the Media Card or ITG-P card firmware as part of the software upgrade. Use the **IPL>firmwareVersionShow** command, as indicated in the following procedure, to display the firmware version and determine if you must upgrade the firmware.

Note: You must upgrade the Media Card or ITG-P card firmware if the following message displays repeatedly on the Command Line Interface (CLI) of the upgraded or converted Media Card running IP Line 4.5:

```
(A07) Poll message not received from 8051XA
```

Procedure 84

Upgrading the firmware on Media Cards and ITG-P cards

- 1 Telnet to each Media Card and ITG-P card and log in to the IPL>shell.
- 2 Check the firmware version by entering: **IPL>firmwareVersionShow**

- 3 Verify the 8051XA firmware version of each card.
- 4 If the ITG-P card or Media Card firmware version is less than 5.8, complete the following steps:
- 5 Access the www.nortel.com website.
- 6 Choose **Support | Software Downloads | Product Family | Communication Server | IP Line and Voice Gateway Media Card**
- 7 Download the appropriate firmware.

End of Procedure

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Creating the IP Telephony node in Element Manager" on page 309
2 Software and system (post-upgrade migration)	"Creating the IP Telephony node in Element Manager" on page 309
3 Software and system (coordinated cutover)	"Creating the IP Telephony node in Element Manager" on page 309
4 Software and system (IP Line only)	"Creating the IP Telephony node in Element Manager" on page 309
5 Software only	"Configuring IP Telephony node using OTM 2.2" on page 307 and/or "Upgrading ITG Trunk 2.xx and IP Trunk 3.00 nodes to IP Trunk 4.0 using OTM 2.X" on page 308

Configuring IP Telephony node using OTM 2.2

Refer to "Configuration of IP Telephony node using OTM 2.2" in *IP Line: Description, Installation, and Operation* (553-3001-365) to configure IP Telephony node using OTM 2.2.

Next steps

Upon completion of this procedure, go to “Upgrading ITG Trunk 2.xx and IP Trunk 3.00 nodes to IP Trunk 4.0 using OTM 2.X”.

Upgrading ITG Trunk 2.xx and IP Trunk 3.00 nodes to IP Trunk 4.0 using OTM 2.X

Refer to the procedure “Upgrading IP Trunk 3.01 (and later) software” in *IP Trunk: Description, Installation, and Operation (553-3001-363)* to upgrade all ITG Trunk 2.xx and IP Trunk 3.00 nodes to IP Trunk 3.01 using OTM 2.X.

Next steps

Upon completion of this procedure, Scenario 5 (Software only) is at an end.

Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks

Refer to the appropriate NTPs listed below to perform keycode expansion on the Call Server to enable IP Peer Virtual Trunks:

- *Communication Server 1000M and Meridian 1: Large System Installation and Configuration (553-3021-210)*
- *Communication Server 1000M and Meridian 1: Small System Installation and Configuration (553-3011-210)*

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
6 System only (post-migration)	"Creating the IP Telephony node in Element Manager" on page 309
7 System only (post-upgrade migration)	"Creating the IP Telephony node in Element Manager" on page 309
8 System only (coordinated cutover)	"Creating the IP Telephony node in Element Manager" on page 309

Creating the IP Telephony node in Element Manager

If a large multi-card IP Line node exists, it saves time and minimizes user error to import the IP Line node configuration into the Element Manager IP Telephony node configuration.

Refer to *IP Line: Description, Installation, and Operation* (553-3001-365) and *IP Peer Networking: Installation and Configuration* (553-3001-213) during this procedure.

Note: After you have created the IP Telephony node in Element Manager, you must add the configuration data of the Signaling Server Leader and Followers and any new Media Cards to the IP Telephony node.

Procedure 85**Creating IP Telephony node in Element Manager (Part 1 of 6)**

Step	Action
1	<p>Open a web browser on the management PC and go to:</p> <p>http://<Signaling Server Leader ELAN network interface IP address or TLAN network interface IP address></p> <p>Note: Only Microsoft Internet Explorer v.6.0.2600, or later, is supported.</p>

Procedure 85

Creating IP Telephony node in Element Manager (Part 2 of 6)

Step	Action
2	Log in to Element Manager via the Signaling Server Leader using the Call Server login name and password for PW01, PW02, or appropriately configured LAPW.
3	Import the IP Line node configuration files from the Leader card of the existing IP Line node by choosing Configuration IP Telephony from the Navigation Tree and clicking on the Import Node Files button. Refer to <i>IP Line: Description, Installation, and Operation</i> (553-3001-365), section titled <i>"Import node configuration from an existing node"</i> for more detail.

Procedure 85**Creating IP Telephony node in Element Manager (Part 3 of 6)**

Step	Action				
4	<p>Edit the node configuration from Element Manager. Refer to <i>IP Line: Description, Installation, and Operation</i> (553-3001-365), section titled “Import node configuration from an existing node.”</p> <ol style="list-style-type: none"> <li>1 Add the Signaling Server Leader to the node and configure the Signaling Server Leader as a Primary, Alternate, or Failsafe Gatekeeper. <p>Note: There is only one Primary Gatekeeper and one Alternate Gatekeeper in the network. All other Signaling Servers are configured as Failsafe Gatekeepers.</p> <ol style="list-style-type: none"> <li>2 Add any additional Signaling Server Followers to the node. <li>3 Enable Line TPS on Signaling Server Leader and Followers. <li>4 Enable IP Peer VTRK Gateway on the Signaling Server Leader and Followers. <li>5 Configure H323-ID for IP Peer VTRK Gateway (for example, “upgraded_system_IPP-GW”). <li>6 Configure Primary and Alternate Gatekeeper IP addresses for IP Peer Virtual Trunks: <table border="1"> <thead> <tr> <th>If...</th> <th>Then...</th> </tr> </thead> <tbody> <tr> <td>The local IP Telephony node contains the Primary Gatekeeper for the Gatekeeper zone...</td> <td> <ul style="list-style-type: none"> <li>• The Primary Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the Signaling Server Leader hosting the Primary Gatekeeper in the local IP Telephony node. <li>• The Alternate Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Alternate Gatekeeper. </td> </tr> </tbody> </table>	If...	Then...	The local IP Telephony node contains the Primary Gatekeeper for the Gatekeeper zone...	<ul style="list-style-type: none"> <li>• The Primary Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the Signaling Server Leader hosting the Primary Gatekeeper in the local IP Telephony node. <li>• The Alternate Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Alternate Gatekeeper.
If...	Then...				
The local IP Telephony node contains the Primary Gatekeeper for the Gatekeeper zone...	<ul style="list-style-type: none"> <li>• The Primary Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the Signaling Server Leader hosting the Primary Gatekeeper in the local IP Telephony node. <li>• The Alternate Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Alternate Gatekeeper. 				

Procedure 85
Creating IP Telephony node in Element Manager (Part 4 of 6)

Step	Action						
	<p>(Step 4, Action 6 continued...)</p> <table border="1"> <thead> <tr> <th>If...</th> <th>Then...</th> </tr> </thead> <tbody> <tr> <td> <p>The local IP Telephony node contains the Alternate Gatekeeper for the Gatekeeper zone...</p> </td> <td> <ul style="list-style-type: none"> • The Alternate Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the Signaling Server Leader hosting the Alternate Gatekeeper in the local IP Telephony node. • The Primary Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary Gatekeeper. </td> </tr> <tr> <td> <p>The local IP Telephony node does not contain the Primary or Alternate Gatekeeper for the Gatekeeper zone...</p> </td> <td> <ul style="list-style-type: none"> • The Primary Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary Gatekeeper. • The Alternate Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Alternate Gatekeeper. </td> </tr> </tbody> </table> <p>7 Add the new Media Cards to the IP Telephony node (if required by System and Engineering).</p> <p>8 Click the Save/Transfer button to save the configuration to the Call Server and to transfer the configuration to the Signaling Server and cards.</p>	If...	Then...	<p>The local IP Telephony node contains the Alternate Gatekeeper for the Gatekeeper zone...</p>	<ul style="list-style-type: none"> • The Alternate Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the Signaling Server Leader hosting the Alternate Gatekeeper in the local IP Telephony node. • The Primary Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary Gatekeeper. 	<p>The local IP Telephony node does not contain the Primary or Alternate Gatekeeper for the Gatekeeper zone...</p>	<ul style="list-style-type: none"> • The Primary Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary Gatekeeper. • The Alternate Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Alternate Gatekeeper.
If...	Then...						
<p>The local IP Telephony node contains the Alternate Gatekeeper for the Gatekeeper zone...</p>	<ul style="list-style-type: none"> • The Alternate Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the Signaling Server Leader hosting the Alternate Gatekeeper in the local IP Telephony node. • The Primary Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary Gatekeeper. 						
<p>The local IP Telephony node does not contain the Primary or Alternate Gatekeeper for the Gatekeeper zone...</p>	<ul style="list-style-type: none"> • The Primary Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary Gatekeeper. • The Alternate Gatekeeper IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Alternate Gatekeeper. 						

Procedure 85
Creating IP Telephony node in Element Manager (Part 5 of 6)

Step	Action
5	<p>Configure the new Voice Gateway TNs on the Call Server. Do one of the following:</p> <ol style="list-style-type: none"> 1 From the Navigation Tree in Element Manager, choose Configuration IP Telephony. <p>Result: Node Summary Page appears.</p> <ol style="list-style-type: none"> a. Click on the arrowhead. b. Click on the appropriate Media Card. c. Click on <code>ADD VGW CHANNELS</code>. <p>Note: If an Alert Box appears, you need to log in to the command line of the call server, and use LD 22 to determine if Package 167 is enabled or restricted:</p> <pre>REQ PRT TYPE: 167</pre> <p>If it is restricted, obtain a new keycode to enable GPRI Package 167.</p> <p>Then, in LD 73 perform:</p> <pre>REQ NEW TYPE: DDB</pre> <p>and carriage return through, accepting all the defaults.</p> <p>or</p> <ol style="list-style-type: none"> 2 Use LD 14 from the Call Server CLI to configure the new Voice Gateway TNs.

Procedure 85
Creating IP Telephony node in Element Manager (Part 6 of 6)

Step	Action
6	<p>Clear Leader information on the former Leader card:</p> <ol style="list-style-type: none"> 1 Using Telnet or a TTY, log in to the technician level shell (IPL>) of the former Leader card of the imported IP Line node. 2 Enter the CLI command clearLeader to clear the Leader flag from the card. 3 Issue disTPS command to gracefully disable the Terminal Proxy Server and allow the IP Phones to reregister to another IP Line card when idle. Be sure to monitor the progress by using the tpsShow or isetShow commands. 4 Use LD 32 DISI command to gracefully disable the Voice Gateway TNs of the card when idle on the Call Server. Be sure to monitor the progress using LD 32 STAT command, or IPT> vgwShow command. 5 Reset the former Leader card by entering the CLI command cardReset in the IPL> shell.
7	Reboot the Signaling Server Leader and all Signaling Server Followers.
8	Verify that the Signaling Server Leader functions as the new Leader of the IP Telephony upon rebooting (for example, oam>electShow ; censusShow ; tpsShow).
9	<p>Log in to the Signaling Server Leader and enter:</p> <p>oam> loadBalance</p> <p>Result: All IP Phones will be unregistered from the Media Card and reregistered with the Signaling Server Leader. This may take up to several minutes, resulting in the following message:</p> <p>loadbalance has been completed.</p>
10	<p>Enable the Voice Gateway TNs of the former Leader card using LD 32. The command is:</p> <p>ENLC c</p>

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Scenario 1: Software and system (pre-upgrade migration)" on page 290
2 Software and system (post-upgrade migration)	"Scenario 2: Software and system (post-upgrade migration)" on page 290
3 Software and system (coordinated cutover)	"Scenario 3: Software and system (coordinated cutover)" on page 291
4 Software and system (IP Line only)	"Scenario 4: Software and system (IP Line only)" on page 292
5 Software only	"Scenario 5: Software only" on page 292
6 System only (post-migration)	"Scenario 6: System only (post-migration)" on page 293
7 System only (post-upgrade migration)	"Scenario 7: System only (post-upgrade migration)" on page 293
8 System only (coordinated cutover)	"Scenario 8: System only (coordinated cutover)" on page 294
9 System only (IP Line only)	"Scenario 9: System only (IP Line only)" on page 294

Configuring OTM to launch Element Manager

For details on how to configure OTM to launch Element Manager, refer to *Optivity Telephony Manager: System Administration* (553-3001-330).

Note: When you check the option box in **System Properties** in the OTM 2.XX Navigator to indicate that you have added a Signaling Server to an upgraded Meridian 1 system, OTM shows the System Type as CS 1000M MG (Option 81C), CS 1000M SG (Option 61C), CS 1000M HG (Option 51C), CS 1000M Cabinet (Option 11C), or CS 1000M Chassis (Option 11C Mini).

If you attempt to open an IP Line 4.5 node for a CS 1000M system in OTM 2.XX IP Line management service, OTM will automatically log you into Element Manager and open at the Element Manager **Configuration | IP Telephony | Node Summary** web page, from which you can edit or create IP Telephony nodes. If the node already exists in Element Manager, you can edit the IP Telephony node from this page. If the node does not already exist, you can create the IP Telephony node in Element Manager manually or by importing the node configuration data from an existing IP Line 3.00 node.

When the node configuration is changed by adding or deleting elements, or by changing the ELAN network interface IP addresses, from Element Manager you must go to the OTM IP Line configuration service and retrieve the node properties for that node. (This is required for scheduling the collection of Operational Measurement reports.)

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	“Configuring IP Peer Virtual Trunks on the Call Server” on page 317
2 Software and system (post-upgrade migration)	“Configuring IP Peer Virtual Trunks on the Call Server” on page 317
3 Software and system (coordinated cutover)	“Configuring IP Peer Virtual Trunks on the Call Server” on page 317
4 Software and system (IP Line only)	END OF PROCEDURES FOR THIS SCENARIO

For this scenario...	Go to...
6 System only (post-migration)	"Configuring IP Peer Virtual Trunks on the Call Server" on page 317
7 System only (post-upgrade migration)	"Configuring IP Peer Virtual Trunks on the Call Server" on page 317
8 System only (coordinated cutover)	"Configuring IP Peer Virtual Trunks on the Call Server" on page 317
9 System only (IP Line only)	END OF PROCEDURES FOR THIS SCENARIO

Configuring IP Peer Virtual Trunks on the Call Server

In general, this procedure involves configuring the IP Peer Virtual Trunks (IPP VTRK) as described in *IP Peer Networking: Installation and Configuration* (553-3001-213) and verifying the correct configuration and operational state of the IP Peer VTRK and the IP Peer MG 1000Ts.

Procedure 86

Configuring IP Peer Virtual Trunks on the Call Server (Part 1 of 4)

Step	Action
1	Configure the IP Peer Virtual Trunk as per <i>IP Peer Networking: Installation and Configuration</i> (553-3001-213), section titled "Configuring IP Peer networking."
2	Verify the operational state of the IP Peer Virtual Trunk D-Channel in LD 96 using the command: STAT DCH <DCH No.>

Procedure 86
Configuring IP Peer Virtual Trunks on the Call Server (Part 2 of 4)

Step	Action
3	<p>Verify the operational state of the IP Peer Virtual Trunk Route, Members, and D-Channel using LD 32 and the following commands:</p> <ul style="list-style-type: none">• on the Call Server: STVT <Cust. No.> <Route No.> <Starting No.><No.of Members> DSRM <Cust. No.> <Route No.> ENRM <Cust. No.> <Route No.>• on the Signaling Server: oam> vtrkShow

Procedure 86**Configuring IP Peer Virtual Trunks on the Call Server (Part 3 of 4)**

Step	Action				
4	<p>Verify the Gatekeeper registration state of the MG 1000T by doing one of the following:</p> <ol style="list-style-type: none"> <li>1 Use the Signaling Server command <code>oam> npmShow</code>. <li>2 Use the Gatekeeper pages in Element Manager and select GK Active DB Admin View Endpoints from the Navigation Tree. <table border="1"> <thead> <tr> <th>If...</th> <th>Then...</th> </tr> </thead> <tbody> <tr> <td>MG 1000T is not registered with Gatekeeper...</td> <td> <ol style="list-style-type: none"> <li>1 Verify that the Gateway H323-ID and SIP-ID match the Gatekeeper H323 and SIP AliasName using GK Active DB Admin. <li>2 Verify the Primary and Alternate Gatekeeper IP address using Element Manager: <ul style="list-style-type: none"> <li>— Click Configuration IP Telephony from the Navigation Tree. <li>— Click the Edit button associated with the IP Telephony node. The Edit webpage displays. <li>— Click Gatekeeper to display the Primary Gatekeeper and Alternate Gatekeeper IP addresses. <p>The Primary Gatekeeper and Alternate Gatekeeper IP addresses must equal the host Signaling Server's TLAN IP address for each gatekeeper.</p> </td> </tr> </tbody> </table>	If...	Then...	MG 1000T is not registered with Gatekeeper...	<ol style="list-style-type: none"> <li>1 Verify that the Gateway H323-ID and SIP-ID match the Gatekeeper H323 and SIP AliasName using GK Active DB Admin. <li>2 Verify the Primary and Alternate Gatekeeper IP address using Element Manager: <ul style="list-style-type: none"> <li>— Click Configuration IP Telephony from the Navigation Tree. <li>— Click the Edit button associated with the IP Telephony node. The Edit webpage displays. <li>— Click Gatekeeper to display the Primary Gatekeeper and Alternate Gatekeeper IP addresses. <p>The Primary Gatekeeper and Alternate Gatekeeper IP addresses must equal the host Signaling Server's TLAN IP address for each gatekeeper.</p>
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Procedure 86
Configuring IP Peer Virtual Trunks on the Call Server (Part 4 of 4)

Step	Action				
	<table border="1"> <thead> <tr> <th>If...</th> <th>Then...</th> </tr> </thead> <tbody> <tr> <td>The registration is successful...</td> <td> Perform outgoing calls from this node using route ACOD. Note: Configure RDB ISDN CTYP = CDP or LOC, etc. to match the Type of Number of Gatekeeper Numbering Plan entries for outgoing test calls. </td> </tr> </tbody> </table>	If...	Then...	The registration is successful...	Perform outgoing calls from this node using route ACOD. Note: Configure RDB ISDN CTYP = CDP or LOC , etc. to match the Type of Number of Gatekeeper Numbering Plan entries for outgoing test calls.
If...	Then...				
The registration is successful...	Perform outgoing calls from this node using route ACOD. Note: Configure RDB ISDN CTYP = CDP or LOC , etc. to match the Type of Number of Gatekeeper Numbering Plan entries for outgoing test calls.				

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Accessing the NRS and configuring the Redirect Server" on page 327
2 Software and system (post-upgrade migration)	"Accessing the NRS and configuring the Redirect Server" on page 327
3 Software and system (coordinated cutover)	"Accessing the NRS and configuring the Redirect Server" on page 327
6 System only (post-migration)	"Accessing the NRS and configuring the Redirect Server" on page 327
7 System only (post-upgrade migration)	"Accessing the NRS and configuring the Redirect Server" on page 327
8 System only (coordinated cutover)	"Accessing the NRS and configuring the Redirect Server" on page 327

SIP Redirect Server

Using the Session Initiation Protocol (SIP), a SIP Redirect Server connects Nortel Communication Servers.

CS 1000 Release 4.5 introduces a SIP Redirect Server which allows SIP interoperability between the CS 1000 systems and other proxy servers. A SIP Redirect Server is always required for interoperability between two SIP devices. It provides address resolution for the Call Servers.

Note: Currently, the Multimedia Communication Server (MCS) 5100 system provides a proxy server; however, this system may not be part of the customer network.

Nortel has many products with a SIP interface. A Redirect Server is used to translate telephone numbers recognized by Enterprise Business Network (EBN) voice systems to IP addresses in the SIP domain. As a result, the Redirect Server interfaces with SIP-based products.

Building on the H.323 Gatekeeper, the SIP Redirect Server is introduced with CS 1000 Release 4.5 to facilitate centralized dialing plan management and the configuration of the network routing information for the SIP domain.

The H.323 Gatekeeper and SIP Proxy can reside on the same Signaling Server. The data entry for the dialing plan is common for both the H.323 and SIP solutions. CS 1000 Release 4.5 also introduces an enhanced web interface for the SIP Redirect Server.

Redirect server functionality

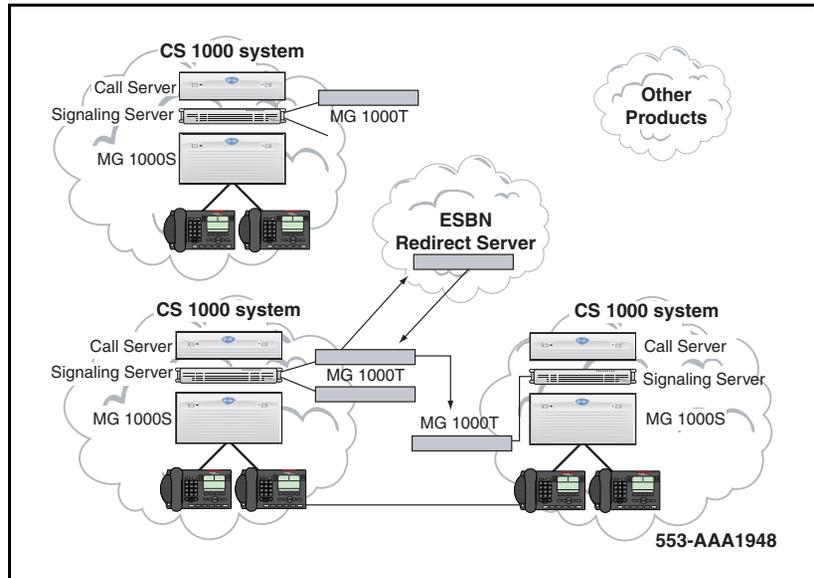
A redirect server receives requests, but rather than passing these onto another redirect server, it sends a response back to the caller.

The originator sends an address resolution request to the redirect server. The redirect server performs a lookup to see if there is an address match in its database. The redirect server returns a response back to the originator indicating the address (if a match is found) required for the originator to call

the called party. The originator uses the provided address and directly contacts the called party at the next server.

Figure 7 shows how the redirect server accepts a request from a MG 1000T and sends the response back to the MG 1000T. The MG 1000T can then contact the called party's MG 1000T directly. Once this is done, a direct media path is set up between the caller and the called party.

Figure 7
SIP Signaling and a SIP Redirect Server



A redirect server receives SIP requests and responds with 3xx (redirection) responses, directing the client to contact an alternate set of SIP addresses. 3xx redirection responses provide information about the user's new location or about alternate services that must be able to satisfy the call.

The SIP Redirect Server has the ability to access the location databases of the CS 1000 systems in order to direct MG 1000Ts within a networked environment.

Network Routing Service (NRS)

CS 1000 Release 4.5 introduces the Networking Routing Service (NRS).

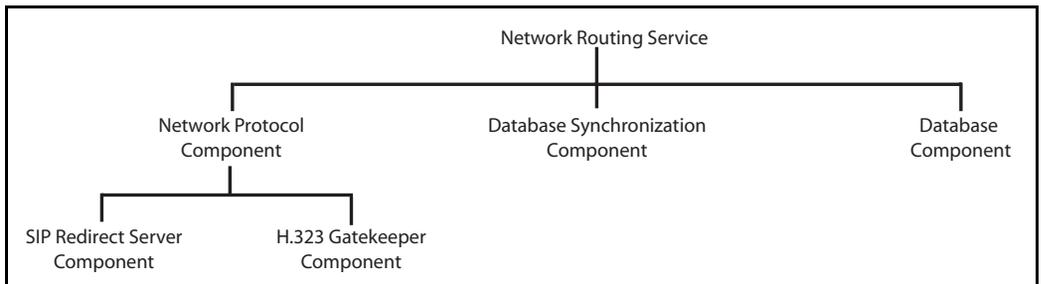
The NRS allows customers to manage a single network dialing plan for SIP, H.323, and mixed H.323/SIP networks.

The NRS is comprised of the following three components:

- network protocol component
- database synchronization component
- database component

Figure 8 shows a the NRS components.

Figure 8
NRS components



The NRS combines the following into a single application for network-based routing:

- SIP Redirect Server – Provides central dialing plan management/routing for SIP-based solutions. The Redirect Server is a software component of the NRS.
- H.323 Gatekeeper – Provides central dialing plan management/routing for H.323-based solutions. The H.323 Gatekeeper is a software component of the NRS.
- Network Connection Server (NCS) – The NCS is used for Virtual Office solutions. The IP Line Virtual Office/MG 1000B feature depends on the H.323 Gatekeeper to act as the NCS for the purposes of routing a Virtual Office login to the proper home Terminal Proxy Server (TPS).

The NRS database also resides on the Signaling Server with the NRS applications (see Figure 9). Both the SIP Redirect Server and H.323 Gatekeeper have access to this endpoint/location database. The data is stored and organized in the database. The data is used by both the SIP Redirect Server and the H.323 Gatekeeper.

Figure 9
NRS components and database

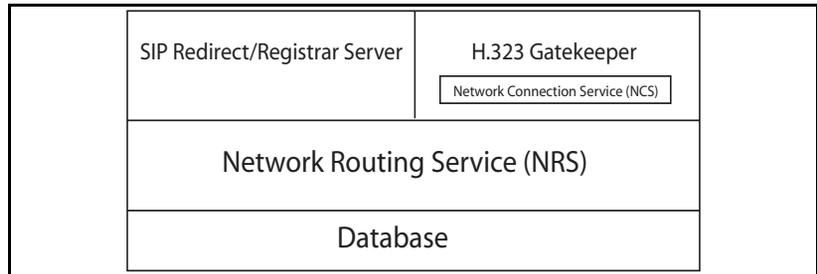
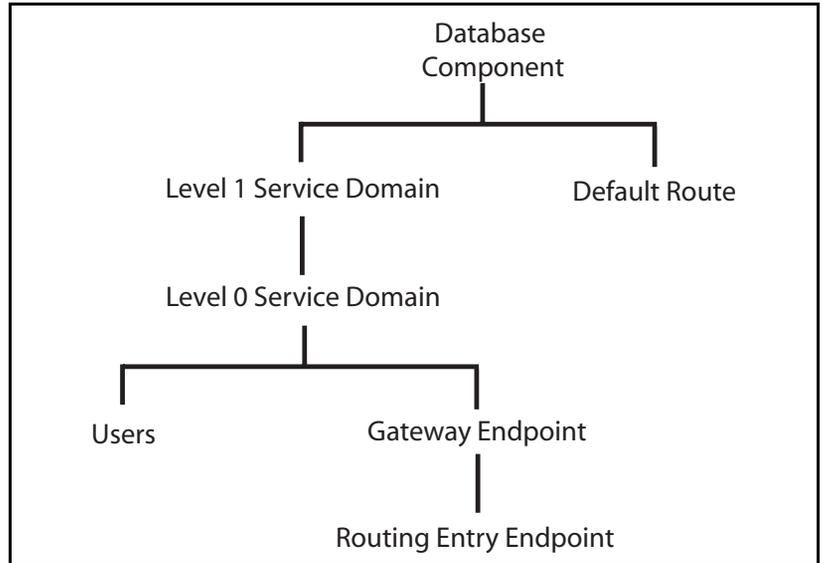


Figure 10 shows a hierarchical view of the database.

Figure 10
NRS database components



The NRS provides services to several service provider networks.

Capacity

The capacity of the NRS has been expanded to support 5000 endpoints (SIP and/or H.323) from the Succession 3.0 Gatekeeper limit of 2000 endpoints.

The maximum number of routing entries in the database is 20 000.

The maximum number of calls per hour is 60 000. This is a combination of calls going through all three components: SIP Redirect Server, H.323 Gatekeeper, and the NCS.

Authentication

SIP provides improved security through authentication. The MG 1000T provides the authentication. CS 1000 Release 4.5 introduces a username and password for accessing the database. The username and password are stored (in encrypted format) in the same database as the SIP Redirect Server or Proxy Server data.

Three types of access privileges are supported:

- Administrative privileges – Administrative users have full read/write privileges. An administrator can view and modify NRS server data.
- Observer privileges – Observers have read-only privileges. An observer can only view the Redirect/Proxy Server data.
- Database Password Change privileges – The database administrative login is used to control access to the NRS database engine. The only privilege the database administrative login has is the ability to change the database access password.

Redundancy

The NRS maintains the redundancy capabilities of backup and failsafe servers introduced with the H.323 Gatekeeper and extends these capabilities to the SIP domain.

Compatibility

The CS 1000 Release 4.5 H.323 Gatekeeper and NRS are backwards compatible with Succession 3.0 IP Peer Virtual Trunk MG 1000Ts, IP Trunk 3.01, and Succession 3.0 Line TPS Network Connect Service signaling for Virtual Office and MG 1000B. However, the CS 1000 Release 4.5 NRS is not compatible with the Succession 3.0 Failsafe Gatekeeper.

Web interface

A new web interface has been developed for the NRS. The web interface is common to both the H.323 Gatekeeper and the SIP Redirect Server.

The URL of the NRS has the following format:

http://[NRS_server_IP_address]/nrs/

Configuring NRS

To configure NRS for CS 1000 Release 4.5, see *IP Peer Networking: Installation and Configuration* (553-3001-213).

When configuring NRS for CS 1000 Release 4.5:

- The Primary NRS must be standalone (i.e. no other applications).
- The Alternate NRS may be standalone, or may be co-resident (i.e. running other applications) except for Personal Directory.
- Do not configure Failsafe NRS.
- If a Signaling Server has a Call Server defined on the same ELAN subnet, it can be managed by Element manager, even if it is "standalone". Refer to *IP Peer Networking: Installation and Configuration* (553-3001-213).
- If a Signaling Server has no Call Server defined it can only be reconfigured using the Install Tool (option 'e'). See *IP Peer Networking: Installation and Configuration* (553-3001-213).

If you are installing a new Primary or Alternate NRS, perform a complete installation (option 'a'). See *IP Peer Networking: Installation and Configuration* (553-3001-213).

Accessing the NRS and configuring the Redirect Server

For details on installing a new Primary or Alternate NRS, see *IP Peer Networking: Installation and Configuration* (553-3001-213)

Converting unused IP Trunk cards to Media cards

This procedure converts IP Trunk cards (Media Cards and ITG-P line cards) that are no longer used to Media Cards running IP Line 4.5 loadware.

The recommended method employs the OTM 2.2 ITG ISDN Trunk service that you use to manage the existing IP Trunk or ITG Trunk node.

In general, for Media Cards and ITG-P cards, download the IP Line 4.5 application loadware onto the existing IP Trunk or ITG Trunk card.

After the IP Trunk cards have been converted to run the IP Line 4.5 application loadware, you can use Element Manager to do one of the following:

- Manually add the converted cards to an IP Telephony node as Media Cards and configure the corresponding Voice Gateway TNs on the Call Server. Refer to *IP Line: Description, Installation, and Operation* (553-3001-365).
- Import the node configuration from the former IP Trunk Leader card of the newly converted Media Cards, and create a new IP Telephony node.

Note 1: This procedure assumes that all IP Trunk cards have received their IP address configuration data from the Active Leader (Leader 0 or Leader 1) and are functioning in the role of Active Leader, Backup Leader, or Follower.

Note 2: ITG Trunk 2.xx nodes containing Media Cards must first be upgraded and rebooted to run IP Trunk before OTM can transmit IP Line 4.5 loadware to the IP Trunk cards that are being converted to Media Cards.

Note 3: The IP Line 4.5 application will automatically remove unnecessary files and directories that may have been created previously by the IP Trunk or ITG Trunk applications. Therefore, the conversion procedure completes without the need to reformat the C: drive.

Procedure 87

Converting unused IP Trunk cards to Media cards (Part 1 of 2)

Step	Action
1	Download the CS 1000 Release 4.5 IP Line 4.50 software from the Nortel Software Download web page to the OTM Server, or place the Signaling Server CD in the drive of the OTM Server, or use FTP to get the IP Line 4.50 software from the Signaling Server.
2	Use OTM ITG ISDN Trunk service to select the node. To select all cards in the node of the same host type (Media Card or ITG-P), right-click on the node and choose Synchronize Transmit , and click the appropriate radio buttons for selected node or selected cards and for Card software.
3	Browse for the IP Line 4.5 loadware file for the appropriate host type (Media Card or ITG-P), then click Open Start Transmit . Note: Monitor the progress in the Transmit Control window to ensure that the IP Line 4.5 loadware is transmitted successfully to all selected cards.
4	At the Call Server CLI, use the DISI command in LD 32 to disable each IP Trunk card that is being converted.
5	In OTM ITG ISDN Trunk service, double-click on each disabled card that is being converted and then click the Reset button for each card.
6	Verify the 8051XA firmware version of each Media Card and ITG-P card: 1 Telnet to each card and log in to <code>IPL>shell</code> . 2 Check the firmware version by entering: <code>IPL>firmwareVersionShow</code>
7	Upgrade the firmware if necessary. See "Upgrading the firmware on Media Cards and ITG-P cards" on page 306 .

Procedure 87
Converting unused IP Trunk cards to Media cards (Part 2 of 2)

Step	Action						
8	<table border="1"><thead><tr><th>If...</th><th>Then...</th></tr></thead><tbody><tr><td>Part of the IP Trunk node is being retained...</td><td>The IP Trunk cards that are being converted must be deleted from the existing IP Trunk node in OTM and the IP Trunk node properties must be transmitted from OTM to the leader of the IP Trunk node.</td></tr><tr><td>None of the IP Trunk node is being retained...</td><td>Delete the node from OTM.</td></tr></tbody></table>	If...	Then...	Part of the IP Trunk node is being retained...	The IP Trunk cards that are being converted must be deleted from the existing IP Trunk node in OTM and the IP Trunk node properties must be transmitted from OTM to the leader of the IP Trunk node.	None of the IP Trunk node is being retained...	Delete the node from OTM.
	If...	Then...					
	Part of the IP Trunk node is being retained...	The IP Trunk cards that are being converted must be deleted from the existing IP Trunk node in OTM and the IP Trunk node properties must be transmitted from OTM to the leader of the IP Trunk node.					
None of the IP Trunk node is being retained...	Delete the node from OTM.						

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	“Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on page 331
2 Software and system (post-upgrade migration)	“Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on page 331
3 Software and system (coordinated cutover)	“Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on page 331
6 System only (post-migration)	“Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on page 331
7 System only (post-upgrade migration)	“Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on page 331
8 System only (coordinated cutover)	“Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on page 331

Configuring/importing converted Media Cards into an IP Telephony node using Element Manager

Note: The converted Media Cards are former IP Trunk cards.

This procedure assumes the following:

- The Signaling Server is functioning properly.
- The ELAN and TLAN network interfaces are properly configured.
- The Signaling Server is configured as the Leader in the node.

- The Call Server software has been upgraded to CS 1000 Release 4.5.
- All unused IP Trunk TNs have been removed from the Call Server database.
- All IP Trunk cards have been converted to Media Cards (upgraded to IP Line 4.5 application).
- A PC is connected to the Local Area Network (LAN).

Choose one of the following methods:

- 1 Procedure 88, “Manually configuring converted Media Cards into the existing IP Telephony node” on [page 333](#) or
- 2 Procedure 89, “Importing converted Media Cards into a new IP Telephony node using Element Manager” on [page 336](#).

Procedure 88**Manually configuring converted Media Cards into the existing IP Telephony node
(Part 1 of 3)**

Step	Action
1	<p>Note: Prior to beginning the procedure, make note of the existing Signaling Server node id and node IP address. This information is used to configure the new Signaling Server in order to reduce impact to existing phone users that use partial DHCP. If new node data is used for full DHCP users, the DHCP scope must be changed at the time of installation to reduce user impact.</p>
1	<p>Using a PC connected to the LAN, open a web browser.</p> <p>Note: Only Microsoft Internet Explorer v.6.0.2600, or later, is supported.</p>
2	<p>In the browser Address field, enter the ELAN network interface IP address or TLAN network interface IP address of the Signaling Server Leader, and click Go.</p> <p>Note: If the Leader is not responding, then enter the address of a Signaling Server Follower.</p>
3	<p>Log in to Element Manager using a valid user ID and password (for example, Admin1, Admin2, or LAPW password).</p>
4	<p>From the Navigation Tree in Element Manager, choose Configuration IP Telephony.</p> <p>Result: The Node Summary page displays.</p>
5	<p>In the Node Summary, identify the IP Telephony node to which you want to add the converted Media Cards. (The converted cards will be added as Followers.) Click the Edit button for the IP Telephony node you have chosen.</p> <p>Result: The Edit window opens.</p>

Procedure 88

**Manually configuring converted Media Cards into the existing IP Telephony node
(Part 2 of 3)**

Step	Action
6	<p>Click the Add button next to the Card heading to access the card properties for data entry of a new card. For each card that you are configuring into the system, enter the card's:</p> <ul style="list-style-type: none"> • ELAN network interface IP address • ELAN MAC address • TLAN network interface IP address • TLAN gateway IP address • TN • Card Processor type (Pentium or Voice Gateway Media) • Enable set TPS
7	<p>Repeat step 6 for each additional card to be configured into the system.</p>
8	<p>Once all the required card properties have been entered for all the cards you are adding, click the Save and Transfer button to save the configuration changes to the Call Server and to transfer the changes to the Signaling Servers and Media Cards in the node.</p> <p>Monitor progress in the Transfer Progress window.</p> <p>The BOOTP and CONFIG files are saved on the Call Server and transferred to the Signaling Server Leader. The BootP table is updated so the converted cards can receive their IP address configuration.</p> <p>Note: It may be necessary to press the Reset button in the faceplate of the converted Media Cards to trigger a new BootP request. Wait until all converted cards have received their IP address before you reset.</p>
9	<p>Click the Transfer to Failed Elements button to transfer the bootp.tab and config.ini files to the converted Media Cards.</p>

Procedure 88
Manually configuring converted Media Cards into the existing IP Telephony node
(Part 3 of 3)

Step	Action						
10	<p>Configure the new Voice Gateway TNs on the Call Server by using either Element Manager or LD 14. Do one of the following:</p> <ol style="list-style-type: none"> 1 From the Navigation Tree in Element Manager, choose Configuration IP Telephony. Result: The Node Summary page displays. <ol style="list-style-type: none"> a. Click on the arrowhead. b. Click on the appropriate Media Card. c. Click on ADD VGW CHANNELS. <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>If</th> <th>Then</th> </tr> </thead> <tbody> <tr> <td>An Alert Box appears...</td> <td>proceed to sub-action (d).</td> </tr> <tr> <td>No Alert Box appears...</td> <td>this procedure is at an end.</td> </tr> </tbody> </table> d. If an Alert Box appears, log in to the CLI of the Call Server. Use LD 22 to determine if Package 167 is enabled or restricted: <pre>REQ PRT TYPE: PKG 167</pre> <p>If Package 167 is restricted, obtain a new keycode to enable GPRI Package 167.</p> <p>Then, in LD 73 perform:</p> <pre>REQ NEW TYPE: DDB and carriage return through, accepting all the defaults.</pre> <p>or</p> <ol style="list-style-type: none"> 2 From the CLI of the Call Server, use LD 14 to configure the new Voice Gateway TNs. 	If	Then	An Alert Box appears...	proceed to sub-action (d).	No Alert Box appears...	this procedure is at an end.
If	Then						
An Alert Box appears...	proceed to sub-action (d).						
No Alert Box appears...	this procedure is at an end.						

In general, it is easier to import card configurations than to configure them manually, but the import function is available only for new nodes. Use the following procedure if:

- you want to import the converted Media Cards into a new, separate node (for example, because you do not require them for LTPS redundancy in the existing node)
- the system is not equipped with IP Line and there is therefore no existing node to which you can add them

Procedure 89
Importing converted Media Cards into a new IP Telephony node using Element Manager
(Part 1 of 5)

Step	Action
1	Using a PC connected to the LAN, open a web browser. Note: Only Microsoft Internet Explorer v.6.0.2600, or later, is supported.
2	In the browser Address field, enter the ELAN network interface IP address or TLAN network interface IP address of the Signaling Server Leader, and click Go . Note: If the Leader is not responding, then enter the address of a Signaling Server Follower.
3	Log in to Element Manager using a valid user ID and password (e.g., Admin1, Admin2, or LAPW password).
4	From the Navigation Tree in Element Manager, choose Configuration IP Telephony . Result: The Node Summary page displays.
5	Choose Import Node Files .
6	In the text entry box, enter the ELAN network interface IP address of the former Leader 0 of the IP Trunk node that has been converted to Media Cards. Click Import . Result: The following message displays: The BOOTP.1 and CONFIG1.INI files were retrieved from Voice Gateway Media Card x.x.x.x.

Procedure 89
Importing converted Media Cards into a new IP Telephony node using Element Manager
(Part 2 of 5)

Step	Action
7	<p>Since the BOOTP.1 file does not have a Node ID, enter the Node ID that you want to use for this node, and click Continue.</p> <p>Note: If you have already installed a Signaling Server that will be the Leader for this new node, and if you have already configured this node's sets to point to the Signaling Server Node ID or Virtual Trunk route, use that Signaling Server Node ID when you create this new node, and then add the Signaling Server to this new node in step 8.</p> <p>Once the new node has been created with the imported data, the following message displays:</p> <p>Warning: Call Server IP address in CONFIG.INI file is 0.0.0.0. Please edit the node and update it. BOOTP.TAB and CONFIG.INI files for node yyy were retrieved from Voice Gateway Media Card x.x.x.x, and stored on Call Server z.z.z.z. The new node will appear on the Node Summary page (Configuration > IP Telephony)</p>
8	<ol style="list-style-type: none"> 1 On the Node Summary page, click the Edit button for the new node. 2 Edit the node's properties as follows: <ol style="list-style-type: none"> a. Provision the correct IP address for the Call Server. b. Add the Signaling Server if it exists and is not already part of a larger IP Line node. c. Add any additional Media Cards.

Procedure 89

**Importing converted Media Cards into a new IP Telephony node using Element Manager
(Part 3 of 5)**

Step	Action
9	<p>Once all the required card properties have been entered for all the cards you are adding, click the Save and Transfer button to save the configuration changes to the Call Server and to transfer the changes to the Signaling Servers and Media Cards in the node.</p> <p>Monitor progress in the Transfer Progress window.</p> <p>The BOOTP and CONFIG files are saved on the Call Server and transferred to the Signaling Server Leader. The BootP table is updated so the converted cards can receive their IP address configuration.</p> <p>Note: It may be necessary to press the Reset button in the faceplate of the converted Media Cards to trigger a new BootP request. Wait until all converted cards have received their IP address before you reset.</p>
10	<p>Click the Transfer to Failed Elements button to transfer the bootp.tab and config.ini files to the converted Media Cards.</p>

Procedure 89
Importing converted Media Cards into a new IP Telephony node using Element Manager
(Part 4 of 5)

Step	Action						
11	<p>Configure the new Voice Gateway TNs on the Call Server by using either Element Manager or LD 14. Do one of the following:</p> <ol style="list-style-type: none"> 1 From the Navigation Tree in Element Manager, choose Configuration IP Telephony. Result: The Node Summary page displays. <ol style="list-style-type: none"> a. Click on the arrowhead. b. Click on the appropriate Media Card. c. Click on ADD VGW CHANNELS. <table border="1"> <thead> <tr> <th>If</th> <th>Then</th> </tr> </thead> <tbody> <tr> <td>An Alert Box appears...</td> <td>proceed to sub-action (d).</td> </tr> <tr> <td>No Alert Box appears...</td> <td>this step is at an end.</td> </tr> </tbody> </table> d. If an Alert Box appears, log in to the CLI of the Call Server. Use LD 22 to determine if Package 167 is enabled or restricted: <pre> REQ PRT TYPE: PKG 167 </pre> <p>If Package 167 is restricted, obtain a new keycode to enable GPRI Package 167.</p> <p>Then, in LD 73 perform:</p> <pre> REQ NEW TYPE: DDB </pre> <p>and carriage return through, accepting all the defaults.</p> <p>or</p> <ol style="list-style-type: none"> 2 From the CLI of the Call Server, use LD 14 to configure the new Voice Gateway TNs. 	If	Then	An Alert Box appears...	proceed to sub-action (d).	No Alert Box appears...	this step is at an end.
If	Then						
An Alert Box appears...	proceed to sub-action (d).						
No Alert Box appears...	this step is at an end.						

Procedure 89

**Importing converted Media Cards into a new IP Telephony node using Element Manager
(Part 5 of 5)**

Step	Action
12	If you did not add a Signaling Server to the imported node (see step 8), Telnet to the former IP Trunk Leader 1 card and use the clearLeader command to remove the leader flag from Leader 1.

End of procedures

Upgrading from Meridian 1 Option 51/51C

Contents

This section contains information on the following topics:

Meridian 1 Option 51/51C upgrade to Option 61C CP PIV	342
Prepare for upgrade	342
Perform the upgrade	364

Meridian 1 Option 51/51C upgrade to Option 61C CP PIV

Complete this procedure when upgrading from Meridian Option 51/51C systems to Meridian 1 Option 61C CP PIV.

This procedure is for a stacked or side-by-side configuration. This procedure requires installing a new pedestal with an NT4N41 Core/Net module next to or above the existing shelf.

Prepare for upgrade

Introduction

This document uses 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.

Each upgrade features check boxes that indicate the necessary system condition at each stage of the upgrade. If the system is not in the proper condition, you must take corrective action.

Each upgrade is designed to maintain dial tone where possible and limit service interruptions.



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.

Before attempting any software or hardware upgrade, field personnel should follow the steps in Table 26.

Table 26
Prepare for upgrade steps

Procedure Step	Page
Plan the upgrade	343
Upgrade checklists	344
Pre-upgrade tasks	344
Identifying the proper procedure	345
Connect a terminal	345
Check the Core ID switches	346
Print site data	349
Perform a template audit	352
Back up the database (data dump and ABKO)	353
Transfer the database from floppy disk to CF (customer database media converter tool)	357
Identify two unique IP addresses	363

Plan the upgrade

Planning for an upgrade includes the following details:

- 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.
- Ensure sufficient power for new columns/modules or applications.
- Identify all applications that are currently installed on the source platform.
- Identify and correct outstanding service problems.

- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).
- 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.
- Determine if software can be converted on site or must be sent to Nortel.
- Prepare a contingency plan if you abort 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 “Upgrade checklists” on [page 979](#). Engineers can print this section for reference during the upgrade.

Pre-upgrade tasks

Preparing for an upgrade includes the following tasks:

- Identify and become familiar with all procedures.
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Current patch or Dep lists installed at the source platform.
- Required patch or Dep lists at the target platform.
- 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 keycode.
- Secure the target software and keycode.
- Verify the new keycode using the DKA program.
- Print site data.

**IMPORTANT!**

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

All systems can be converted by Nortel in the software conversion lab.

Identifying the proper procedure

Each procedure has been written in a source-to-target format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

Connect a terminal

Procedure 90

Connecting a terminal

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2 Use the following values when setting the terminal:
 - a. 9600 baud
 - b. 8 data
 - c. parity none
 - d. 1 stop bit

- e. full duplex
 - f. XOFF
- 3 If only one terminal is used for both Core or Core/Net modules, connect the terminal from side-to-side to access each module. An A/B switch box can also be installed to switch the terminal from side to side.

End of Procedure

Check the Core ID switches

Procedure 91 Checking the Core ID switches

Each CP NT4N40 Core/Net card cage or module is identified as Core 0 or Core 1 (see Figure 11 on [page 348](#)). This setting is made by a set of option switches on the SU card (see Figure 12 on [page 349](#)). The Core ID switches are set in the factory. Confirm that these settings match the identification labels for the module into which they will be installed.



CAUTION — Service Interruption

The CP Core/Net card cages **MUST** be installed in the correct Core 0 or Core 1 module.

- 1 Pull the SU card (NT4N48) far enough out of its slot so you can see the ID switch settings.
- 2 Check and confirm the switch settings according to Table 27.
- 3 Reinstall the SU card.

- a. Gently slide the SU card into the slot until it makes contact with the backplane. Never force a card into the slot.
- b. Push in the top and bottom latches on the card to lock it in place.

End of Procedure

Table 27
Core module ID switch settings (SU card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

Figure 11
Core card placement in the NT4N40 Core/Net card cage (front)

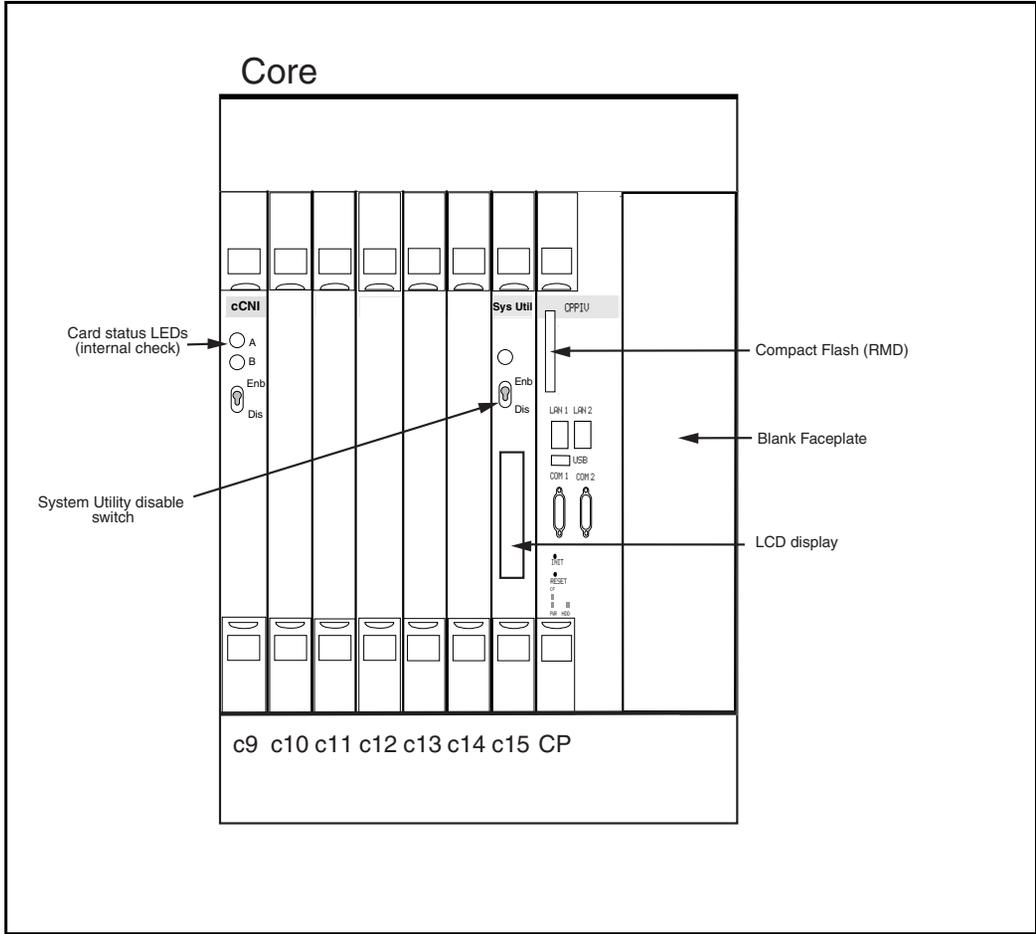
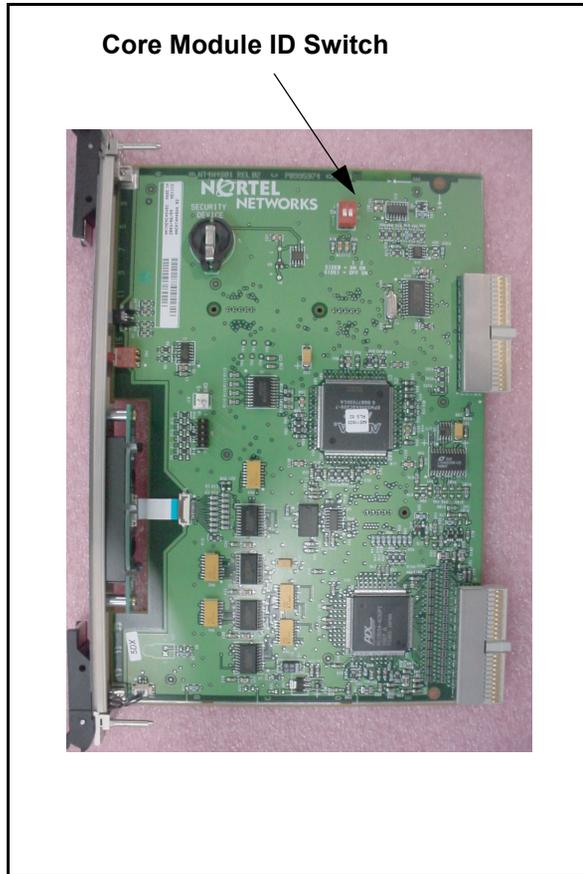


Figure 12
Core Module ID switch



Print site data

Print site data to preserve a record of the system configuration (Table 28 on [page 412](#)). Verify that all information is correct. Make corrections as necessary.

Note: Items marked with an asterisk (*) are required. Nortel recommends other items for a total system status.

Table 28
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 28
Print site data (Part 2 of 3)

Site data	Print command	
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	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 28
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 TYPE SUPL	CHG SUPL Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop. xxx = 0-252 in multiples of four for MG 1000E xxx = 96-112 in multiples of four for MG 1000T (See Table 29)
<p>Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.</p>		

Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. Refer to the following list for an example of the information generated during the audit.

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



CAUTION — Data Loss

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW CHECKSUM OK

TEMPLATE 0002 USER COUNT HIGH CHECKSUM OK

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK CHECKSUM OK

•

•

TEMPLATE 0120 USER COUNT OK CHECKSUM OK

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

To back up system data, complete the following two procedures:

- 1** Perform a data dump to save all system memory to the hard disk.
- 2** Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 92
Performing a data dump

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

LD 43 Load program

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

EDD Begin the data dump



CAUTION

Loss of Data

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

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

**** Exit program

End of Procedure

Procedure 93
Performing an ABKO (save the database to floppies)

- 1 Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

Note: If the file is too large to fit on a single floppy disk, the ABKO command compresses the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives are used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

- 2 Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

LD 143 Load program

- 3 Run the ABKO backup (LD 143).

ABKO Run backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

- 4 If there are validation errors, repeat the procedure.



CAUTION

Loss of Data

If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PIV.

- 5 Once the backup is complete, type:

******** Exit program



IMPORTANT!

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

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MByte floppy.

Nortel can convert all systems in the software conversion lab.

Procedure 94

Converting the 4 MByte database media to 2 MByte database media

Before the system is upgraded to CP PIV, the database must reside on a 2 MByte floppy disk for conversion to CF. Systems with an IODU/C drive already have a 2 MByte floppy drive and can skip this procedure.

If the database is on a 4 MByte floppy (the system has an IOP/CMDU), the 4 MByte customer database must be transferred to a 2 MByte floppy disk.

- 1 Split the Cores and transfer call processing to Core 0.
- 2 Install the Database Transfer Utility diskette into the floppy drive on the IOP/CMDU in Core 1.
- 3 Press the reset button (MAN RST) on the Call Processor card in Core 1 to reboot the system. Start the Database Transfer Utility Tool.



CAUTION — Service Interruption

Select only the following options:

- <t> Tools Menu from the Install menu, and
- <s> To archive database from the Tools menu.

DO NOT select any other options. Other options can result in operating system corruption.

- 4 From the installation menu select:
 - <t> Go to the Tools menu.
 - <s> Archive existing database.
 - <cr> <a> Continue with archive (insert blank 2 MByte diskette from the software kit into the floppy drive in Core 1).
 - <cr> <a> The diskette is now in floppy drive in Core 1.
- 5 The message displays “Database backup complete!”, and the Tools menu appears again after the backup completes correctly.

- 6 Remove the 2 MByte customer database diskette from the floppy drive of the IOP/CMDU. Do not reboot the system at this point.

End of Procedure

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



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).

The floppy disk that contains the backed-up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MByte floppy disk to a CF card, which is restored during the CS 1000 Release 4.5 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

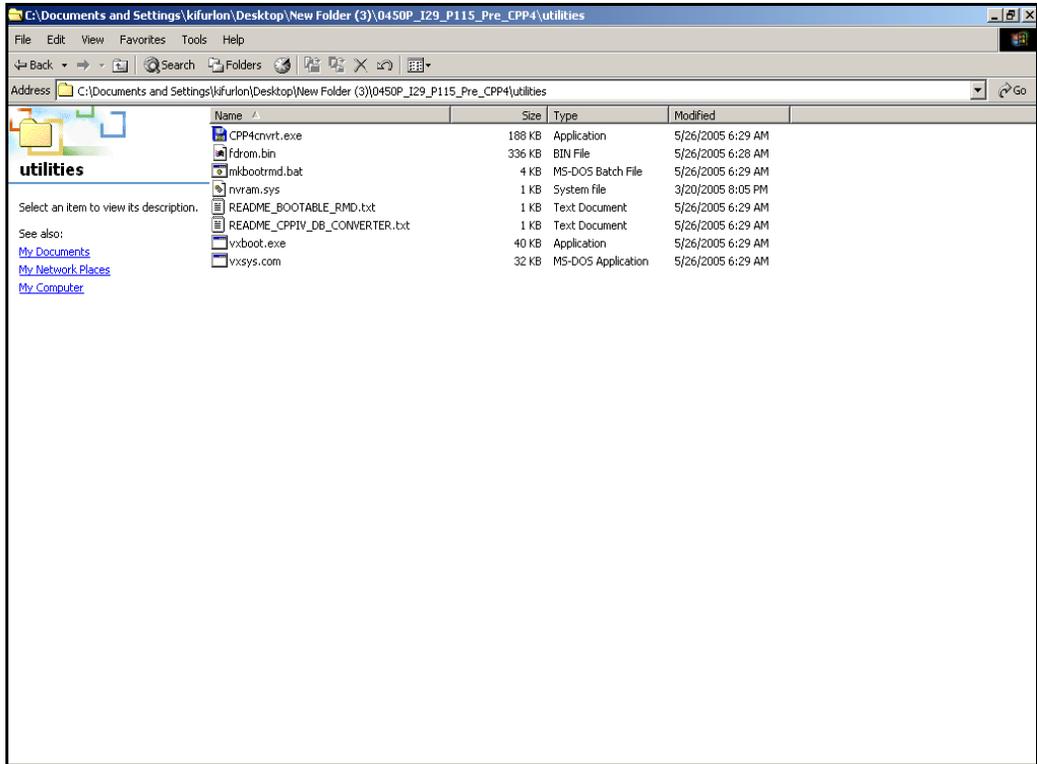
Procedure 95

Transferring the customer database from floppy disk to CF

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 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the Utilities folder. See Figure 13 on [page 358](#).

Figure 13
Utilities folder



- 3 Insert the floppy disk containing the backed up customer database from Procedure 92 on [page 354](#).
- 4 Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
- 5 Start the Database Media Converter utility by double clicking the CPP4cnvrt.exe file. The first screen (Figure 14 on [page 359](#)) prompts you to select the correct drive letter for the floppy disk drive.

Figure 14
Select the floppy disk drive



- 6 The utility then prompts you to insert the floppy disk (diskette 1) and click **OK** (see Figure 15 on [page 360](#)).

Figure 15
Insert diskette 1



- 7 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 16 on [page 361](#)).

Note: If the database is on more than one floppy, the utility prompts you to insert the next floppy until the entire database is read.

Figure 16
Select the CF drive



- 8** At this point, two options are available:
- If the CF card already contains a previously backed-up database, a dialog box appears (see Figure 17 on [page 362](#)). Click **yes** to replace the old database.
 - If the CF card is blank, the database is backed up to the CF card.

Figure 17
Replace database on CF drive



- 9 The utility completes the transfer to CF and prompts you to copy another or **EXIT** (see Figure 18 on [page 363](#)).

Figure 18
Copy another or exit



End of Procedure

Identify two unique IP addresses

Each CP PIV system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this

configuration, the **active** Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your systems administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see .

Perform the upgrade

Introduction

Figure 19 on [page 365](#) shows an upgrade to a stacked Meridian 1 Option 61C CP PIV system.

Figure 20 on [page 366](#) shows an upgrade to a side-by-side Meridian 1 Option 61C CP PIV system.



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.

Figure 19
Meridian 1 Option 61C CP PIV stacked upgrade

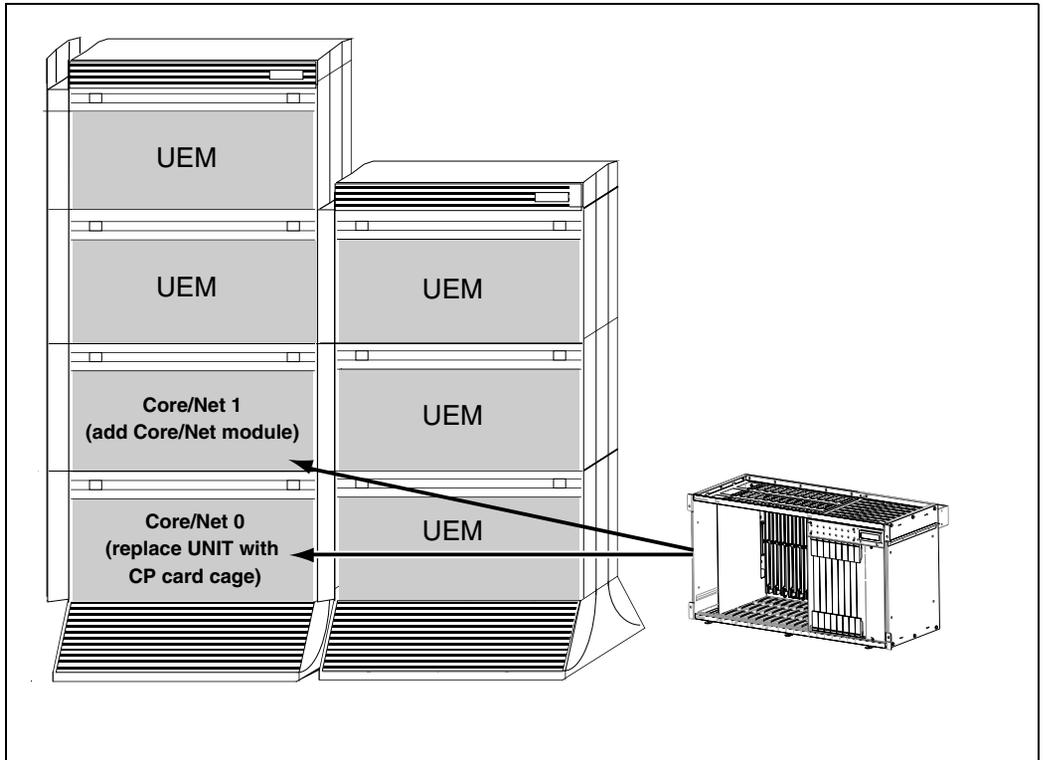
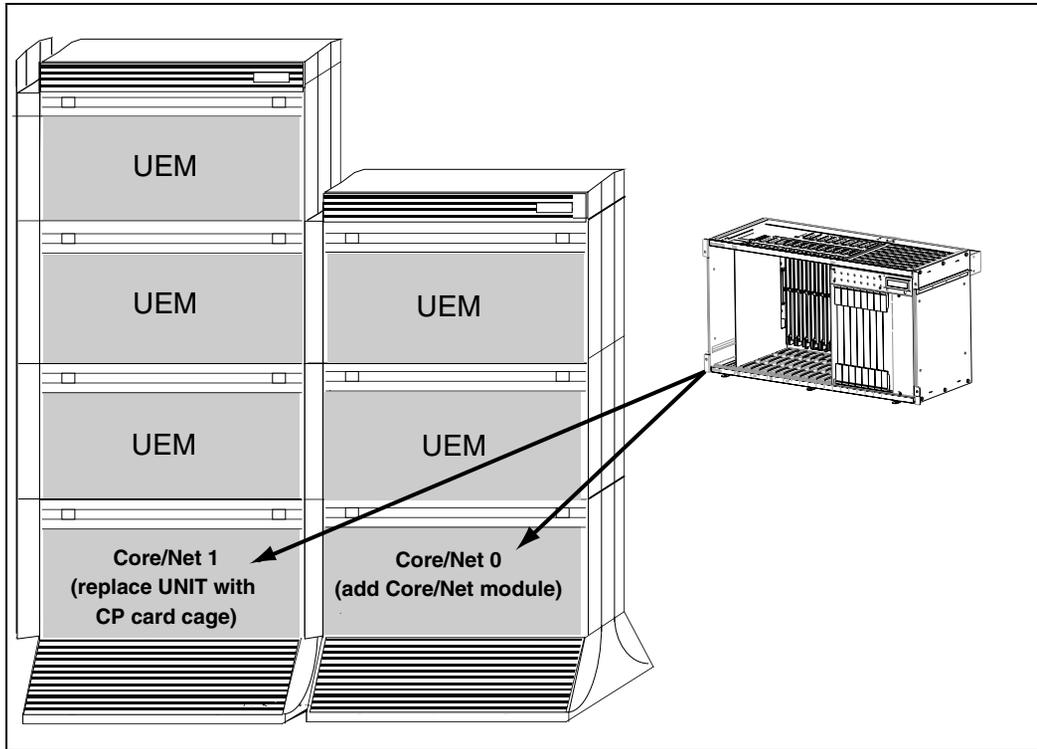


Figure 20
Meridian 1 Option 61C CP PIV side-by-side upgrade



This upgrade takes a Meridian 1 Option 51/51C to a Single Group Meridian 1 Option 61C with CP PIV. CP PIV cards are located in the Core/Net modules or card cage.

One card cage in the existing Core/Net module is replaced with an NT4N40 CP card cage (see Figure 21 on [page 367](#)). A new NT4N41 Core/Net module is also required.

Existing network cards are relocated to the NT4N40 CP card cage. The following additional cards are required for the NT4N41 Core/Net module:

- Peripheral Signaling cards (PS pack).
- 3 Port Extender (3PE).

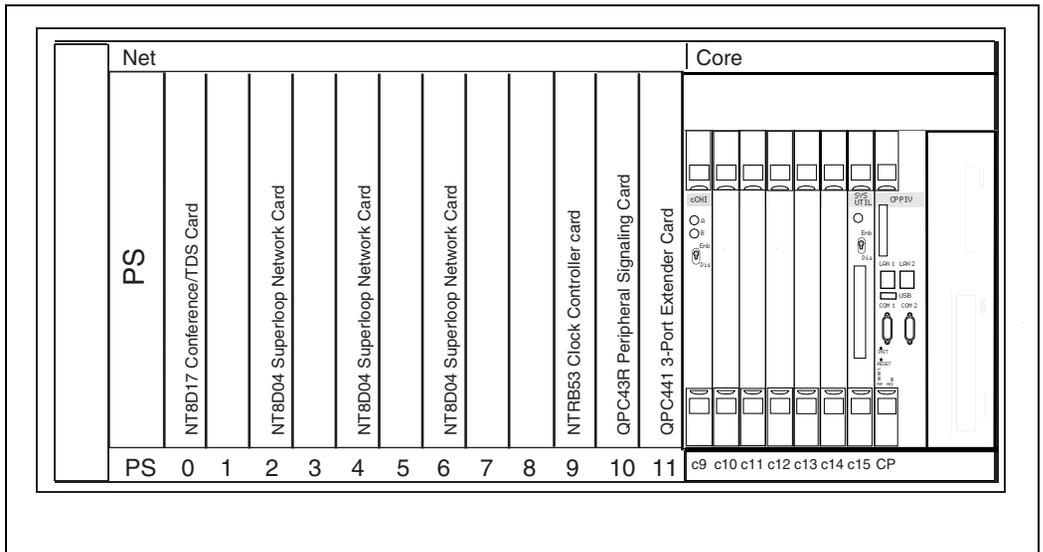
- Clock Controller card.
- Conference/TDS Pack (XCT).



WARNING

Clock controller cards must be of the same part number for any single system. For instance, a QPC471 card cannot be used with an NTRB53 card.

Figure 21
CP PIV Core/Net Module



Review upgrade requirements

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

Check equipment received

Meridian 1 Option 61C CP PIV equipment is configured at the factory according to customer requirements. Some cards and power supplies are shipped in separate packages to prevent damage to the cards.

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



CAUTION — Service Interruption

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

Check required software

The following software packages are required to upgrade a system to Meridian 1 Option 61C with CP PIV.

- CPP_CNI CP Pentium Backplane for Intel Machine Package 368
- The Compact Flash Software Install Kit, containing the following items:
 - One CF (512 MByte) card containing:
 - Install Software files
 - CS 1000 Release 4.5 software
 - Dep. Lists (PEPs)
 - Key code File
- One blank CF card for database backup
- One Nortel CS 1000 Release 4.5 Documentation CD

Check vintage requirements for existing hardware

Check the list below to make sure that existing hardware meets the minimum vintage requirements for CP PIV.

If equipment does not meet the requirements, replace it before you begin the upgrade.



CAUTION — Service Interruption

Equipment that does not meet the minimum vintage requirements can cause system malfunctions and loss of call processing.



WARNING

Clock Controller cards must be of the same part number for any single system. For instance, a QPC471 card cannot be used with an NTRB53 card.

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53 Clock Controller cards must be minimum vintage AA.
- The QPC471 Clock Controller cards must be minimum vintage H.
- The QPC775 Clock Controller cards (all countries except USA) must be minimum vintage E.
- QPC720 PRI cards require NT8D79 cables. NT5D12 Dual PRI/DTI cards require NTCG03 cables.
- The QPC43 Peripheral Signaling cards must be minimum vintage R.

Check required hardware (AC and DC)

Table 29 lists the equipment required for DC-powered systems. Table 30 lists the equipment required for AC-powered systems.

	<p>WARNING</p> <p>Ensure that power supplies NT6D41CA (DC) or NT8D29BA (AC) are used in the Core/Net shelf.</p>
---	--

Table 29
DC requirements for Meridian 1 Option 61C CP PIV system

Order number	Description	Quantity per system
NTHU46DA	Option 61C from 51/51C Upgrade to CP-PIV Single Group (DC)	1

Table 30
AC requirements for Meridian 1 Option 61C CP PIV system

Order number	Description	Quantity per system
NTHU46AA	Option 61C from 51/51C Upgrade to CP-PIV Single Group (AC)	1

The equipment room must provide the appropriate number of 30 Ampere outlets. One 175-264 VAC, 47-63 Hz, 30 Ampere outlet is required for every pedestal or column.

If supporting additional Meridian 1 modules, order additional top cap and pedestal packages (NTWB15BA). One top cap and pedestal package supports up to four modules.

To cover all exposed module sides and to connect modules side-to-side, additional NT9D18AA module side covers and NT8D49AA column spacer kits must be ordered separately. The NTHU44AA and DA packages contain

common equipment hardware only, including two CP PIV Pentium call processor cards and two NTRB53 Clock Controller cards.

The NTHU44AA and DA packages contain common equipment hardware only, including two CP PIV Pentium call processor cards and two NTRB53 Clock Controller cards.

These packages are designed for computer floor installation, with all cables exiting from the pedestal. If the installation requires overhead cabling, order NT7D0009 top egress panel, one per column.

An NT8D49AA Spacer kit is provided to allow for a side-by-side installation of core/network modules. This arrangement requires an additional top cap and pedestal package and must be ordered separately.

Intelligent peripheral equipment must be ordered separately. Order NTWB15DA for any additional AC IPE Modules required.

Peripheral equipment (PE) or Enhanced peripheral equipment (EPE) is not supported on systems with Pentium Processors.

Check required power equipment

Table 31 on [page 371](#) lists the equipment required for DC-powered systems.

Table 32 on [page 372](#) lists the equipment required for AC-powered systems.

	<p>WARNING</p> <p>Ensure that power supplies NT6D41CA (DC) or NT8D29BA (AC) are used in the Core/Net shelf.</p>
---	--

Table 31
DC power requirements for Meridian 1 Option 51 upgrades

Order number	Description	Quantity per system
NT6D41CA	Core/Network Power Supply DC	2

Table 32
AC power requirements for Meridian 1 Option 51 upgrades

Order number	Description	Quantity per system
NT8D29BA	Core/Network Power Supply AC	2

Check personnel requirements

Nortel recommends that a minimum of two people perform the card cage upgrade.

Database requirements

If the system is running pre-release 23 software or the source platform is a Meridian 1 Option 21E, 51, 61, 71, STE, NT or XT, the database must be sent to Nortel for conversion.

System requirements



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.** Download the latest software from the Nortel Software Downloads web site and installed as part of the upgrade process.

CS 1000 compatibility

Consult *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120) for CS 1000 Release 4.5 product compatibility.

Install Core 1 hardware

Install the NT4N41 Core/Net module and pedestal next to the existing column, or on top of the column if you are installing a stacked configuration. For information on AC/DC power, side panels, and EMI spacers (placing the fourth module on a column), refer to the appropriate chapters in *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210)

Procedure 96

Checking main Core card installation

The main Core cards are installed in the factory as shown in Figure 22 on [page 374](#).

- 1 NT4N65AC CP Core Network Interface (cCNI) cards:
Each system contains one NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots c10-c12, which do not contain cCNIs.

Note: In the NT4N41 Core/Net module, port 0 on the NT4N65 Core to Network Interface (cCNI) Card in slot c9 can only be configured as group 0. The cCNI and 3PE cards for group 0 communicate through the NT4N29 cable. Only one cCNI card is required for group 0 in a Meridian 1 Option 61C CP PIV.

- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 The NT4N48 System Utility (Sys Util) card is located in slot c15. Check the side ID switch settings for the SU card in Core/Net 1 according to Table 33.

Table 33
Core module ID switch settings (System Utility card)

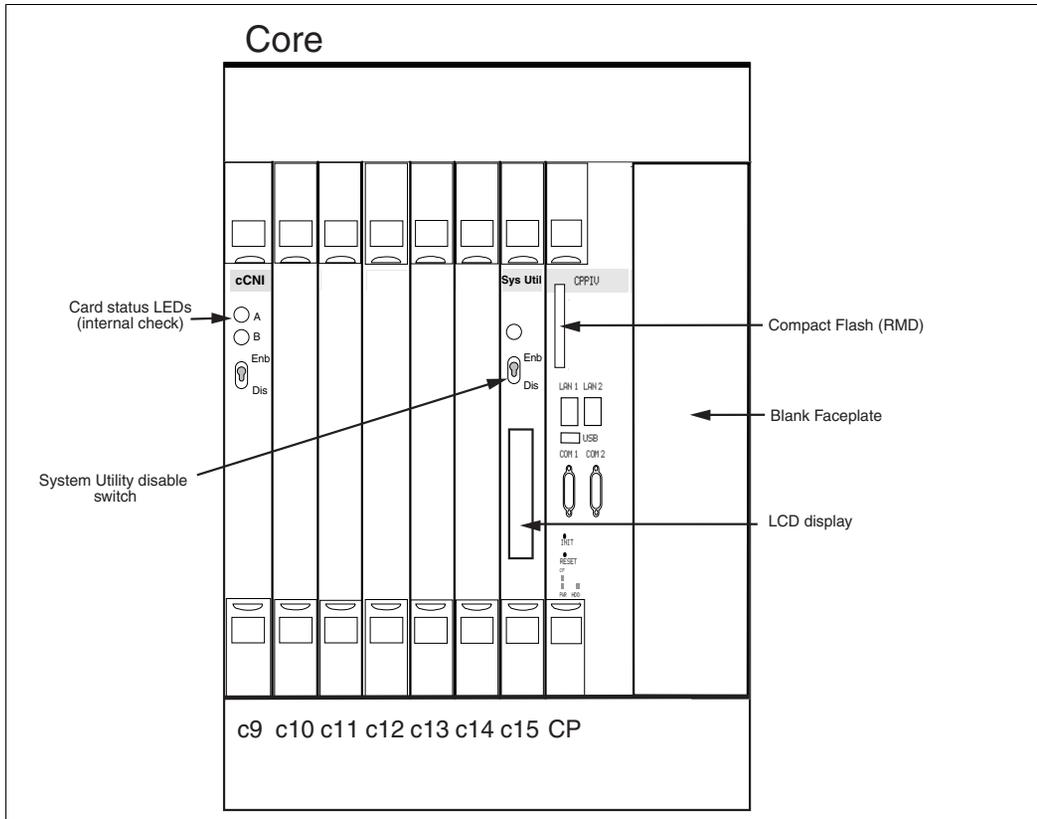
	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 4 NT4N39 CP PIV is located in the Call Processor slot.

- 5 The N0026096 blank faceplate is located in the extreme right-hand slot next to the CP PIV card.

End of Procedure

Figure 22
Core card placement in the NT4N41 Core/Net Module (front)



Install the Security Device for Core/Net 1

Procedure 97

Installing the Security Device for Core/Net 1

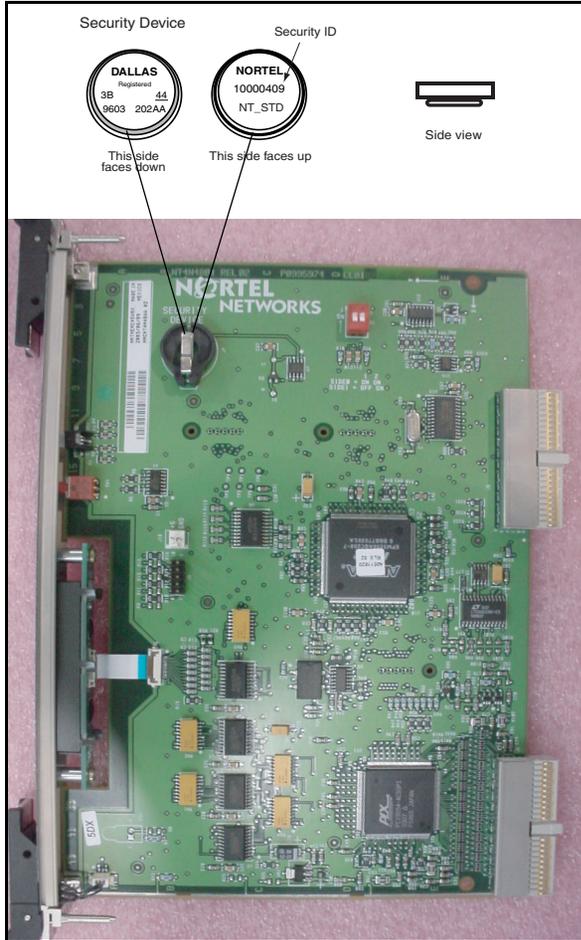
The Security Device fits into the SU card (see Figure 23 on [page 376](#)).

To install the Security Device for Core/Net 1:

- 1 Locate the new Security Device included with the Software Upgrade kit.
- 2 Insert the Security Device into the Security Device holder on the SU card with the Nortel side facing up. Do not bend the clip more than necessary.
- 3 Check that the Security Device is securely in place.

End of Procedure

Figure 23
Security Device



Check for the shelf power cable

Check that the NT4N4405 Shelf Power Cable is installed in the CP PII card cage backplane. See Figure 24 on [page 378](#) for the cable location.

Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply

Procedure 98 Installing the power supply

- 1 Unpack the power supply.
- 2 Faceplate-disable the power supply.
- 3 Insert the power supply into the Core/Net module power supply slot.

End of Procedure

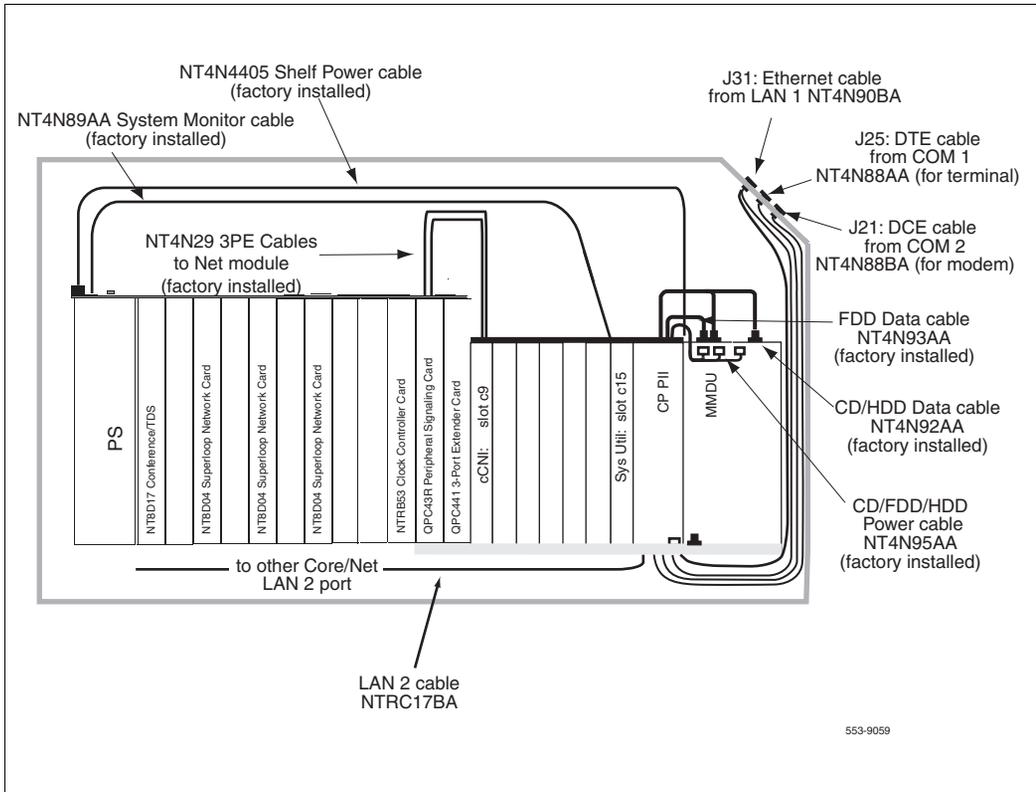
Check factory-installed cables

Table 34 lists factory-installed cables (see Figure 24 on [page 378](#)).

Table 34
Factory-installed cables

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

Figure 24
Core/Net cable connections (top view)



Install network cards in Core/Net 1

Procedure 99

Installing the network cards in Core/Net 1

1 Check the switch settings and jumpers. See Table 35.

- a. All 3PE cards must be vintage F or later.
- b. Check that the RN27 Jumper is set to A.

Note: The settings for 3PE cards in Core/Net shelves are different from those in all other shelves. Table 35 shows the 3PE settings for cards installed in CP PII Core/Net Modules.

- c. install QPC 441 3PE card to slot 11.

Note: For 3PE settings for cards installed in Network Modules, see Table 36 on [page 380](#).

Table 35
QPC441 (QPC440) 3PE Card installed in the CP PII Core/Net modules

Jumper settings. Set Jumper RN27 at E35 to A.									
Switch Settings									
Module		D20 switch position							
CP PII Core/Net modules only		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off

- 2 Installing the QPC43R Per Sig card in slot 10.
- 3 Set the Clock Controller 1 switch settings according to Table 36 on [page 380](#) and to Table 37 on [page 380](#).
- 4 Install the Conference TDS pack (XCT) into slot 0

5 Install the Clock Controller in slot 9.

————— End of Procedure —————

Table 36
Clock Controller switch settings for QPC471H, QPC771H

Systems upgraded to CP PII must use the Meridian 1 Option 61C CP PII switch settings to enable Clock Hunt software. Use the settings in this table.											
SW1				SW2				SW4			
1	2	3	4	1	2	3	4	1	2	3	4
on	on	on	on	off	off	off	off	**	on	*	*
*Total cable length between the J3 faceplate connectors:											
0–4.3 m (0–14 ft.)									off	off	
4.6–6.1 m (15–20 ft.)									off	on	
6.4–10.1 m (21–33 ft.)									on	off	
10.4–15.2 m (34–50 ft.)									on	on	
** Set to ON for Clock Controller 0. Set to OFF for Clock Controller 1.											

Table 37
Clock Controller switch settings for NTRB53 (Part 1 of 2)

Multi Group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		3	4			
1	2	3	4		5	6
Multi Group = Off Single group = On	21E = Off 51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On Side 1 = Off	71,81 = Off 21E, 51, 51C, 61. 61C, 81C = On

Table 37
Clock Controller switch settings for NTRB53 (Part 2 of 2)

Multi Group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		Off	On	4.6–6.1 m (15–20 ft.)		
		On	Off	6.4–10.1 m (21–33 ft.)		
		On	On	10.4–15.2 m (34–50 ft.)		
Note: Switches 7 and 8 are not used.						

Power up Core/Net 1

Procedure 100 Preparing for power up

- 1 Check that a terminal is connected to the J25 I/O panel connector on Core/Net 1.

Note: A maintenance terminal is required to access the Core/Net modules during the upgrade.

- 2 Connect a terminal to the J25 port on the I/O panel in Core/Net 1.
- 3 Check the terminal settings as follows.
 - a. 9600 baud
 - b. 8 data
 - c. parity none
 - d. 1 stop bit
 - e. full duplex

f. XOFF

Note: If only one terminal is used for both Cores, the terminal must be switched from side to side to access each module. An A/B switch box can also be installed to switch the terminal from side to side.

End of Procedure

Procedure 101
Powering up Core/Net 1

- 1 Faceplate-enable all Core and Network cards in Core/Net 1.
- 2 For AC-powered systems (NT8D29BA), set the MPDU circuit breaker located at the left end of the module to ON (top position.)
- 3 Set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).
- 4 For DC-powered systems, faceplate-enable the NT6D41CA power supply and then set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).
- 5 Check that the Network and I/O cards have working power.
- 6 Allow the system Load/initialize before beginning the software installation.

End of Procedure

CS 1000 Release 4.5 upgrade

Upgrading the software

Procedure 102 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

Procedure 102
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 displays the Install Menu. Select option "".

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

I N S T A L L M E N U

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

Please enter:

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

For Feature Expansion, use OVL143.

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

Enter Choice> ****

- 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 XXXXX
Option	Choice	Status	Comment
Dependency Lists	yes		
Option	Choice	Status	Comment
IPMG Software	yes		install for rel XXXXX
Option	Choice	Status	Comment
DATABASE	yes		
Option	Choice	Status	Comment
CP-BOOTROM	yes		

- 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 install Software release: XXXX on
the new system.
This will create all necessary directories and
pre-allocate files on the hard disk.
You may continue with software install or quit
now and leave your software unchanged.
Please enter:
        <CR> -> <a> - Continue with new system
install.
        <q> - Quit.
        Enter choice>
```

- 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>
    
```

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>

>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

Configuring IP addresses

Procedure 103 Configuring the IP addresses

Two unique IP address are required for the CP PIV system to communicate with the LAN. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core.

- 1 Use the following command to check the status of the system's IP address:

LD 117 Load program

prt host Print the configured host information

If the system returns with host names active and inactive, go to "Check for Peripheral Software Download to Core 1" on [page 402](#). If the system returns no host names, complete the following steps:

- 2 Contact your System Administrator to identify IP address and subnet mask information.
- 3 Configure the primary (*active*) and secondary (*inactive*) IP addresses:

LD 117 Load the program

new host name 1 IP address Define the first IP address: "name 1" is an alias for the IP address such as "primary". The IP address is the IP number.

chg elnk active name 1 Assign the "name 1" address to the *active* Core.

new host 'name 2' 'IP address' Define the second IP address: "name 2" is an alias for the IP address such as "secondary". The IP address is the IP number.

- chg elnk inactive *name 2*** Assign the “name 2” address to the *inactive* Core.

- chg mask *xxx.xxx.xxx.xxx*** Set the sub-net per local site. This number allows external sub-nets to connect to the system.

4 Enable the new Ethernet interface.

- LD 137** Load program
- update dbs** Update the ELINK database
- dis elnk** *Disable* the old IP interface values
- enl elnk** *Enable* the new IP interface values

End of Procedure

Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 349](#). If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

Access LD 22 and print Target peripheral software version.

- LD 22** Load program
- REQ** PRT
- TYPE** PSWV

ISSP	Print System, DepList, and Patch information
SLT	Print System Limits
TID	Print the Tape ID
****	Exit program

Reconfigure I/O ports and call registers

Procedure 104

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 1000 and 20000 (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

Performing a data dump

Procedure 105

Performing a data dump to backup the customer database:

- 1 Log in to 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.



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

Power down Core/Net 0



CAUTION

Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.



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.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 0 module in the back of the column pedestal to OFF (down position).

Remove Core 0 cables and card cage

Procedure 106

Removing Core 0 cables and card cage

- 1 Label and disconnect all cables to the front of the module.
- 2 Tape over the contacts to avoid grounding.
- 3 Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4 Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5 Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6 Tag and disconnect all plugs, wires, and cables to the backplane.

Note 1: Leave the network cards in the card cage. You will relocate them to the CP card cage later in the upgrade procedure.

Note 2: Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

- 7 At the bottom rear of the card cage, remove the two mounting screws that secure the card cage to the module casting.



CAUTION

Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

Keep the screws for use with the CP card cage. (You need a 1/4" nut driver to remove the screws.)

- 8 Remove the front trim panels on both sides of the card cage.
- 9 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Save the screws for use with the CP card cage.
- 10 Pull the card cage forward until it is halfway out of the module.
- 11 Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful; do not drop the nut or lock washer into the pedestal. For DC power connectors, see Figure 25 on [page 407](#). For AC power connectors, see Figure 26 on [page 408](#).
- 13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.
- 14 Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15 Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16 Remove the Core card cage from the module.

Figure 25
DC power connectors on the Core module backplane

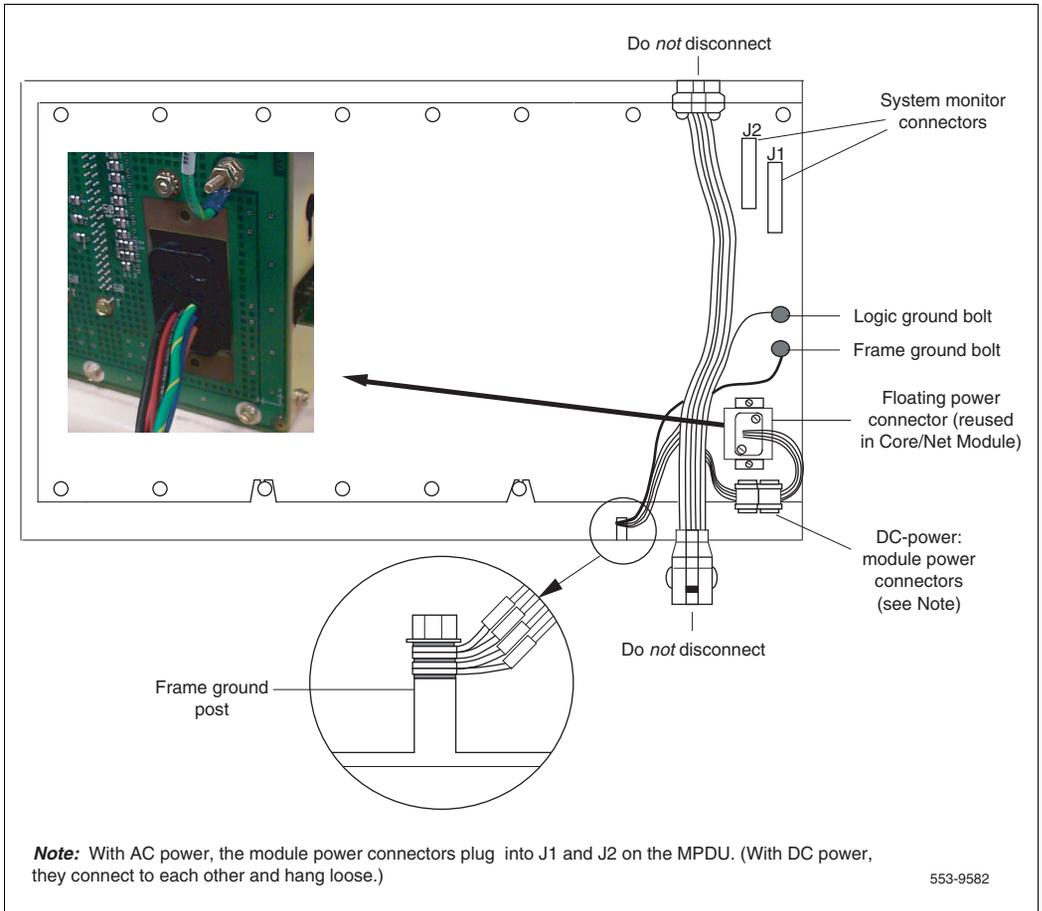
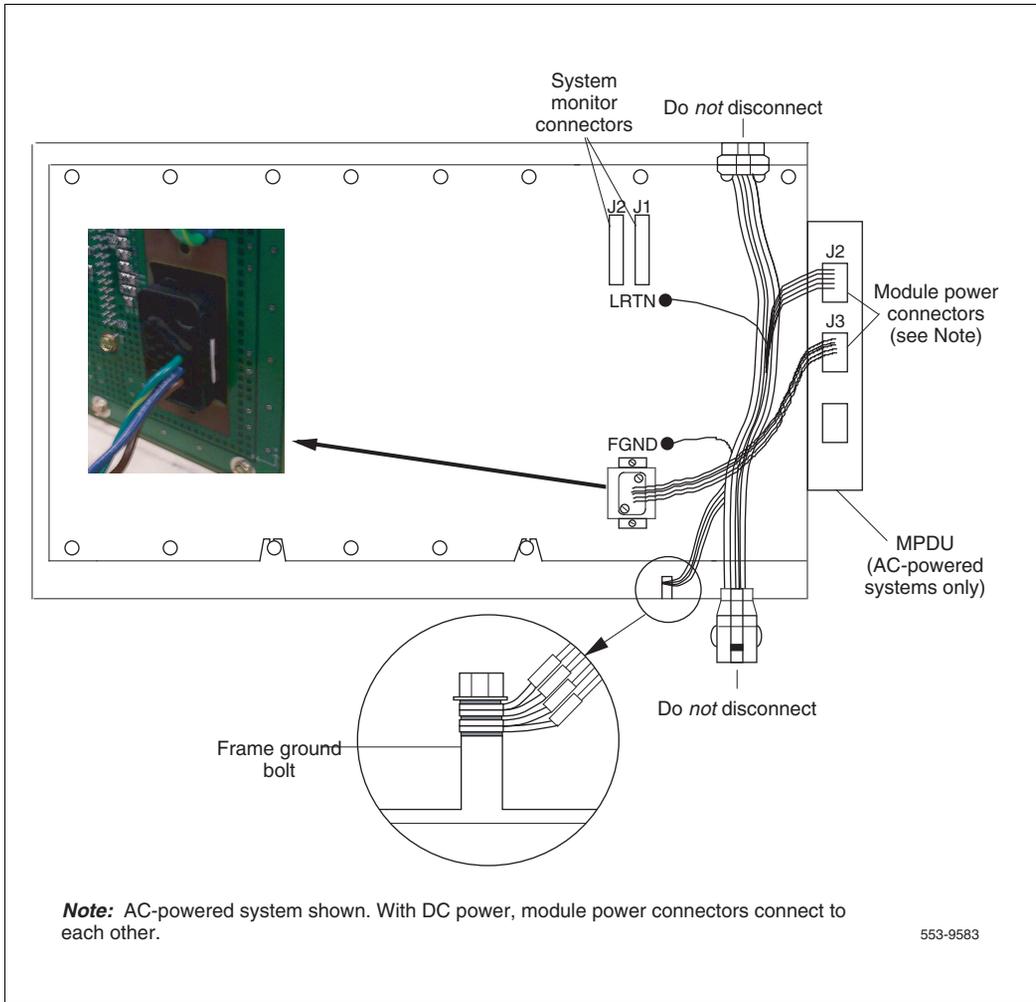


Figure 26
AC power connectors on the Core module backplane



- 17** Remove the power harness and reserve it for reinstallation as part of installing the NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
- For AC systems, relocate power harness NT8D40.
 - For DC systems, relocate power harness NT7D11.



WARNING

Be sure to perform the following step. If you do not tape the EMI shield in position, you cannot install the card cage in the module correctly.

- 18** Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.



CAUTION

Damage to Equipment

Check for and remove any debris (such as screws) that could have fallen into the base of the UEM module.

End of Procedure

Upgrade Core 0 hardware

Procedure 107

Checking main Core card installation

The main Core cards (including the cables for power and data), are installed in the factory as shown in Figure 27 on [page 411](#).

- 1 NT4N65AC CP Core Network Interface (cCNI) cards:
Each system contains one NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots c10 - c12, which do not contain cCNIs.

Note: In the NT4N41 Core/Net module, port 0 on the NT4N65 Core to Network Interface (cCNI) Card can only be configured as “group 0.” The cCNI and 3PE cards for group 0 communicate through the NT4N29 cable. Only one cCNI card is required for group 0 in a Meridian 1 Option 61C CP PIV.
- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.
 - a. Check side ID switch settings for the SU card in Core/Net 1 according to Table 38.

Table 38
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 4 The NT4N39 CP PIV is located in the Call Processor slot.
- 5 The N0026096 blank faceplate is located in the extreme right-hand slot next to the CP PIV card. Check that the NT4N4405 shelf power cable is installed in the CP card cage backplane. See Figure 28 on [page 412](#) for the cable location.

Figure 27
Core card placement in the NT4N41 Core/Net Module (front)

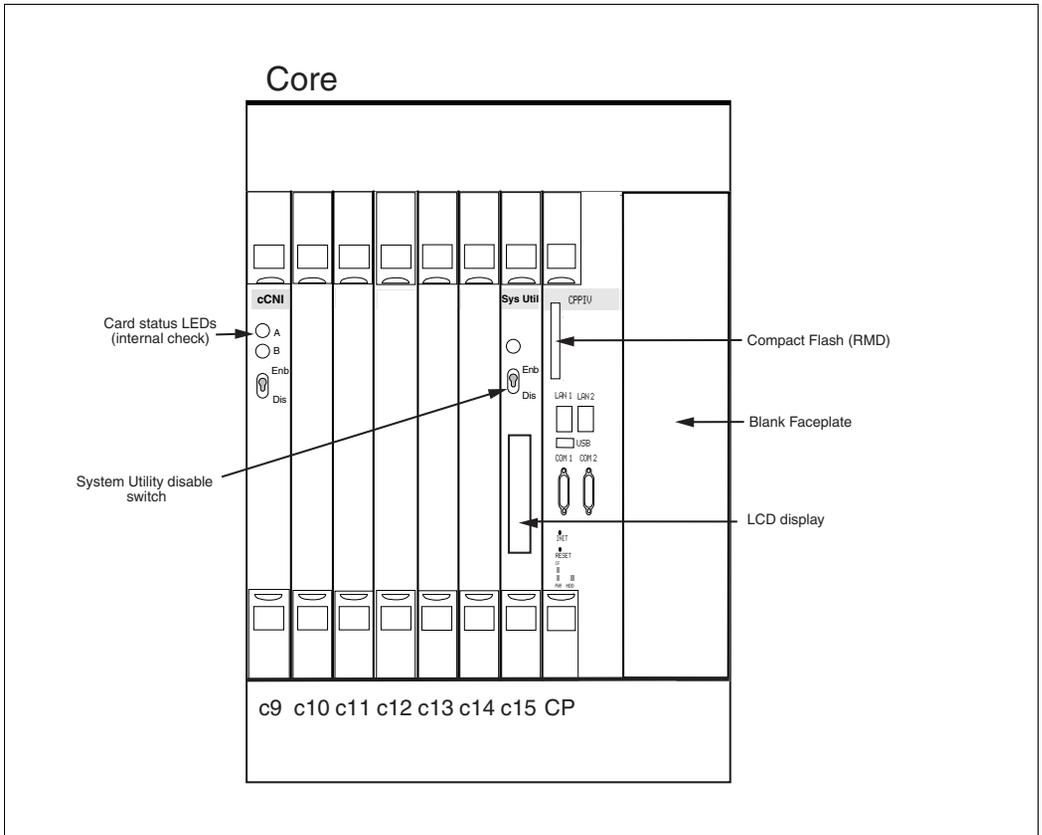
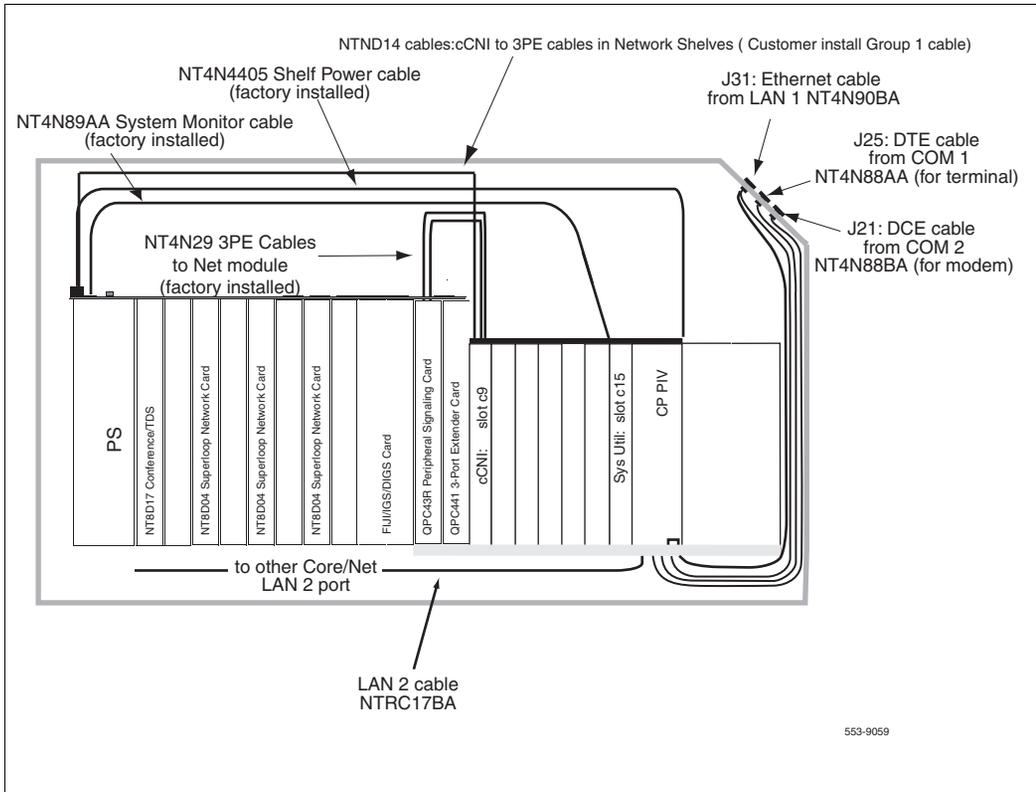


Figure 28
Core/Net cable connections (top view)



Install the CP card cage in Core 0

Procedure 108 Installing the CP card cage in Core 0

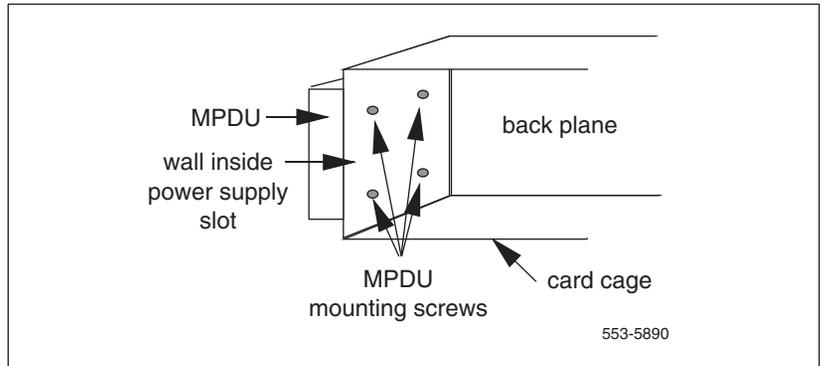
- 1 Check that the card cage is configured as Core 0. See Table 39 for instructions.

Table 39
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 2 For AC-powered systems only, install the new MPDU, which is part of the CP PIV Upgrade kit, to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 29.

Figure 29
Location of the screws for the MPDU



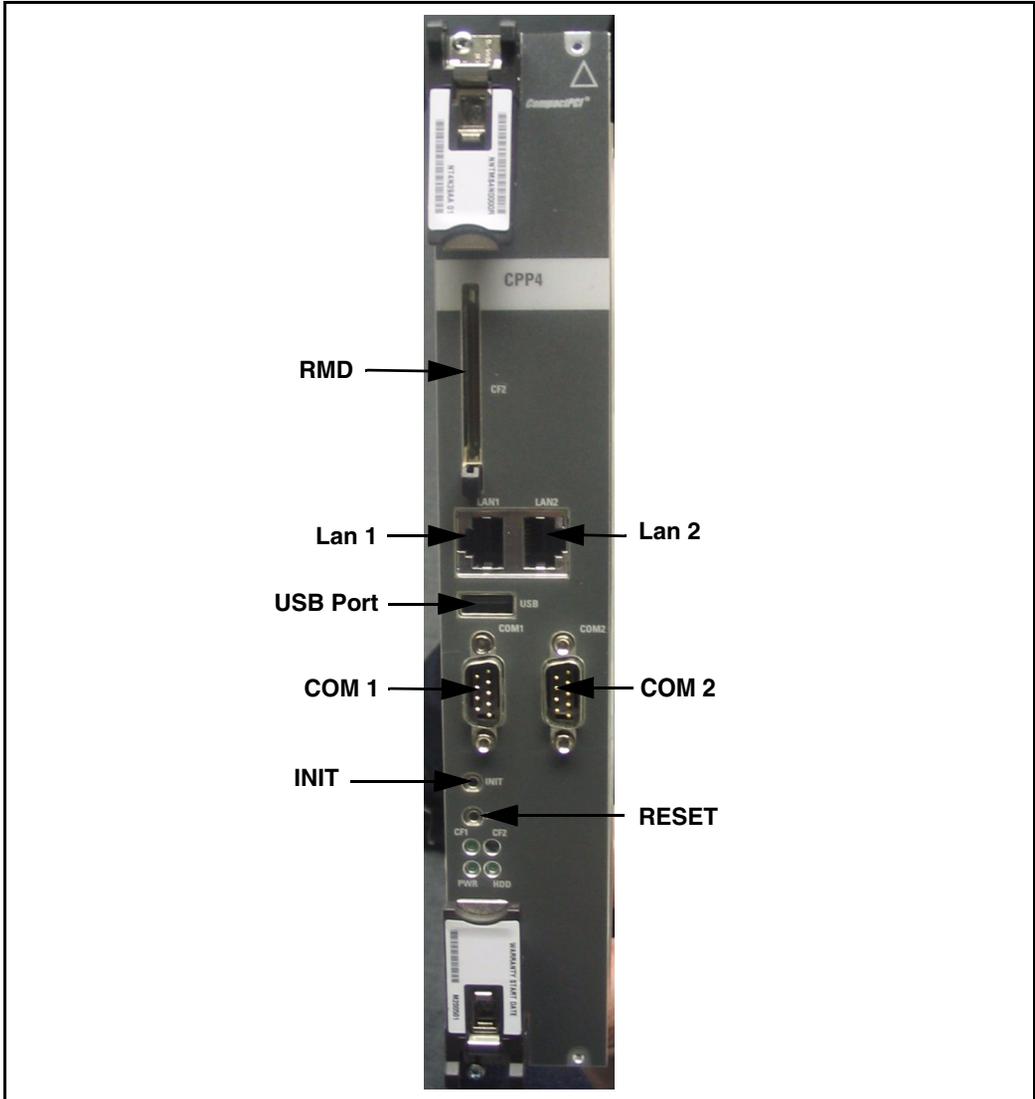
Note: Pre-thread the two bottom mounting screws at the back of the Core/Net shelf.

- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP card cage.

- 7** Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.
- 8** Secure the card cage and EMI shield to the module re-using the existing screws.
- 9** Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.
 - a.** Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
 - b.** Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem.)
- 10** Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.
- 11** Do not connect the NTRC17BA crossover ethernet cable at this time.

End of Procedure

Figure 30
CP PIV call processor card (front)



Install the Security Device

Procedure 109 Installing the Security Device

The Security Device fits into the System Utility card (see Figure 31 on [page 418](#)).

To install the Security Device:

- 1 If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
 - a. Unlock the latches and remove the IODU/C card.
 - b. Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

OR

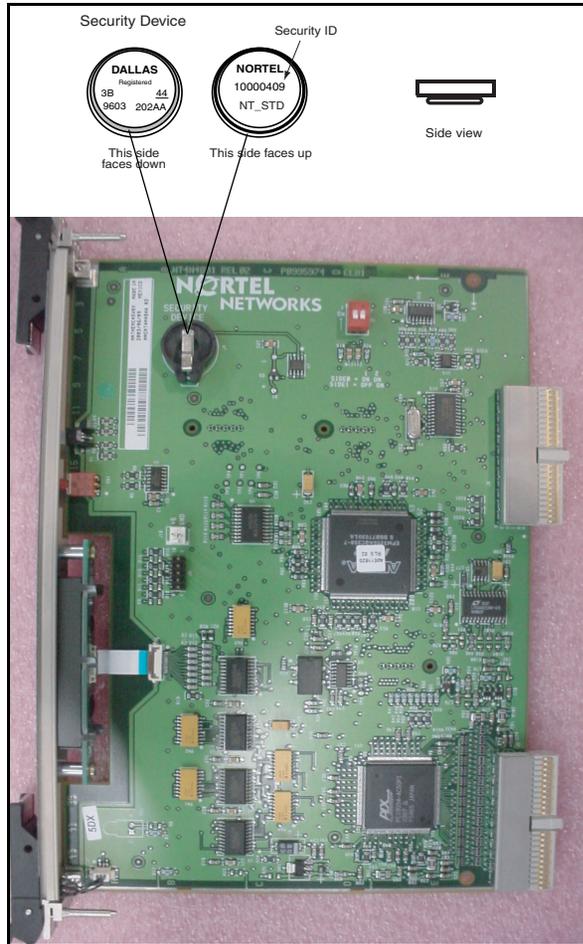
If the original system did not have an IODU/C, use the Security Device provided with the CP PIV Software kit.

Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

- 2 Check that the Security Device is securely in place.

End of Procedure

Figure 31
Security Device



Relocate network cards to Core/Net 0

Procedure 110

Relocating Network cards to CP Core 0

- 1 Remove all network cards from the previous Core 0 Core/Net shelf
- 2 When you move the 3PE card, check the switch settings and jumpers. See Table 40.
 - a. All 3PE cards must be vintage F or later.
 - b. Check that the RN27 Jumper is set to "A".
 - c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 40 shows the 3PE settings for cards installed in CP PIV Core/Net Modules.
- 3 Reinstall each removed card in the same network slot in the CP PIV Core/Net 0.
- 4 Connect the tagged cables to the relocated cards.

Table 40

QPC441 (QPC440) 3PE Card installed in the CP PIV Core/Net modules

Jumper Settings: Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
CP PIV Core/Net modules only		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off

————— **End of Procedure** —————

Procedure 111
Moving Clock Controller 0



CAUTION

Service Interruption

Move only Clock Controller 0 at this point in the upgrade.

- 1 Label and disconnect the Clock Controller 0.
- 2 Disconnect the NT8D76AC cable from the Clock Controller 0 faceplate card.
- 3 If primary and secondary clock reference cables are connected to the Clock Controller 0 faceplate, disconnect them last.
- 4 Set the Clock Controller 0 switch settings according to Table 41 on [page 421](#) (QPC471H, QPC771H) and Table 42 on [page 422](#) (NTRB53).
- 5 Disable any ISDN PRI card in the Core module.



The active side Core/Net 1 registers all Network cards in Core/Net 0 as disabled.

- 6 Place Clock Controller 0 in Group 0 Network Shelf 0, slot 9.
- 7 Seat the Clock Controller 0 and faceplate-enable the card.

8 Reconnect all reference cables and clock-to-clock cables.

Table 41
Clock Controller switch settings for QPC471H, QPC771H

Systems upgraded to CP PIV must use the Meridian 1 Option 61C CP PIV switch settings to enable Clock Hunt software. Use the settings in this table.											
SW1				SW2				SW4			
1	2	3	4	1	2	3	4	1	2	3	4
on	on	on	on	off	off	off	off	**	on	*	*
*Total cable length between the J3 faceplate connectors:											
0–4.3 m (0–14 ft.)										off	off
4.6–6.1 m (15–20 ft.)										off	on
6.4–10.1 m (21–33 ft.)										on	off
10.4–15.2 m (34–50 ft.)										on	on
** Set to ON for Clock Controller 0. Set to OFF for Clock Controller 1.											

Table 42
Clock Controller switch settings for NTRB53

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		3	4			
1	2	3	4		5	6
Multi-group = Off Single group = On	21E = Off 51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On Side 1 = Off	71,81 = Off 21E, 51, 51C, 61. 61C, 81C = On
		Off	On			
		On	Off			
		On	On			

————— End of Procedure —————

Cable Core 0

Inspect the NT4N29 cables

The NT4N29 cables must be installed for existing Network group 0. If the system has XSDI cards, reinstall the cards and attach the cables. See Figure 32 on [page 423](#).

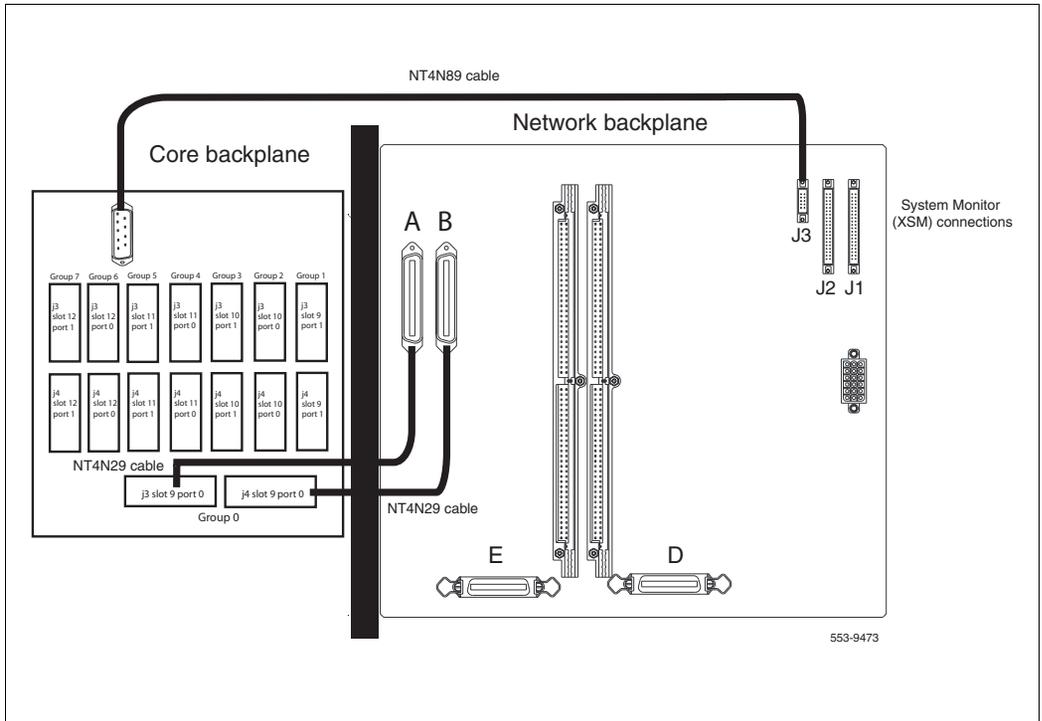
Install intermodule cables

Procedure 112

Installing intermodule cables

- 1 Locate and unpack the NT8D99AD and NT8D80BZ cables.
- 2 Install NT8D99AD cables between the D connectors on the backplane of each Core/Net module. Install another NT8D99AD cable between the E connectors on the backplane of each Core/Net module (see Figure 32 on [page 423](#)).

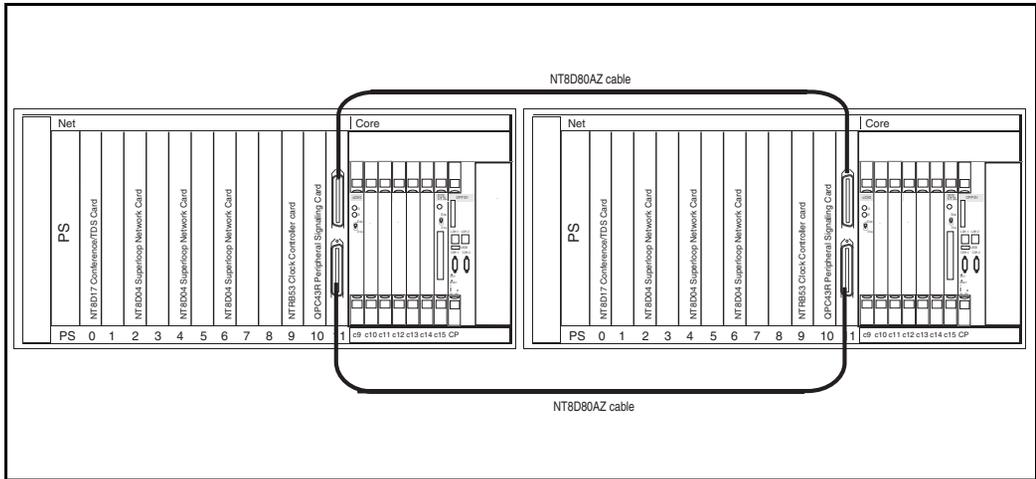
Figure 32
Fanout Panel connections on the CP Core/Net backplane



- 3** Install an NT8D80BZ cable between the J3 connector on the 3PE card in Core/Net 0 and the J3 connector on the 3PE card in Core/Net 1. Install another cable between the J4 connectors on the 3PE cards (see Figure 33 on [page 424](#)).

End of Procedure

Figure 33
3PE card connections



Unpack and install the power supply

Procedure 113

Installing the NT6D41CA (DC) or NT8D29BA (AC) power supply

- 1 Unpack the power supply.
- 2 Faceplate-disable the power supply.
- 3 Insert the power supply into the Core/Net module power supply slot.

End of Procedure

Connect LAN 1

The LAN 1 port is used to enable redundancy features between the two Core/Net modules. LAN 1 can also be connected to a local area network (LAN) for use with LAN based administration tools such as OTM.

Figure 34 on [page 426](#) shows the options for the LAN 1 connections.

Procedure 114

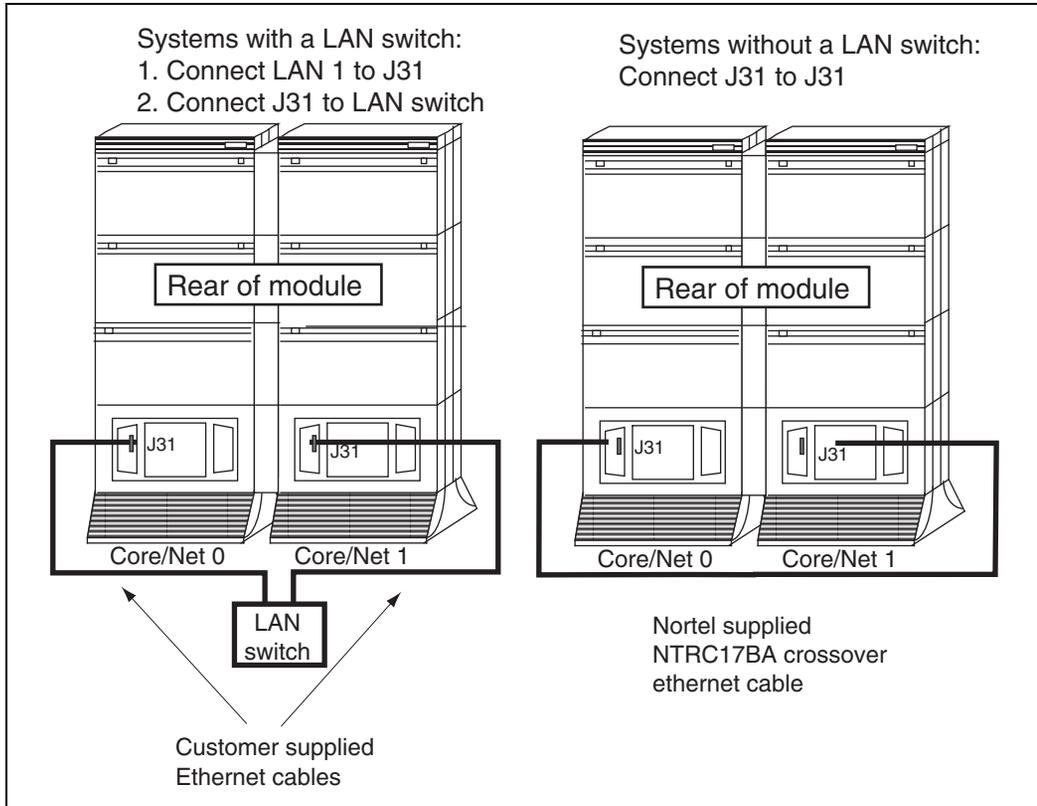
If the system is connected to a LAN

- 1 Connect the Dual Ethernet Adapter (RJ-45) for I/O Panel (NTRE40AA) to J31. Secure the adapter to J31 with the two screws included in the shipment. Insert the adapter from the inside of the I/O panel.
- 2 Connect LAN 1 (Ethernet) on the CP PIV faceplate to J31 (top) of the I/O panel with cable NT4N90BA. This connection can only be made *after* the Dual Ethernet Adapter is installed (see step 1 above).
- 3 Connect J31 to a LAN switch.

Note: If a LAN switch is not available, connect J31 of Core 0 to J31 of Core 1 by the NTRC17BA cable.

End of Procedure

Figure 34
Options for LAN 1 connection



Power up Core 0

Procedure 115 Preparing for power up

- 1 Confirm that a terminal is connected to the J25 I/O panel connector on Core/Net 0.

Note: A maintenance terminal is required to access the Core/Net modules during the upgrade.

- 2 Connect a terminal to the J25 port on the I/O panel in Core 0.

3 Check the terminal settings as follows:

- a. 9600 baud
- b. 8 data
- c. parity none
- d. 1 stop bit
- e. full duplex
- f. XOFF

Note: If only one terminal is used for both Cores, the terminal will have to be switched from side-to-side to access each module. An “A/B” switch box can also be installed to switch the terminal from side to side.

4 Faceplate-enable all core and network cards.

End of Procedure

Power up Core cards**Procedure 116****Powering up core cards**

- 1** Disconnect NTRC17BA crossover ethernet cable from the faceplate of CPU 0.
- 2** For AC-powered systems (NT8D29BA): set the MPDU circuit breaker located at the left end of the module to ON (top position).
- 3** For DC-powered systems: faceplate-enable the NT6D41CA power supply and then set the breaker for the Core 0 module in the back of the column pedestal to ON (top position).
- 4** 10 seconds after power up of Core/Net 0, press the INI button on Core/Net 1.

- 5 Wait for the system to load and initialize.



Core/Net 1 is now active. All network cards in Core/Net 0 and Core/Net 1 are enabled. Call processing is resumed.

End of Procedure

Test Core/Net 1

Procedure 117 Testing Core/Net 1

- 1 Check dial-tone.
- 2 Test the clocks:
 - a. Verify that the clock controller is assigned to the *active* Core.

LD 60 Load program

SSCK *x* Get the status of the clock controllers (*x* is “0” or “1” for Clock 0 or Clock 1)

SWCK To switch the Clock (if necessary)

******** Exit program

- b. Verify that the clock controllers are switching correctly.

SWCK Switch the Clock

Note: You must wait a minimum of one minute for clocks to synchronize.

SWCK Switch the Clock again

******** Exit program

3 Stat D-channels:

LD 96

STAT DCH Stat all D-channels

**** Exit program

4 Stat all T1 interfaces:

LD 60

STAT Stat all DTI and PRI

**** Exit program

5 Stat network cards:

LD 32

STAT x x = loop number

**** Exit program

6 Print status of all controllers:

LD 97

REQ PRT

TYPE XPE (returns status of all controller cards)

**** Exit program

7 Make internal, external and network calls.

8 Check attendant console activity.

9 Check DID trunks.

10 Check applications,

End of Procedure

CS 1000 Release 4.5 upgrade

Upgrading the software

Procedure 118 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

Procedure 118

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 displays the Install Menu. Select option "".

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

I N S T A L L M E N U

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

Please enter:

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

For Feature Expansion, use OVL143.

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

Enter Choice> ****

- 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 XXXXX
Option	Choice	Status	Comment
Dependency Lists	yes		
Option	Choice	Status	Comment
IPMG Software	yes		install for rel XXXXX
Option	Choice	Status	Comment
DATABASE	yes		
Option	Choice	Status	Comment
CP-BOOTROM	yes		

- 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 install Software release: XXXX on
the new system.
This will create all necessary directories and
pre-allocate files on the hard disk.
You may continue with software install or quit
now and leave your software unchanged.
Please enter:
        <CR> -> <a> - Continue with new system
install.
        <q> - Quit.
        Enter choice>
```

- 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>
    
```

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>

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

At this point the system reloads and initializes.

End of Procedure

Verify the upgraded database

Procedure 119

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



Core 1 is now active, clock 1 is active, CNI is disabled in Core 0.

End of Procedure

Procedure 120
Connecting the system monitor to Core/Net 0

- 1 Connect the system monitor to the rear of the pedestal.
- 2 For the Core column, connect J3 and J4 cables to the system monitor.

Note: Do *not* turn off the blower units in the front of the pedestals.

End of Procedure

Check for Peripheral Software Download to Core 0

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 349](#).

If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

LD 22

REQ	PRT
TYPE	PSWV
ISSP	Print System, DepList, and Patch information
SLT	Print System Limits
TID	Print the Tape ID
****	Exit program

Making the system redundant

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

Procedure 121

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 synchronoization 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 Cores must be identical in order to successfully switch service from Core 1 to Core 0 CPUs.

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
```



The system is now operating in full redundant mode with Core/Net 1 active.

Complete the CP PIV 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 Fixed Media Device (FMD)**
command parameter: none
- STAT RMD
display text: **Status of Removable Media Device (RMD)**
command parameter: none

Testing the Cores

Procedure 122

Testing Core/Net 1

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

From Core/Net 1, perform these tests:

- 1 Perform a redundancy sanity test:

LD 135 Load program

STAT CPU Get status of CPU and memory

TEST CPU Test CPU

- 2 Check the LCD states:

- a. Perform a visual check of the LCDs.

- b. Test LCDs:

LD 135 Load program

DSPL ALL

- 3 Test the System Utility cards and the cCNI cards:

LD 135 Load program

STAT SUTL Get the status of the System Utility card

TEST SUTL Test the System Utility card

STAT CNI c s Get status of cCNI cards (core, slot)

TEST CNI c s Test cCNI (core, slot)

- 4 Test system redundancy:
 - LD 137** Load program
 - TEST RDUN** Test redundancy
 - DATA RDUN** Test database integrity

- 5 Install the two system monitors. Test that the system monitors are working:
 - LD 37** Load program
 - ENL TTY x** Enable the XMS, where x= system XMS
 - STAT XSM** Check the system monitors
 - ****** Exit program

- 6 Clear the display and minor alarms on both Cores:
 - LD 135** Load program
 - CDSP** Clear displays on the cores
 - CMAJ** Clear major alarms
 - CMIN ALL** Clear minor alarms

7 Test the clocks:

a. Verify that the clock controller is assigned to the *active* Core:

- | | |
|----------------------|--|
| LD 60 | Load program |
| SSCK <i>x</i> | Get status of the clock controllers (<i>x</i> is “0” or “1” for Clock 0 or Clock 1) |
| SWCK | Switch the Clock (if necessary) |
| **** | Exit program |

8 Verify that the Clock Controllers are switching correctly:

- | | |
|-------------|---|
| SWCK | Switch Clock |
| | Note: You must wait a minimum of one minute for clocks to synchronize. |
| SWCK | Switch Clock again |

9 Check applications (CallPilot, Symposium, Meridian Mail, and so on.).

10 Check dial tone.

End of Procedure

Switch call processing

Procedure 123 Switching call processing

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

LD 135

SCPUR	Switch cores
****	Exit program

- 2 After Call Server 0 initializes, log in to Call Server 0 and verify that the cutover was successful and that all hardware is operational. Perform acceptance testing as required.



Core/Net 0 is now the active call processor.

Procedure 124 Testing Core/Net 0

From Core/Net 0, perform these tests:

- 1 Perform a redundancy sanity test:

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

- 2 Check the LCD states:

a. Perform a visual check of the LCDs.

3 Test the System Utility cards and the cCNI cards:

LD 135	Load program
STAT SUTL	Get the status of the System Utility card
TEST SUTL	Test the System Utility card
STAT CNI c s	Get status of cCNI cards (core, slot)
TEST CNI c s	Test cCNI (core, slot)

4 Test system redundancy:

LD 137	Load program
TEST RDUN	Test redundancy
DATA RDUN	Test database integrity
STAT FMD	Status of Fixed Media Device (FMD)
STAT RMD	Status of Removable Media Device (RMD)

5 Install the two system monitors. Test that the system monitors are working:

LD 37	Load program
ENL TTY x	Enable the XMS, where x= system XMS
STAT XSM	Check the system monitors
****	Exit program

6 Clear the display and minor alarms on both Cores:

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

7 Test the clocks:

- a. Verify that the clock controller is assigned to the *active* Core:

LD 60 Load program

SSCK *x* Get status of the clock controllers (*x* is “0” or “1”
for Clock 0 or Clock 1)

SWCK Switch the Clock (if necessary)

******** Exit program

8 Verify that the Clock Controllers are switching correctly:

SWCK Switch Clock

Note: You must wait a minimum of one minute for
clocks to synchronize.

SWCK Switch Clock again

9 Check applications.

10 Check dial tone.

End of Procedure

Switch call processing

Procedure 125

Switching call processing

- 1 Enter LD 135 on Core/Net 1 and issue the SCPU command. Call processing switches to Call Server 1 and service is interrupted.

LD 135

```

SCPU          Switch cores
****          Exit program
    
```

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



Core/Net 1 is now the active call processor.

Perform a customer backup data dump (upgraded release)

Procedure 126

Performing a data dump to back up the customer database:

- 1 Log in to 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.
    
```



CAUTION

Loss of Data

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

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

**** Exit program

The Meridian 1 Option 51/51C upgrade to Meridian 1 Option 61C CP PIV is complete.

Upgrading from Meridian 1 Option 61C

Contents

This section contains information on the following topics:

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Meridian 1 Option 61C CP PII upgrade to Option 61C CP PIV	610
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Prepare for upgrade	707
Perform upgrade	730
Option 61C CP PII upgrade to Option 81C CP PIV with FNF	871
Prepare for upgrade	871
Perform upgrade	890

Meridian 1 Option 61C upgrade to Option 61C CP PIV

This section provides instructions for upgrading a source Meridian 1 Option 61C CP3, CP4 to a target platform of Meridian 1 Option 61C CP PIV. The procedures in this section are written for a stacked configuration (Core/Net 1 on top of Core/Net 0).

Note: For side-by-side configuration, additional equipment such as the pedestal, top cap, shelf spacers, or NT4N41 module, and XSM cables must be ordered separately. This equipment must be installed before attempting this upgrade. All existing cables in Core/Net 1 must be checked for proper length and routing to the new configuration.

Please see *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210) for instructions on how to install a column.

Procedures are written with the intent to maintain partial service. The service interruption will cause half the system to be down during most of the procedure. Some thought should be given to a complete power down hardware replacement process.

Figure 35 on [page 467](#) shows an upgrade from a Meridian 1 Option 61C to a stacked Meridian 1 Option 61C CP PIV.

Figure 36 on [page 468](#) shows an upgrade from a Meridian 1 Option 61C to a side-by-side Meridian 1 Option 61C CP PIV.



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.

Figure 35
Meridian 1 Option 61C to Meridian 1 Option 61C CP PIV stacked

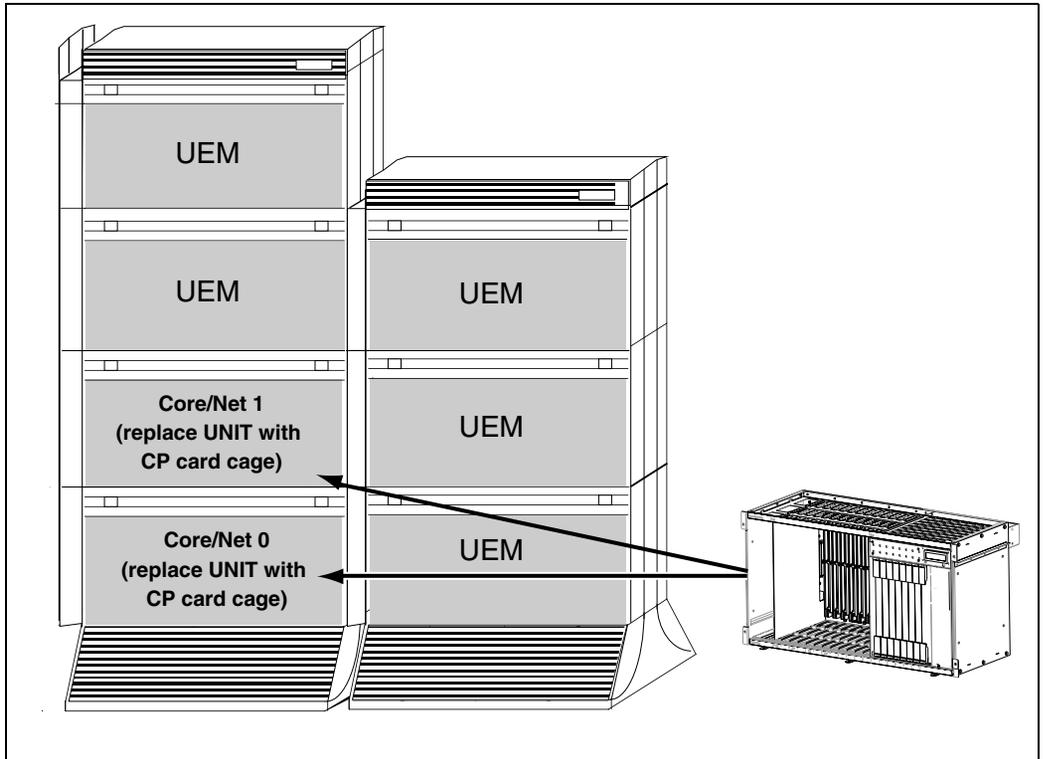
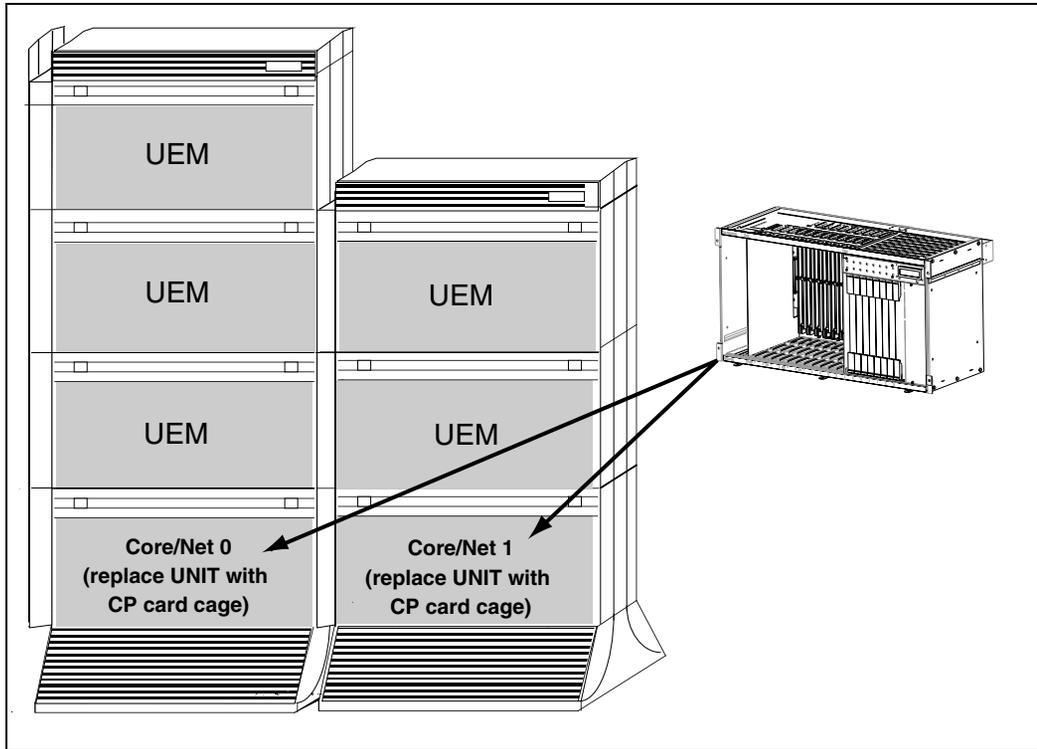


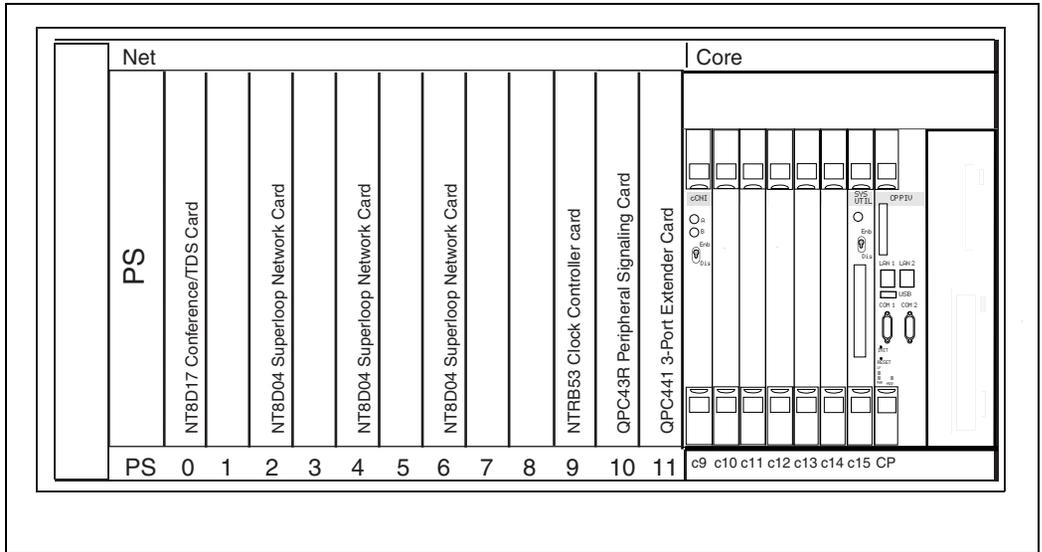
Figure 36
Meridian 1 Option 61C to Meridian 1 Option 61C CP PIV side-by-side



This upgrade takes a Meridian 1 Option 61C to a single-group Meridian 1 Option 61C with CP PIV. CP PIV cards are located in the Core/Net modules or card cage (see Figure 37 on [page 469](#)).

- The card cages in the existing Core/Net modules are replaced with NT4N40 CP card cages.
- Existing network cards are relocated to the NT4N40 CP card cage.
- The existing Clock Controllers are moved from the old Core/Net to the CP PIV Core/Net in slot 9.
- An IPE module can be installed on top of CP PIV Core/Net 0 module.

Figure 37
NT4N41 CP Core/Net Module



Prepare for upgrade

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



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).

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

Each 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 43:

Table 43
Prepare for upgrade steps

Procedure Step	Page
Plan upgrade	470
Upgrade Checklists	471
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Identifying the proper procedure	472
Connect a terminal	472
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Identify two unique IP addresses	493

Plan upgrade

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.
- Ensure sufficient power for new columns/modules or applications.
- 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.
- Determine if software can be converted on site or must be sent to Nortel.
- 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 “Upgrade checklists” on [page 979](#). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of 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.

- 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.

Identifying the proper procedure

Each procedure has been written in a “source- to-target” format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

	<p style="text-align: center;">IMPORTANT!</p> <p>Preserve database backup information for a minimum of 5 days.</p>
---	---

Connect a terminal

Procedure 127 **Connecting a terminal**

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2 The settings for the terminal are:
 - a. 9600 baud
 - b. 8 data
 - c. parity none

- d. 1 stop bit
 - e. full duplex
 - f. XOFF
- 3** If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

End of Procedure

Check the Core ID switches

Procedure 128

Checking the Core ID switches

Each NT4N40 Core/Net card cage or module (see Figure 38 on [page 475](#)) is identified as "Core 0" or "Core 1". This setting is made by a set of option switches on the System Utility card (see Figure 39 on [page 476](#)). The Core ID switches are set in the factory. Confirm that these settings match the identification labels for the module into which they will be installed.



CAUTION — Service Interruption

The CP Core/Net card cages **MUST** be installed in the correct Core 0 or Core 1 module.

- 1** Pull the System Utility card (NT4N48) far enough out of its slot so you can see the ID switch settings.
- 2** Check and confirm the switch settings according to Table 44 on [page 474](#).
- 3** Reinstall the System Utility card.

- a. Gently slide the card into the slot until it makes contact with the backplane. Never force a card into the slot.
- b. Push in the top and bottom latches on the card to lock it in place.

————— **End of Procedure** —————

Table 44
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

Figure 38
Core card placement in the NT4N40 Core/Net card cage (front)

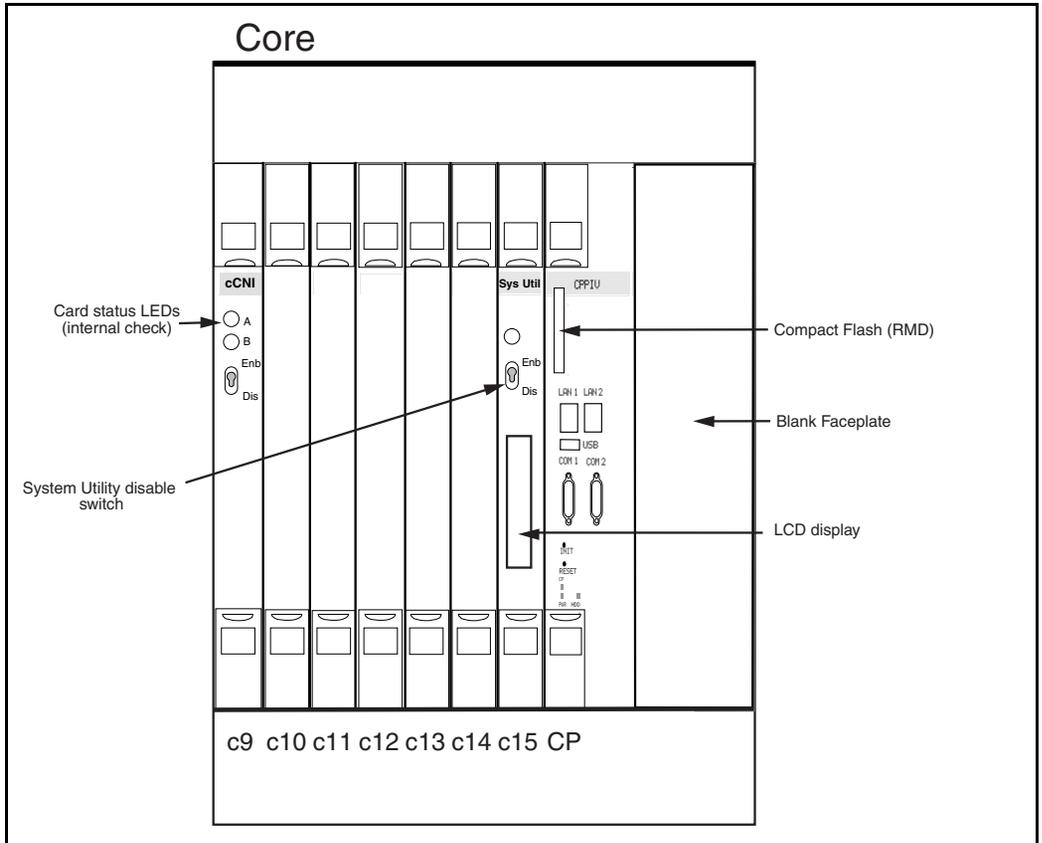
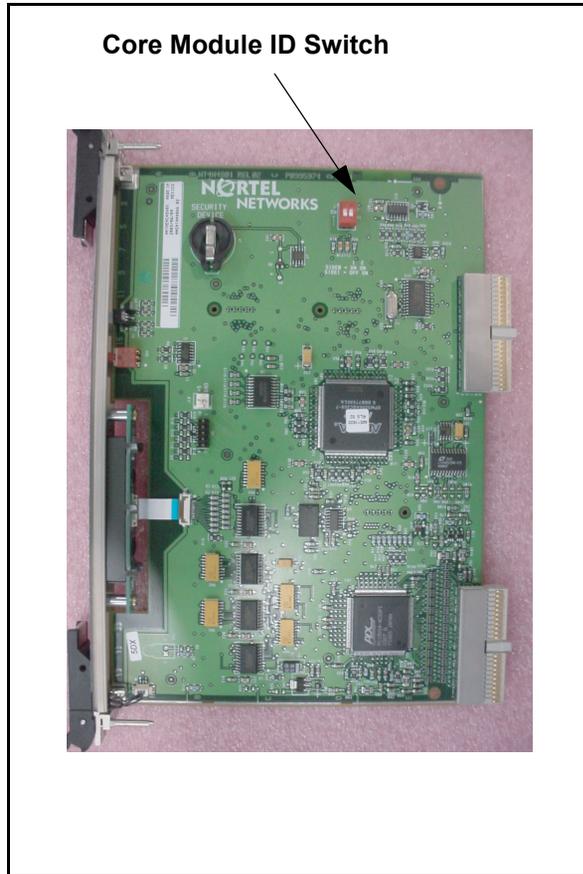


Figure 39
Core Module ID switch



Print site data

Print site data to preserve a record of the system configuration (see Table 45 on [page 477](#)). 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 45
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 45
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 45
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 CHG TYPE SUPL SUPL Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop. xxx = 0-252 in multiples of four for MG 1000E xxx = 96-112 in multiples of four for MG 1000T (See Table 29)
Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

Perform a template audit

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

Back up the database (data dump and ABKO)

To back up system data, complete the following two procedures.

- 1 Perform a data dump to save all system memory to the hard disk.
- 2 Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 129

Performing a data dump

- 1 Log into the system.
- 2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:
LD 43 Load program
- 3 When "EDD000" appears on the terminal, enter:
EDD Begin the data dump



CAUTION — Service Interruption

Loss of Data

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

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

**** Exit program

End of Procedure

Procedure 130

Performing an ABKO (save the database to floppies)

- 1 Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

Note: If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

- 2 Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

LD 143 Load program

- 3 Run the ABKO backup (LD 143).

ABKO Run backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

- 4 If there are validation errors, repeat the procedure.



CAUTION — Service Interruption

Loss of Data

If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PIV.

- 5 Once the backup is complete, type:

******** Exit program

**IMPORTANT!**

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

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MByte floppy.

All systems can be converted by Nortel in the software conversion lab.

Procedure 131**Converting the 4 MByte database media to 2 MByte database media**

Before the system is upgraded to CP PIV, the database must reside on a 2 MByte floppy disk for conversion to CF. Systems with an IODU/C drive already have 2 MByte floppy drive and can skip this procedure.

If the database is on a 4 MByte floppy (the system has an IOP/CMDU), the 4 MByte customer database must be transferred to a 2 MByte floppy disk.

- 1 Split the Cores and transfer call processing to Core 0.
- 2 Install the Database Transfer Utility diskette into the floppy drive on the IOP/CMDU in Core 1.
- 3 Press the reset button (MAN RST) on the Call Processor card in Core 1 to reboot the system. Start the Database Transfer Utility Tool.

**CAUTION — Service Interruption**

Select only options:

- <t> Tools Menu from the Install menu, and
- <s> To archive database from the Tools menu.

DO NOT select any other options. Other options can result in operating system corruption.

- 4 From the installation menu select:
 - <t> Go to the Tools menu.
 - <s> Archive existing database.
 - <cr> <a> Continue with archive (insert blank 2 MByte diskette from the software kit into the floppy drive in Core 1).
 - <cr> <a> Diskette is now in floppy drive in Core 1.
- 5 The message displays "Database backup complete!" and the Tool menu appears again after the backup completes correctly.
- 6 Remove the 2 MByte customer database diskette from the floppy drive of the IOP/CMDU. Do not reboot the system at this point.

End of Procedure

Making the RMD bootable



CAUTION — Data Loss

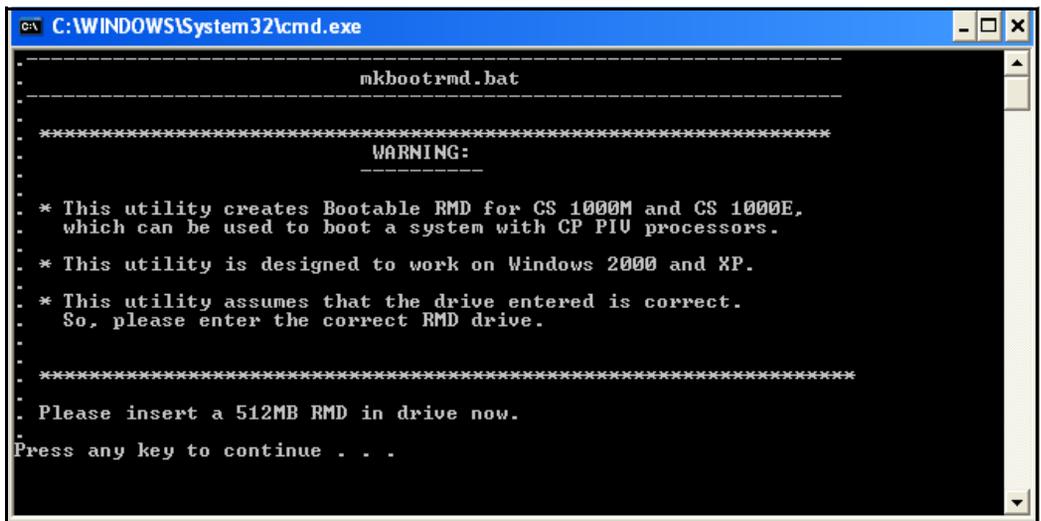
The PC utility used in the following procedure (mkbootrmd.exe) does not validate whether the drive letter entered is a valid RMD CF card. You must enter the correct RMD drive letter when prompted or risk formatting the incorrect drive.

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 206 on [page 719](#).

Procedure 132
Making the RMD bootable

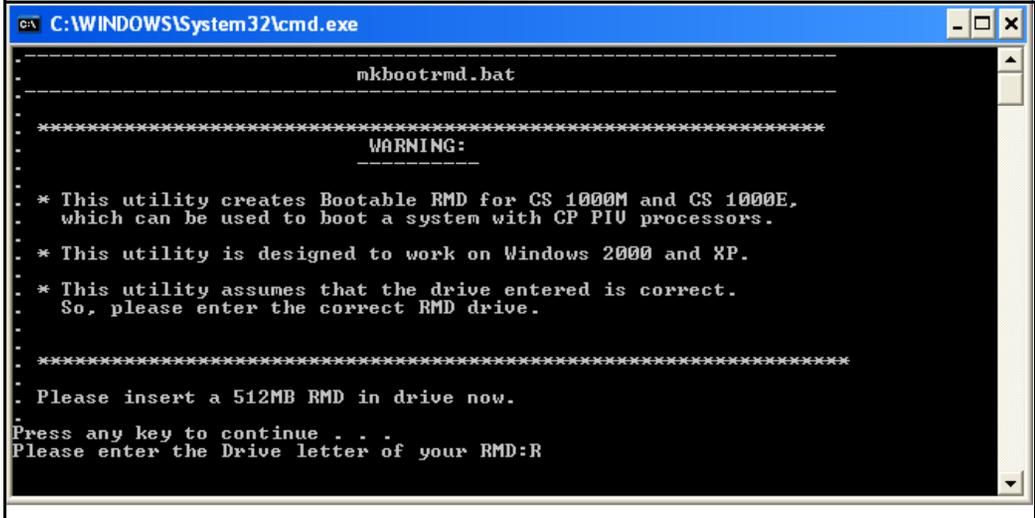
- 1 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the utilities folder.
- 3 Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 90).

Figure 40
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 PIU 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 41).

Figure 41
mkbootrmd.bat



- 5 The boot sector files (bootrom.sys and nvr.am.sys) are successfully copied making the CF card bootable (see Figure 42).

Figure 42
Boot sector successfully installed

```

C:\WINDOWS\System32\cmd.exe
. Boot sector Successfull installed ...
.
. Copying files . . .
. bootrom.sys copied OK.
.
. Check whether the follwoing output shows
. "All the specified files are contiguous"
.
The type of the file system is FAT32.
Volume CS10000000T 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

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



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).

The floppy disk that contains the backed up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MByte floppy disk to CF card, which is restored during the CS 1000

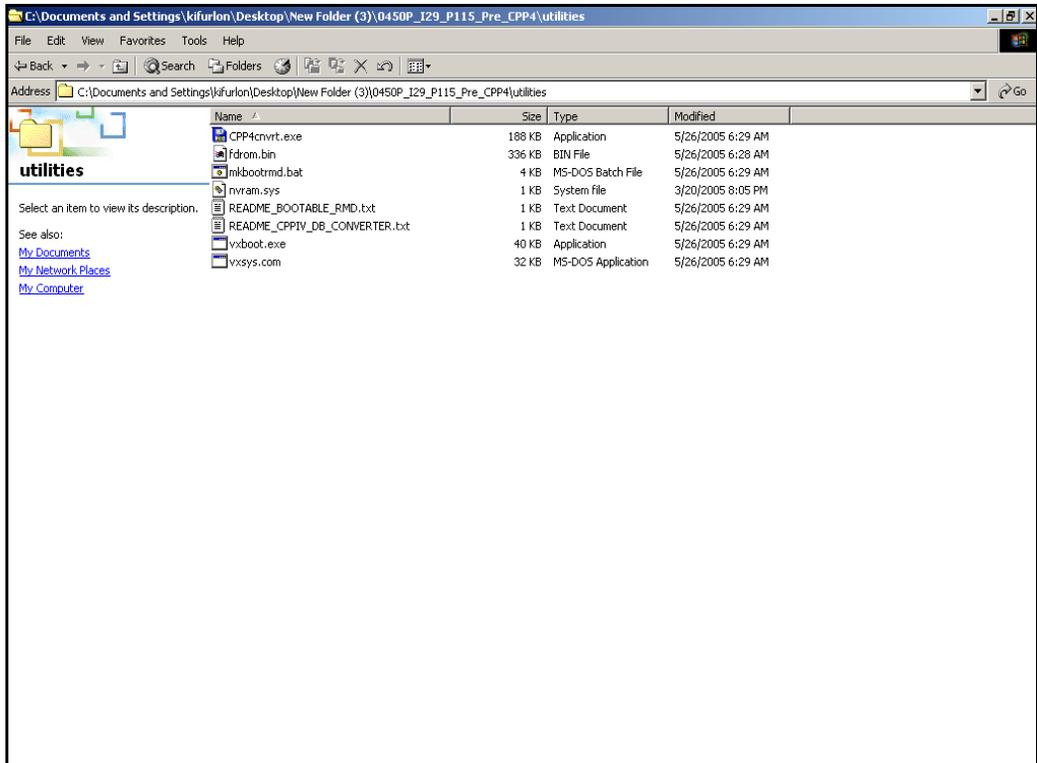
Release 4.5 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

Procedure 133
Transferring the customer database from floppy disk to CF

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 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the Utilities folder. See Figure 43.

Figure 43
Utilities folder



- 3 Insert the floppy disk containing the backed up customer database from Procedure 129 on [page 481](#).
- 4 Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
- 5 Start the Database Media Converter utility by double clicking the CPP4cnvrt.exe file. The first screen (Figure 44 on [page 489](#)) prompts you to select the correct drive letter for the floppy disk drive.

Figure 44
Select the floppy disk drive



- 6 The utility then prompts you to insert the floppy disk (diskette 1) and click OK (see Figure 45 on [page 490](#)).

Figure 45
Insert diskette 1



- 7 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 46 on [page 491](#)).

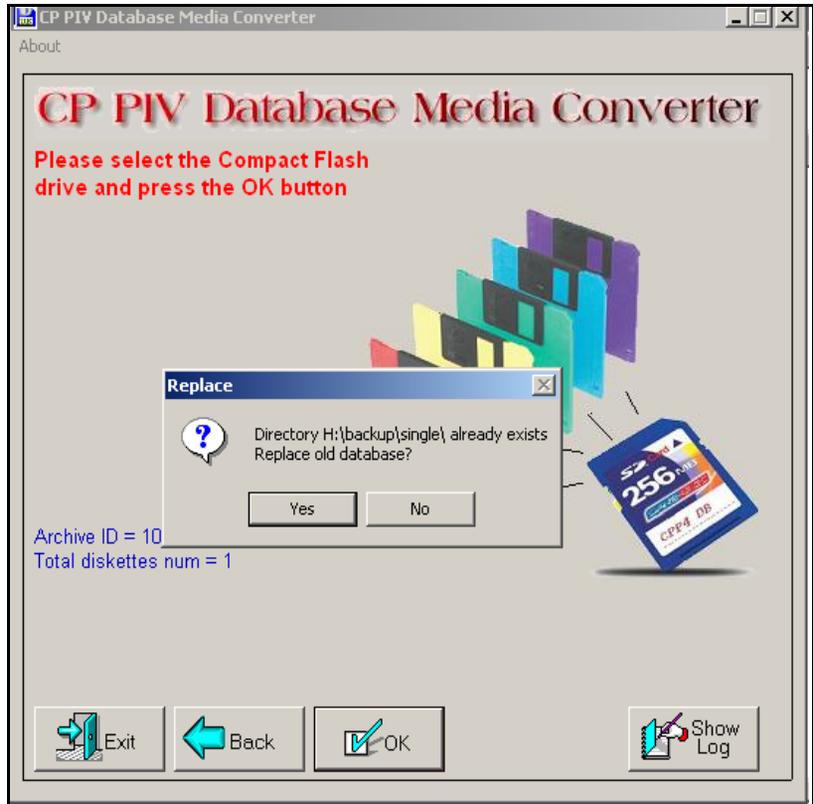
Note: if the database is on more than 1 floppy, the utility prompts you to insert the next floppy until the entire database is read.

Figure 46
Select the CF drive



- 8** 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 47 on [page 492](#)). Click yes to replace old database.
 - b.** If the CF card is blank, the database is backed up to the CF card.

Figure 47
Replace database on CF drive



- 9 The utility completes the transfer to CF and prompts you to copy another or EXIT.

Figure 48
Copy another or exit



— End of Procedure —

Identify two unique IP addresses

Each CP PIV system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this

configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your System Administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see “Configuring IP addresses” on [page 545](#).

Perform upgrade

Check software received

Compact Flash Software Install Kit (CP PIV)

The Compact Flash Software Install Kit contains the following items:

- One CF (512 MByte) card containing:
 - Install Software files
 - CS 1000 Release 4.5 software
 - Dep. Lists (PEPs)
 - Key code File
- One blank CF card for database backup
- One Nortel CS 1000 Release 4.5 Documentation CD

Check equipment received

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

Meridian 1 Option 61C CP PIV equipment is configured at the factory according to customer requirements. Some cards and power supplies are shipped in separate packages to prevent damage to cards.

Before the upgrade, check that equipment on the order form is also on the packing slip. Check that all equipment has 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 equipment is missing. All equipment must be received to complete the upgrade.

Check vintage requirements for existing hardware

Make sure that existing hardware meets the following minimum vintage requirements for CP PIV:

- The NT4N65 cCNI card must be minimum vintage of AC
- The NT4N48 System Utility card must be minimum vintage AA
- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53 Clock Controller cards must be minimum vintage AA.
- The existing QPC471 Clock Controller cards must be minimum vintage H or the QPC775 Clock Controller cards (all countries except USA) must be minimum vintage E.
- NT6D41CA (DC) Power Supply
- NT8D29BA (AC) Power Supply
- The QPC43 Peripheral Signaling cards must be minimum vintage R.

If any equipment does not meet these requirements, replace the equipment before you begin the upgrade.

	<p>CAUTION — Service Interruption</p> <p>Service Interruption</p> <p>Equipment that does not meet the minimum vintage requirements will cause system malfunctions and loss of call processing.</p>
---	--

	<p>WARNING</p> <p>Clock Controller cards must be of the same part number for any single system. For instance, a QPC471 card cannot be used with an NTRB53 card.</p>
---	--

Check required hardware (AC and DC)

Table 46 on [page 496](#) lists the equipment required for DC-powered systems. Table 47 on [page 497](#) lists the equipment required for AC-powered systems.

	<p>WARNING</p> <p>Ensure that power supplies NT6D41CA (DC) or NT8D29BA (AC) are used in the Core/Net shelf.</p>
---	--

Table 46
DC requirements for Meridian 1 Option 61C CP PIV system

Order number	Description	Quantity per system
NTHU44DA	Option 61C Single Group Base Package (DC)	1

Table 47
AC requirements for Meridian 1 Option 61C CP PIV system

Order number	Description	Quantity per system
NTHU44AA	Option 61C Single Group Base Package (AC)	1

The equipment room must provide the appropriate number of 30 Ampere outlets. One 175-264 Vac, 47-63 Hz, 30 Ampere outlet is required for every pedestal or column.

If supporting additional Meridian 1 modules, order additional top cap & pedestal packages (NTWB15BA). One top cap and pedestal package supports up to 4 modules.

To cover all exposed module sides and to connect modules side-to-side, additional NT9D18AA module side covers and NT8D49AA column spacer kits must be ordered separately.

The NTHU44AA and DA packages contain common equipment hardware only, including two CP PIV Pentium call processor cards and two NTRB53 Clock Controller cards.

These packages are designed for computer floor installation, with all cables exiting from the pedestal. If the installation requires overhead cabling, order NT7D0009 top egress panel, one per column.

An NT8D49AA Spacer kit is provided to allow for a side-by-side installation of core/network modules. This arrangement will require an additional top cap and pedestal package and must be ordered separately.

Intelligent peripheral equipment must be ordered separately. Order NTWB15DA for any additional AC IPE Modules required.

Peripheral equipment (PE) or Enhanced peripheral equipment (EPE) is not supported on systems with Pentium Processors.

Check personnel requirements

Nortel recommends that a minimum of two people perform the card cage upgrade.

Database requirements

If the system is running pre-release 23 software or the source platform is a Meridian 1 Option 21E, 51, 61, 71, STE, NT or XT, the database must be sent to Nortel for conversion.

System requirements



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 Downloads web site and installed as part of the upgrade process.

CS 1000 compatibility

Consult *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120) for CS 1000 Release 4.5 product compatibility.

Install Core 1 hardware

Procedure 134

Checking main Core card installation

The main Core cards are installed in the factory as shown in Figure 49 on [page 500](#):

- 1 NT4N65AC CP Core Network Interface (cCNI) cards:
Each system contains one NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots c10-c12, which do not contain cCNIs.

Note: In the NT4N41 Core/Net module, port 0 on the NT4N65 Core to Network Interface (cCNI) Card in slot c9 must be configured as “group 0.” The cCNI and 3PE cards for group 0 communicate through the NT4N29 cable. Only one cCNI card is required for group 0 in a Meridian 1 Option 61C CP PIV.

- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15. Check side ID switch settings for SU card in Core/Net 1 according to Table 48.

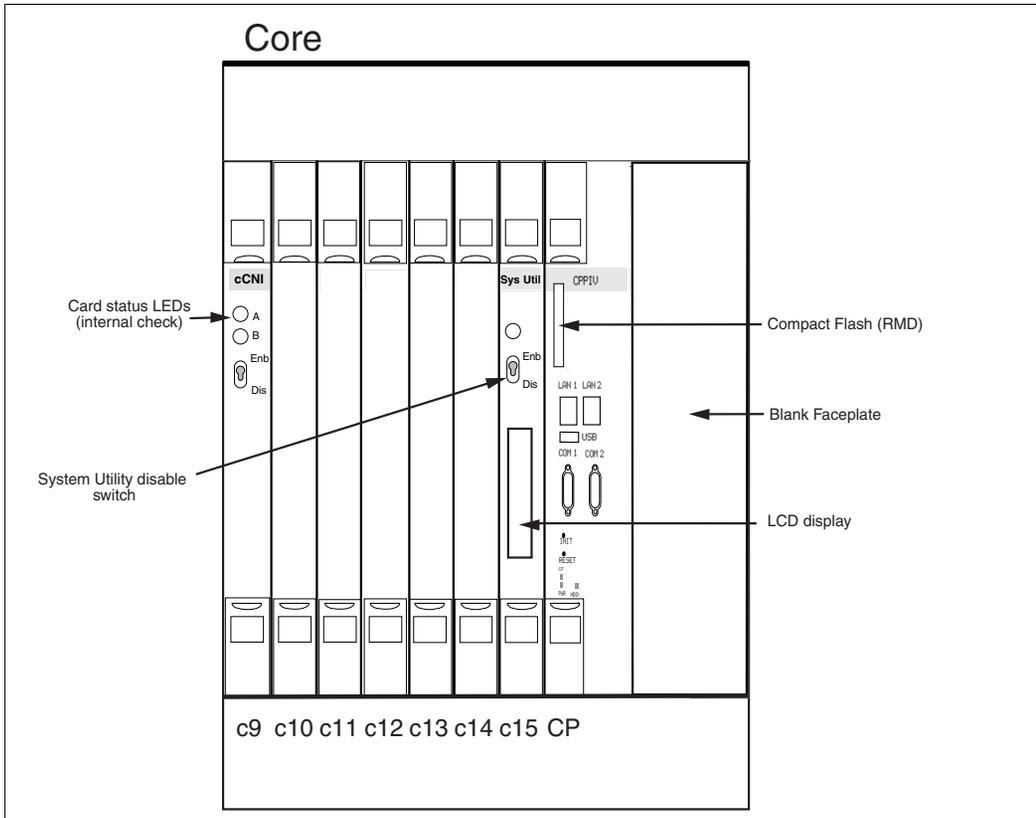
Table 48
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 4 NT4N39 CP PIV is located in the Call Processor slot.
- 5 The N0026096 blank faceplate is located in the extreme right-hand slot next to the CP PIV card.

————— **End of Procedure** —————

Figure 49
Core card placement in the NT4N41 Core/Net Module (front)



Check for the shelf power cable

Check that the NT4N4405 Shelf Power Cable is installed in the CP card cage backplane. See Figure 50 on [page 502](#) for cable location.

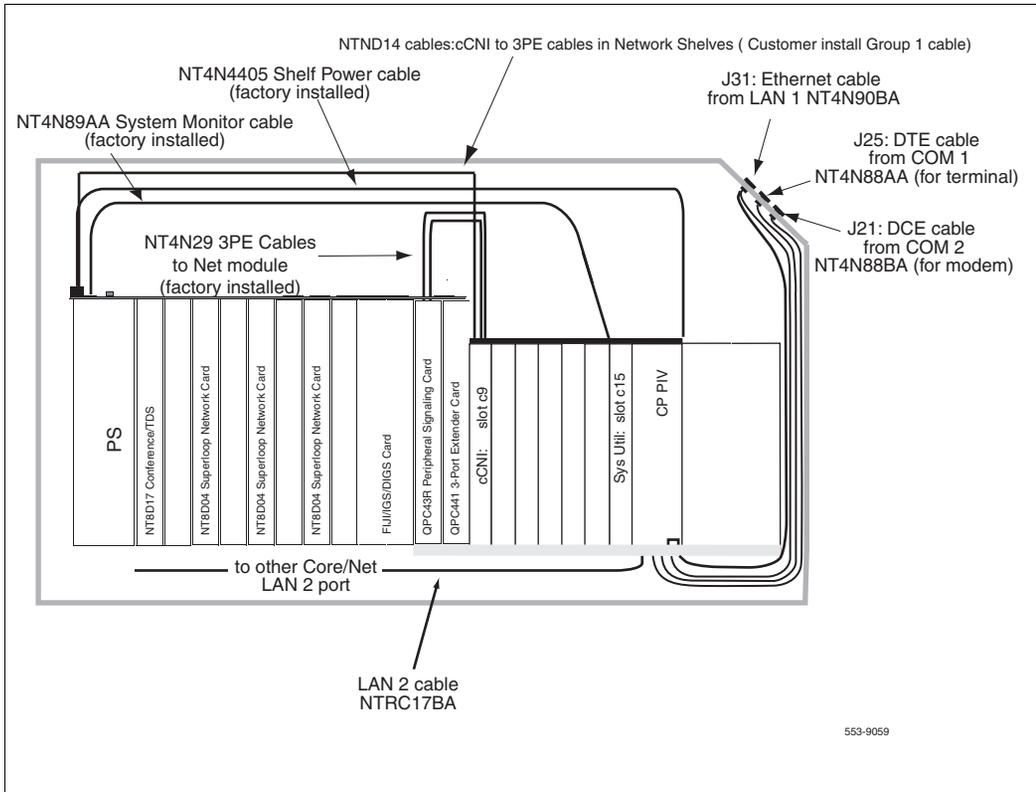
Check factory-installed cables

Table 49 lists factory-installed cables.

Table 49
Factory-installed cables

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

Figure 50
Core/Net cable connections (top view)



Disable and remove equipment from Core 1

Procedure 135

Checking that Core 0 is active

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

- 1 Verify that Core 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 Core 0 (if necessary)

******** Exit program

End of Procedure

Procedure 136

Checking that Clock Controller 0 is active

- 1 Check the status of the Clock Controllers:

LD 60 Load program

SSCK 0 Get the status of Clock Controller 0

SSCK 1 Get the status of Clock Controller 1

- 2 If Clock Controller 1 is active, switch to Clock Controller 0.

SWCK Switch to Clock Controller 0 (if necessary)

DIS CC 1 Disable Clock Controller 1

******** Exit program

- 3 Faceplate-disable Clock Controller 1.

End of Procedure

Procedure 137
Splitting the Cores

- 1 In Core 0, set the NORM/MAINT switch on the Call Processor card to MAINT.
- 2 In Core 1, set the ENB/DIS switch on the NT6D65 cCNI card to DIS.
- 3 In Core 1, set the NORM/MAINT switch on the Call Processor card to MAINT.

End of Procedure



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

Software disable Network cards in Core/Net 1 from Core/Net 0**CAUTION — Service Interruption****Service Interruption**

At this point, the upgrade interrupts service.

Procedure 138**Software disabling cards of Core/Net 1 from Core/Net 0**

1 In Core/Net 1 only, software disable all network and I/O cards such as XNET, TTY, Conf/TDS and ISDN cards:

a. In Core/Net 1 only, disable XNET.

LD 32 Load program

DISL sl sl = the superloop number of the XNET card

******** Exit program

b. In Core/Net 1 only, disable ENET.

LD 32 Load program

DISL X X= the loop number of the ENET card

******** Exit program

c. In Core/Net 1 only, software disable each port on the SDI cards:

LD 37 Load program

DIS TTY x x = the number of the interface device attached to a port

******** Exit program

d. In Core/Net 1 only, disable DTI cards.

LD 60 Load program

DISL x x = the loop number of the DTI port

**** Exit program

e. In Core/Net 1 only, disable DCH and PRI cards.

LD 96 Load program

DIS DCH x Disable DCH, where x = associated D-Channel

**** Exit program

LD 60 Load program

DISL x Disable PRI card, where x = the loop number
PRI port

**** Exit program

f. In Core/Net 1 only, disable MSDL cards.

LD 48 Load program

DIS MSDL x x = the MSDL card number. System will respond
with group 0

**** Exit program

g. In Core/Net 1 only, disable XCT cards.

LD 34 Load program

DISX x x = the superloop number of the XCT card

**** Exit program

2 In Core/Net 1 only, software disable the QPC43 Peripheral Signaling Card:

LD 32 Load program

DSPS x Table 50 lists Peripheral Signaling Card values for “x”

**** Exit program

**Table 50
Peripheral Signaling Card numbers**

Group/ shelf	Peripheral Signaling Card	Loops disabled/enabled			
0 / 0	0	0	–	15	
0 / 1	1	16	–	31	

- 3 In Core/Net 1 only, faceplate-disable the 3PE, Per Sig and all network cards.

End of Procedure

	<p>CAUTION — Service Interruption</p> <p>Service Interruption</p> <p>The system can shut down if the system monitors are not removed. Remove the monitors and keep the cooling fans ON.</p>
---	---

**Procedure 139
Removing the system monitors from the Core column**

Note: Perform the following procedure for both AC and DC systems

- 1 In Core 0, software disable the master system monitor (NT8D22):

LD 37 Load program

DIS TTY # Disable the master system monitor TTY interface

- 2 Remove J3 and J4 cables on Core 0 system monitor.

Note: Do *not* turn off the blower units in the front of the pedestals

- 3 Remove the system monitor from the rear of the pedestal on Core 0.

End of Procedure

Power down Core/Net 1



CAUTION — Service Interruption

Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.



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.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 1 module in the back of the column pedestal to OFF (down position).

Procedure 140

Removing Core 1 cables and card cage

- 1 Label and disconnect the Clock Controller 1.
 - a. Disconnect the NT8D76AC cable from the Clock Controller 1 faceplate card.
 - b. If primary and secondary clock reference cables are connected to the Clock Controller 1 faceplate, disconnect them last.
- 2 Label and disconnect all cables from the front of the module.
- 3 Tape over the contacts to avoid grounding.
- 4 Tie all cables to the sides so the working area in front of the card cage is totally clear.

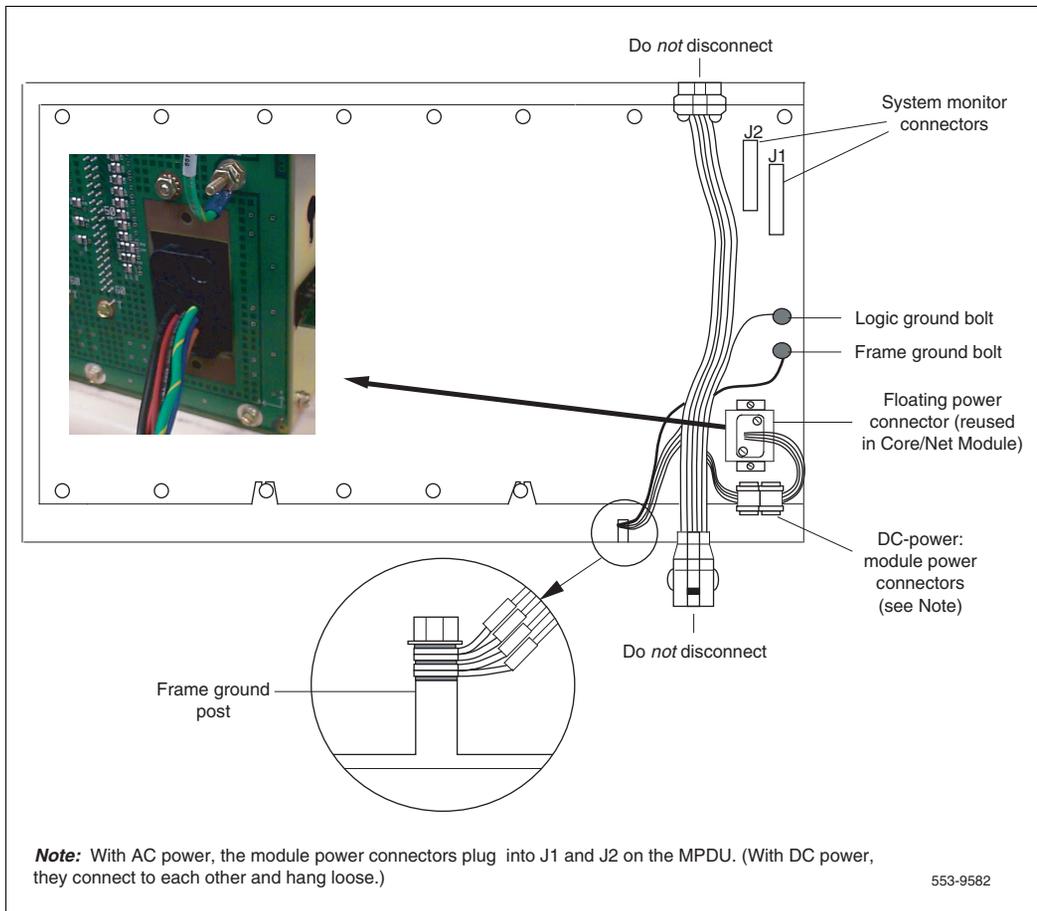
- 5 Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 6 Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 7 Tag and disconnect all plugs, wires, and cables to the backplane.
Note 1: Leave the network cards in the card cage. You will relocate them to the CP card cage later in the upgrade procedure.
Note 2: Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.
- 8 Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage. The screws secure the card cage to the module casting. Keep the screws for use with the CP card cage.

**CAUTION — Service Interruption**

Do not drop the mounting screws into the pedestal.
Doing so can cause serious damage.

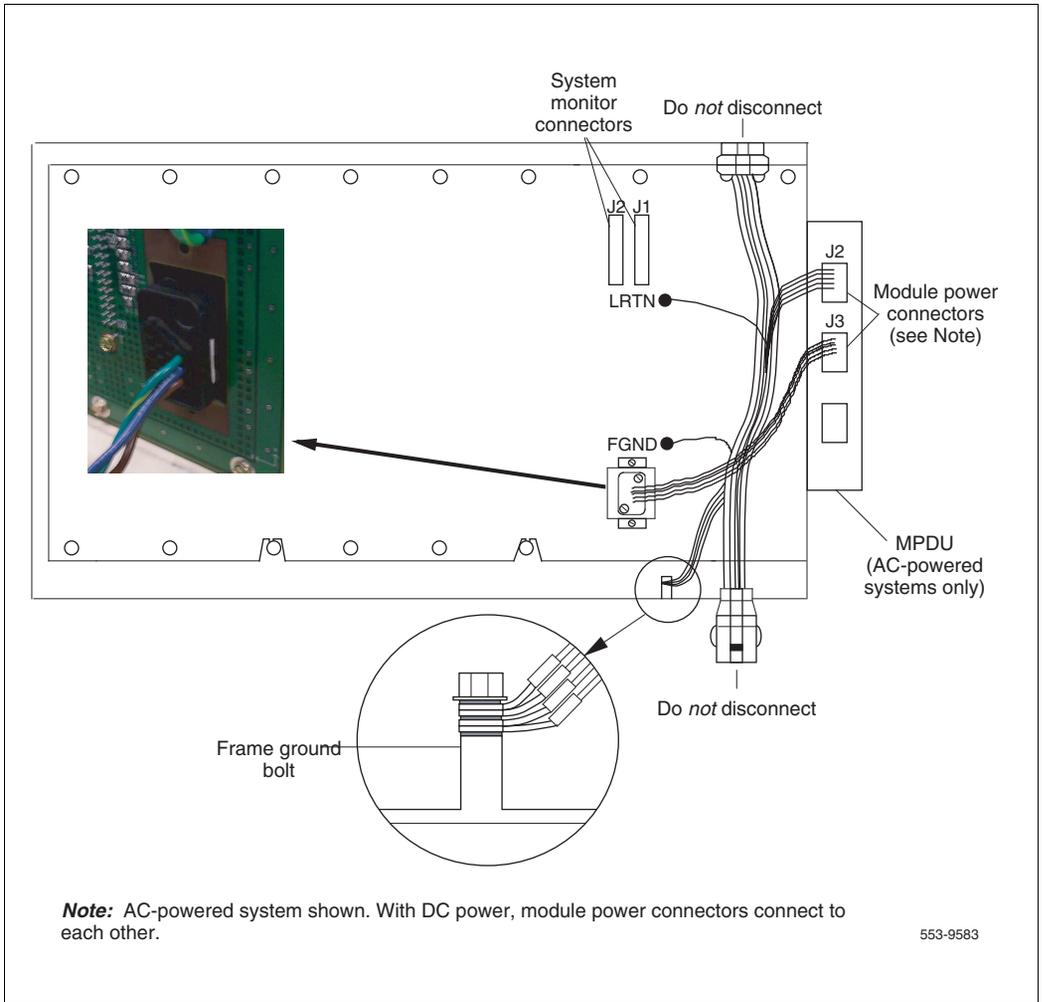
- 9 Remove the front trim panels on both sides of the card cage.
- 10 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Keep the screws for use with the CP card cage.
- 11 Pull the card cage forward until it is halfway out of the module.
- 12 Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 13 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful; do not drop the nut or lock washer into the pedestal. See Figure 51 for DC power connectors. See Figure 52 on [page 511](#) for AC power connectors.
- 14 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.
- 15 Label and disconnect the module power connectors. In an AC-powered system, these are small orange connectors plugged into the module power distribution unit (MPDU). In a DC-powered system, these are connected to each other.

Figure 51
DC power connectors on the Core module backplane



- 16** Label and disconnect the system monitor ribbon cables to J1 and J2.
- 17** Remove the Core card cage from the module.
- 18** Remove the power harness and reserve it for reinstallation when you install the NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply. For AC systems, relocate power harness NT8D40. For DC systems, relocate power harness NT7D11.

Figure 52
AC power connectors on the Core module backplane



- 19** Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.



WARNING

If you do not tape the EMI shield in position, you will not be able to install the card cage in the module correctly.



CAUTION — Service Interruption

Damage to Equipment

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

End of Procedure

Procedure 141
Installing the CP card cage in Core 1

- 1 Check that the card cage is configured as Core 1. See Table 51 for instructions.

	<p style="text-align: center;">IMPORTANT!</p> <p>An NT4N41 Core/Net module with pedestal, top cap and necessary cables should already have been installed. If so, proceed to “Relocate network cards to Core/Net 0” on page 564.</p>
---	---

Table 51
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 2 For AC-powered systems only, attach the new MPDU, part of the CP PIV Upgrade kit, to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 53 on [page 514](#).

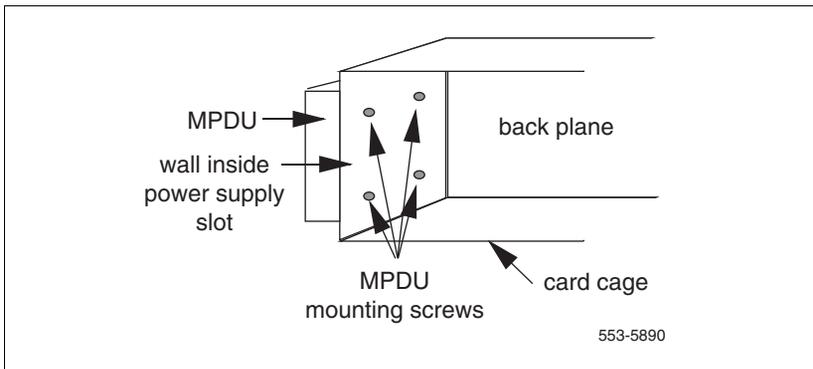
Note: Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf. Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP card cage.

- 3 Slide the CP card cage halfway into the module.
- 4 Hold the card cage firmly and make the following connections at the rear of the module.
 - a. In AC-powered systems, connect the remaining module power connectors to J2 on the MPDU. Then plug the module power cable

(the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).

	CAUTION — Service Interruption
	Damage to Equipment Check for and remove any debris (such as screws) that may have fallen into the base of the UEM module.

Figure 53
Location of the screws for the MPDU



- b.** In DC-powered systems, connect the module power connectors to each other.
- c.** Attach the system monitor ribbon cables:
 - i.** Connect the ribbon cable that goes down to the column to connector J1 on the backplane.
 - ii.** Connect the ribbon cable that goes up the column to J2 on the backplane.

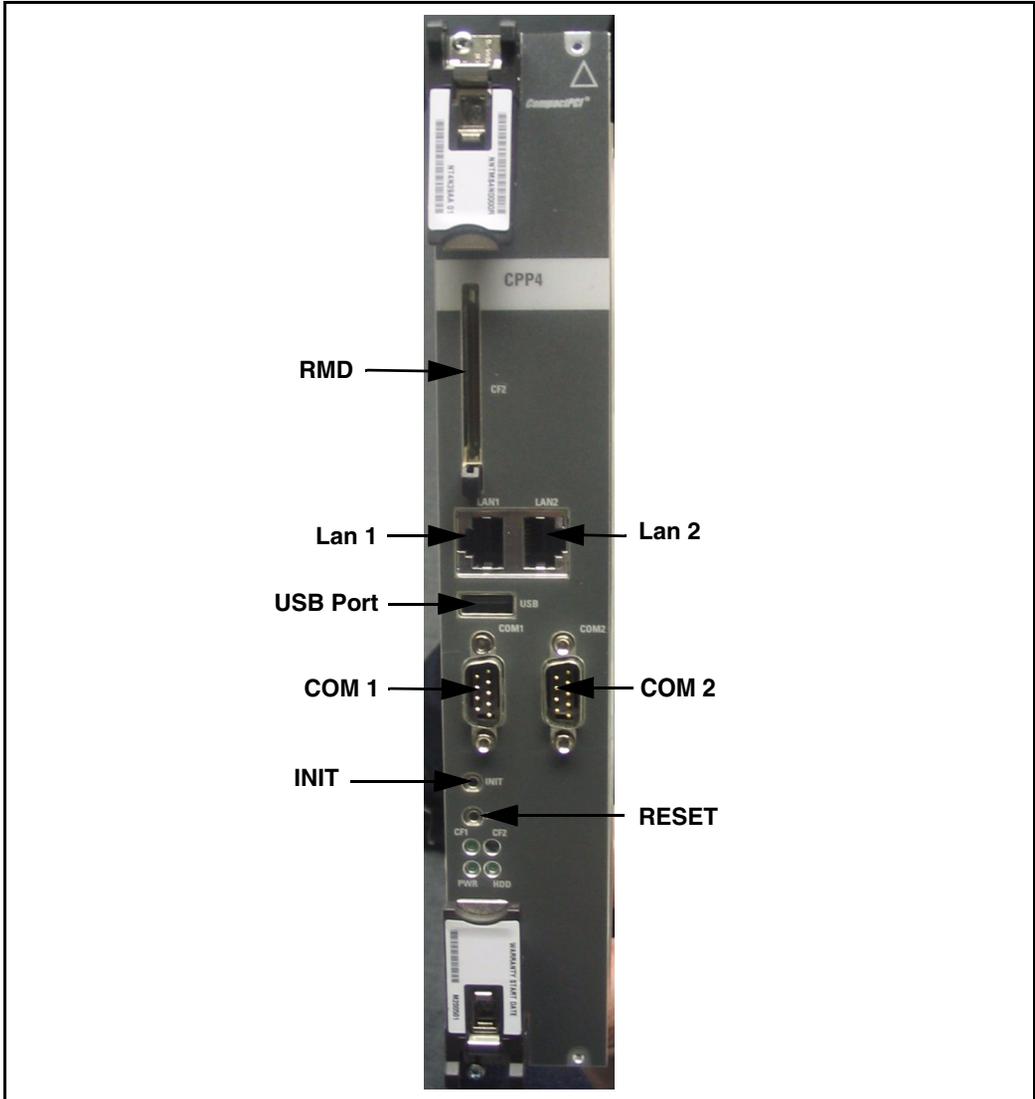
- d. Use a 11/32" socket wrench to attach the green ground wire to the frame ground bolt on the module. Remove the nut and the lock washer at the top of the bolt. Put the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.

Note: For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave the first lock washer at the bottom of the bolt and a second at the top of the bolt. Leave a third lock washer between the second and third, or the third and fourth, wire terminals.

- e. Attach the orange logic return wire. Remove one nut and the lock washer from the LRTN bolt at the rear of the card cage. Put the wire terminal over the bolt, reinstall the lock washer and nut. Use a 1/4" socket wrench to tighten down the nut.
- 5 Slide the card cage all the way into the module.
 - 6 Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.
 - 7 Secure the card cage and EMI shield to the module re-using the existing screws.
 - 8 Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.
 - a. Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
 - b. Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem.)
 - 9 Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.
 - 10 Do not connect the NTRC17BA crossover ethernet cable at this time.

End of Procedure

Figure 54
CP PIV call processor card (front)



Procedure 142
Relocating Network cards to CP PIV Core/Net 1

- 1 Move any existing cards from slots 0-11 of the old Core/Net 1 card cage to the same slots (0-11) in the new NT4N40 Core/Net 1 card cage.
- 2 Connect the tagged cables to the relocated cards.
- 3 When you move the 3PE card, check the switch settings and jumpers. See Table 77 on [page 758](#).
 - a. All 3PE cards must be vintage F or later.
 - b. Check that the RN27 Jumper is set to "A".
- 4 The settings for 3PE cards in Core/Net shelves are different from those in all other shelves. Table 77 shows the 3PE settings for cards installed in CP Core/Net Modules.

————— **End of Procedure** —————

Table 52
QPC441 (QPC440) 3PE Card installed in the CP PIV Core/Net modules

Jumper Settings: Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
CP PIV Core/Net modules only		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off

Procedure 143
Moving Clock Controller 1

- 1 Remove Clock Controller 1 from the Core module.
- 2 Set the Clock Controller 1 switch settings according to Table 53 on [page 518](#) and Table 54 on [page 519](#).
- 3 Move Clock Controller 1 to the CP PIV Core/Net 1, slot 9. DO NOT seat Clock Controller 1 and DO NOT enable the card.
- 4 Reconnect all primary and secondary reference cables.

5 Do NOT connect the clock to clock cable.

	<p>CAUTION — Service Interruption</p> <p>Service Interruption</p> <p>At this point in the upgrade, only move Clock Controller 1; do not move Clock Controller 0.</p>
---	--

Table 53
Clock Controller switch settings for NTRB53

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		3	4			
1	2	3	4		5	6
Multi-group = Off Single group = On	21E = Off 51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On Side 1 = Off	71,81 = Off 21E, 51, 51C, 61. 61C, 81C = On
		Off	On	4.6–6.1 m (15–20 ft.)		
		On	Off	6.4–10.1 m (21–33 ft.)		
		On	On	10.4–15.2 m (34–50 ft.)		
Note: Switch 7 and 8 are not used.						

Table 54
Clock Controller switch settings for QPC471H, QPC771H

Systems upgraded to CP PIV must use the Meridian 1 Option 61C CP PIV switch settings to enable Clock Hunt software. Use the settings in this table.											
SW1				SW2				SW4			
1	2	3	4	1	2	3	4	1	2	3	4
on	on	on	on	off	off	off	off	**	on	*	*
*Total cable length between the J3 faceplate connectors:											
0–4.3 m (0–14 ft.)										off	off
4.6–6.1 m (15–20 ft.)										off	on
6.4–10.1 m (21–33 ft.)										on	off
10.4–15.2 m (34–50 ft.)										on	on
** Set to ON for Clock Controller 0. Set to OFF for Clock Controller 1.											

————— End of Procedure —————

Installing the Security Device

Procedure 144 Installing the Security Device

The Security Device fits into the System Utility card (see Figure 55 on [page 521](#)).

If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.

- 1 Unlock the latches and remove the IODU/C card.
- 2 Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.
- 3 Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Check that the Security Device is securely in place.

If the original system did not have an IODU/C, use the Security Device provided with the CP PIV Software kit.

- 1 Insert the Security Device into the Security Device holder on the System Utility card with the “Nortel” side facing up. Do not bend the clip more than necessary.
- 2 Check that the Security Device is securely in place.

End of Procedure

Unpack and install Power Supply

Procedure 145

Installing the NT6D41CA (DC) or NT8D29BA (AC) power supply

- 1 Unpack the power supply.
- 2 Faceplate-disable the power supply.
- 3 Insert power supply into Core/Net module power supply slot.

End of Procedure

Cable Core 1

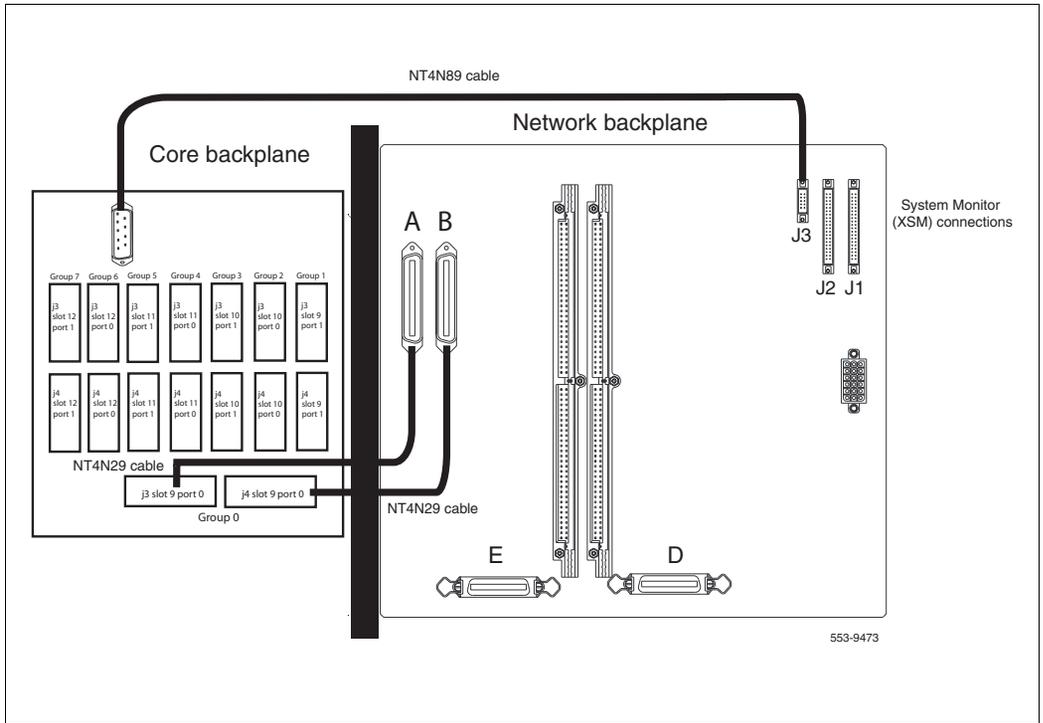
In Core 1, inspect the CNI to 3PE (NT4N29) and system monitor (NT4N89) cables

New NT4N29 cables must be installed for existing Network group 0. If the system has XSDI cards, reinstall the cards and attach the cables. Inspect the NT4N89 system monitor cables. See Figure 56 on [page 523](#) and Table 55.

Table 55
Fanout Panel to 3PE card connectors

Group Number		Fanout Panel connector		3PE card connector
0	connects	9-0, J3		A
0	from	9-0, J4	to	B
<p>Note: Group 0 cables (NT4N29) connect the fanout panel directly to the network backplane of Core/Net 1.</p>				

Figure 56
Fanout Panel connections on the CP Core/Net backplane



Power up Core 1

Procedure 146 Preparing for power up

- 1 Check that a terminal is connected to the J25 I/O panel connector on Core/Net 1.

Note: A maintenance terminal is required to access the Core/Net modules during the upgrade.

- 2 Connect a terminal to the J25 port on the I/O panel in Core 1.
- 3 Check the terminal settings as follows:

- a. 9600 baud
 - b. 8 data
 - c. parity none
 - d. 1 stop bit
 - e. full duplex
 - f. XOFF
- 4 Faceplate-enable all 3PE, Per Sig, clock controller, core and network cards.

Note: If only one terminal is used for both cores, the terminal must be switched from side-to-side to access each module. An “A/B” switch box can also be installed to switch the terminal from side to side.

End of Procedure

Power up Core cards

Procedure 147

Powering up core cards

- 1 For AC-powered systems (NT8D29BA): set the MPDU circuit breaker located at the left end of the module to ON (top position).
- 2 For DC-powered systems: faceplate-enable the NT6D41CA power supply and then set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).

End of Procedure

Restore power

Procedure 148

Restoring power

- 1 Restore power to Core/Net 1.
- 2 Wait for the system to load/initialize.

- 3 Check that the Network and I/O cards have working power.



System is in split mode, CP 0 is active, clock 0 is active, all network cards in shelf 1 are software disabled.

End of Procedure

CS 1000 Release 4.5 upgrade

Upgrading the software

Procedure 149 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

Procedure 149

Upgradng 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 displays the Install Menu. Select option "".

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

I N S T A L L M E N U

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

 Please enter:

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

 For Feature Expansion, use OVL143.

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

Enter Choice>

- 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 XXXXX	
Option	Choice	Status	Comment	
Dependency Lists	yes			
Option	Choice	Status	Comment	
IPMG Software	yes		install for rel XXXXX	
Option	Choice	Status	Comment	
DATABASE	yes			
Option	Choice	Status	Comment	
CP-BOOTROM	yes			

- 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 install Software release: XXXX on
the new system.
This will create all necessary directories and
pre-allocate files on the hard disk.
You may continue with software install or quit
now and leave your software unchanged.
Please enter:
           <CR> -> <a> - Continue with new system
install.
           <q> - Quit.
           Enter choice>
```

- 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>
    
```

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>

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

At this point the system reloads and initializes.

End of Procedure

Verify the upgraded database

Procedure 150

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

Configuring IP addresses

Procedure 151 Configuring the IP addresses

Two unique IP address are required for the CP PIV system to communicate with the LAN. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core.

- 1 Use the following to check the status of the system's IP address:

LD 117	Load program
prt host	Print the configured host information

If the system returns with host names "active" and "inactive", go to "Check for Peripheral Software Download to Core 1" on [page 546](#). If the system returns no host names, complete the steps below.

- 2 Contact your System Administrator to identify IP address and subnet mask information.
- 3 Configure the primary (*active*) and secondary (*inactive*) IP addresses:

LD 117	Load the program
new host name 1 IP address	Define the first IP address: "name 1" is an alias for the IP address such as "primary". The IP address is the IP number.
chg elnk active name 1	Assign the "name 1" address to the <i>active</i> Core.

new host 'name 2' 'IP address'	Define the second IP address: "name 2" is an alias for the IP address such as "secondary". The IP address is the IP number.
chg elnk inactive name 2	Assign the "name 2" address to the <i>inactive</i> Core.
chg mask xxx.xxx.xxx.xxx	Set the sub-net per local site. This number allows external sub-nets to connect to the system.

- 4 Enable the new Ethernet interface.

LD 137	Load program
update dbs	Update the ELINK database
dis elnk	<i>Disable</i> the old IP interface values
enl elnk	<i>Enable</i> the new IP interface values

End of Procedure

Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in "Print site data" on [page 476](#). If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

Access LD 22 and print Target peripheral software version.

LD 22	Load program
REQ	PRT
TYPE	PSWV
ISSP	Print System, DepList, and Patch information
SLT	Print System Limits
TID	Print the Tape ID
****	Exit program

Reconfigure I/O ports and call registers

Procedure 152

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 1000 and 20000 (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

Reboot Core/Net 1

Procedure 153 Rebooting Core 1

- 1 Unseat the CP card in Core/Net 0.
- 2 Faceplate-disable the CNI card in Core/Net 0.
- 3 Faceplate-disable the IODUC in CORE/NET 0.
- 4 Faceplate-disable Clock Controller 0 and unseat the card from the backplane.
- 5 Seat Clock Controller 1 and Faceplate-enable it.
- 6 Press the RESET button on the CP PIV card faceplate to reboot the system.
- 7 Wait for “DONE” and then “INI” messages to display before you continue.



Call processing should be active on Core/Net 1, Clock 1 is active, Clock 0 is disabled, and Network cards in Core/Net 0 are disabled.

End of Procedure

Disable equipment in Core 0

Procedure 154 Faceplate disabling cards in core and network slots of Core/Net 0:

- 1 Faceplate-disable all core and network cards in Core/Net 0.
- 2 Set the ENB/DIS switch on the 3PE card to DIS.

End of Procedure

Power down Core/Net 0



CAUTION — Service Interruption

Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.



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.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 0 module in the back of the column pedestal to OFF (down position).

Remove Core 0 cables and card cage

Procedure 155

Removing Core 0 cables and card cage

- 1 Label and disconnect all cables to the front of the module.
- 2 Tape over the contacts to avoid grounding.
- 3 Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4 Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5 Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6 Tag and disconnect all plugs, wires, and cables to the backplane.

Note 1: Leave the network cards in the card cage. You will relocate them to the CP card cage later in the upgrade procedure.

Note 2: Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

- 7 Remove the two mounting screws at the bottom rear of the card cage that secure the card cage to the module casting.



CAUTION — Service Interruption

Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

Keep the screws for use with the CP card cage. (You need a 1/4" nut driver to remove the screws.)

- 8 Remove the front trim panels on both sides of the card cage.
- 9 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Save the screws for use with the CP card cage.
- 10 Pull the card cage forward until it is halfway out of the module.
- 11 Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful; do not drop the nut or lock washer into the pedestal. For DC power connectors, see Figure 57 on [page 552](#). For AC power connectors, see Figure 58 on [page 553](#).
- 13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.
- 14 Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15 Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16 Remove the Core card cage from the module.

Figure 57
DC power connectors on the Core module backplane

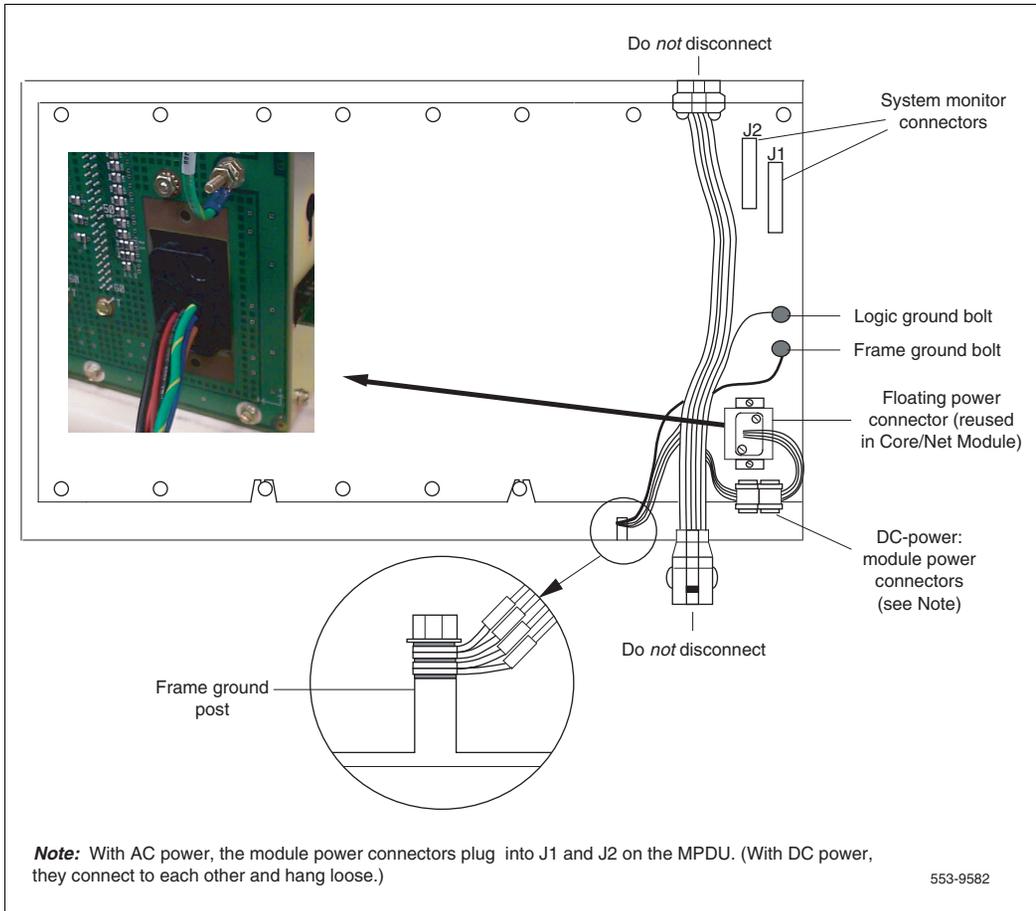
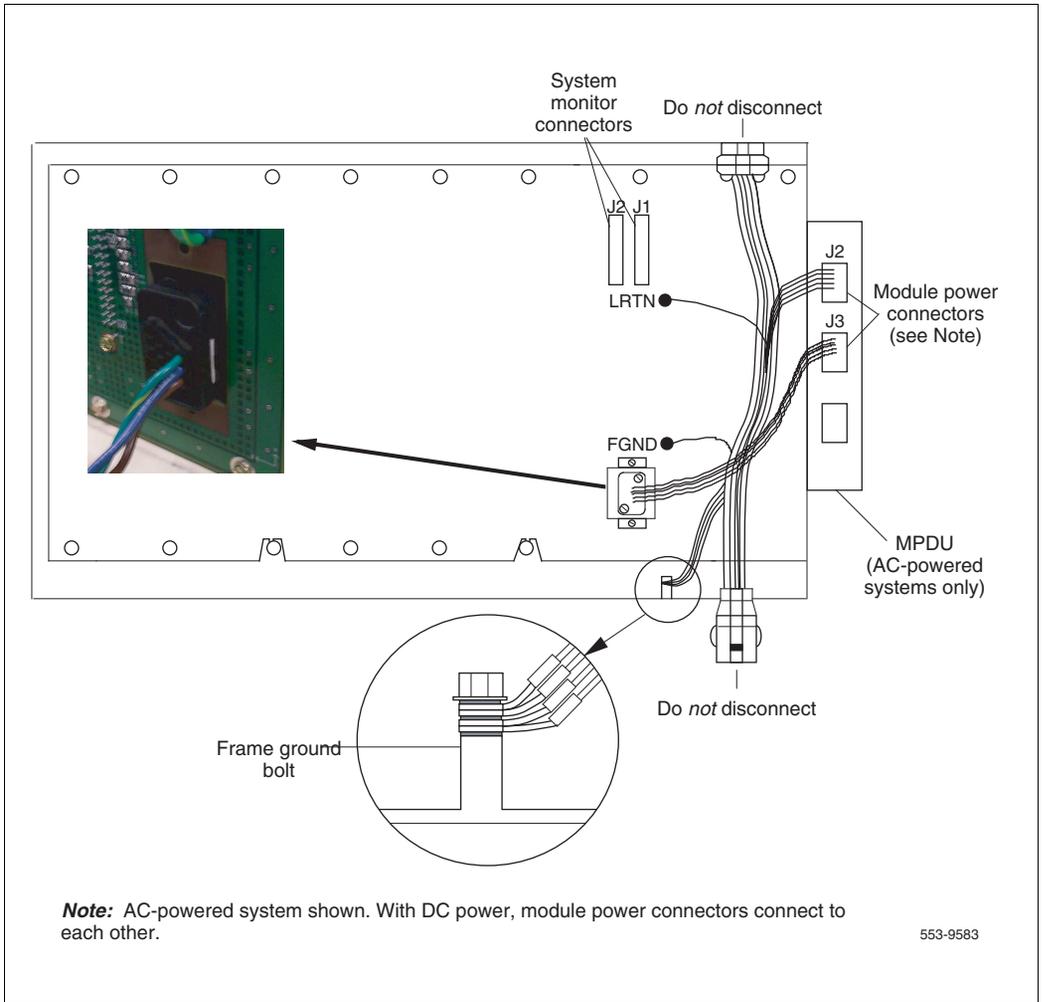


Figure 58
AC power connectors on the Core module backplane



- 17** Remove the power harness and reserve it for reinstallation as part of installing the NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
- For AC systems, relocate power harness NT8D40.
 - For DC systems, relocate power harness NT7D11.



WARNING

Be sure to perform the following step. If you do not tape the EMI shield in position, you will not be able to install the card cage in the module correctly.

- 18** Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.



CAUTION — Service Interruption

Damage to Equipment

Check for and remove any debris (such as screws) that could have fallen into the base of the UEM module.

End of Procedure

Upgrade Core 0 hardware

Procedure 156

Checking main Core card installation

The main Core cards (including the cables for power and data), are installed in the factory as shown in Figure 59 on [page 556](#).

- 1 NT4N65AC CP Core Network Interface (cCNI) cards:
Each system contains one NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots c10 - c12, which do not contain cCNIs.

Note: In the NT4N41 Core/Net module, port 0 on the NT4N65 Core to Network Interface (cCNI) Card in slot c9 must be configured as “group 0.” The cCNI and 3PE cards for group 0 communicate through the NT4N29 cable. Only one cCNI card is required for group 0 in a Meridian 1 Option 61C CP PIV.
- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.
 - a. Check side ID switch settings for SU card in Core/Net 1 according to Table 56.

Table 56
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 4 NT4N39 CP PIV is located in the Call Processor slot.
- 5 The N0026096 blank faceplate is located in the extreme right-hand slot next to the CP PIV card. Check that the NT4N4405 shelf power cable is installed in the CP card cage backplane. See Figure 60 on [page 557](#) for the cable location.

Figure 59
Core card placement in the NT4N41 Core/Net Module (front)

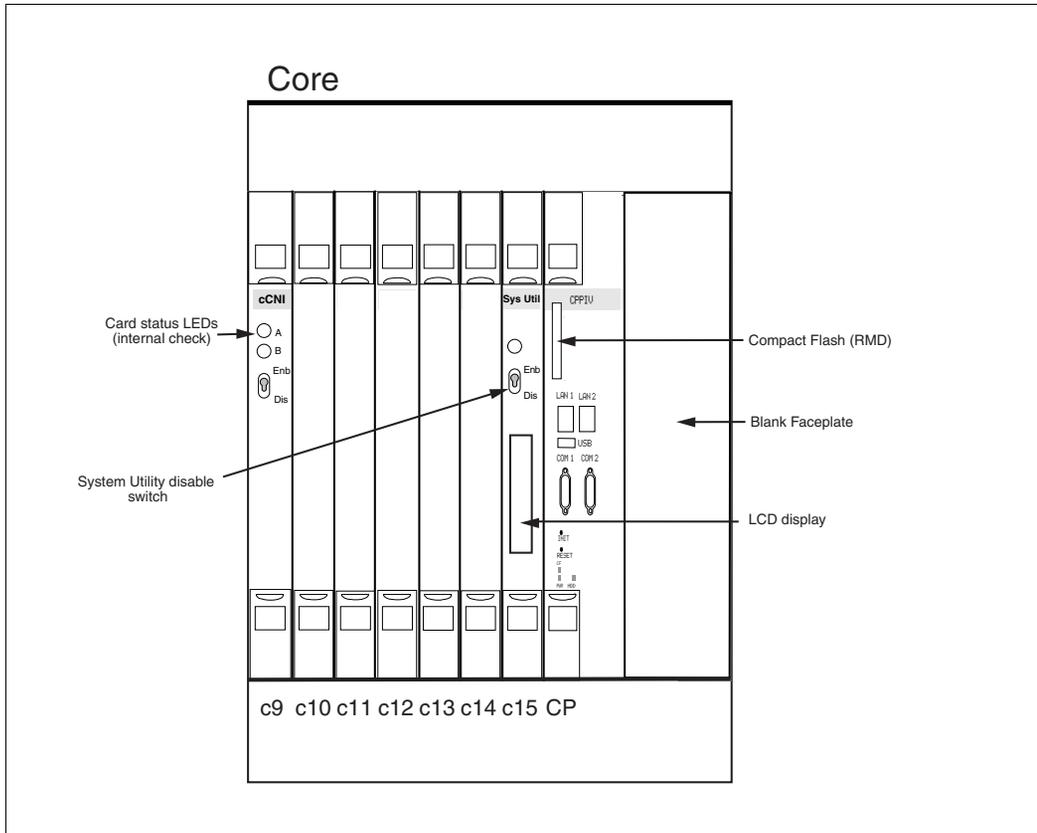
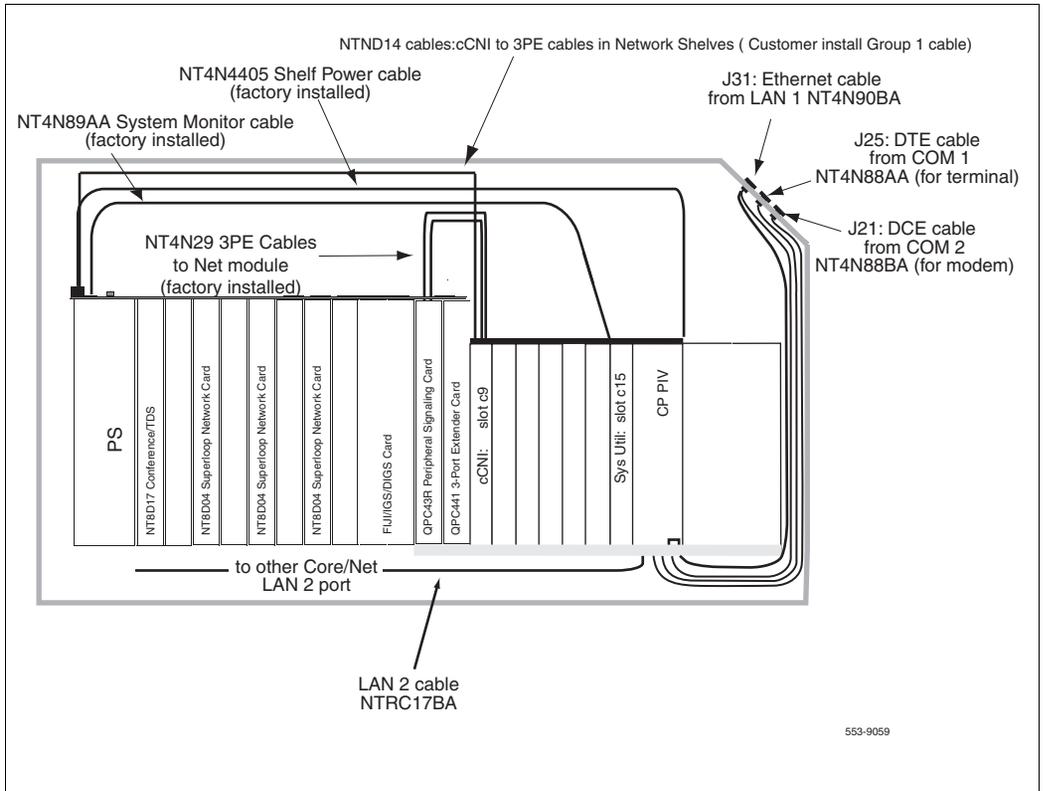


Figure 60
Core/Net cable connections (top view)



Install the CP card cage in Core 0

Procedure 157

Installing the CP card cage in Core 0

- 1 Check that the card cage is configured as Core 0. See Table 57 for instructions.

Table 57

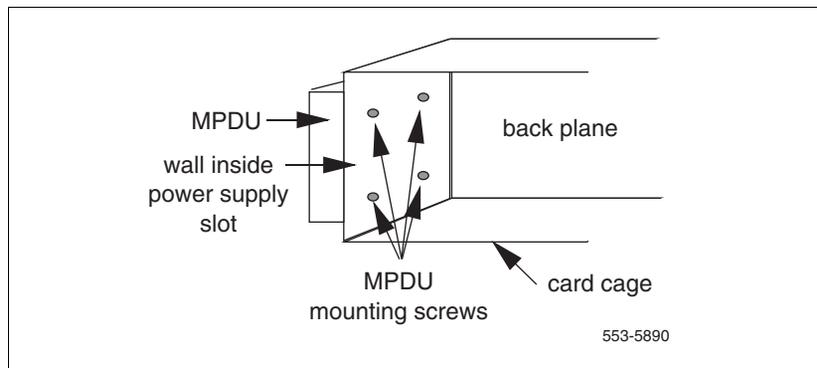
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 2 For AC-powered systems only, install the new MPDU, part of the CP PIV Upgrade kit, to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 61..

Figure 61

Location of the screws for the MPDU

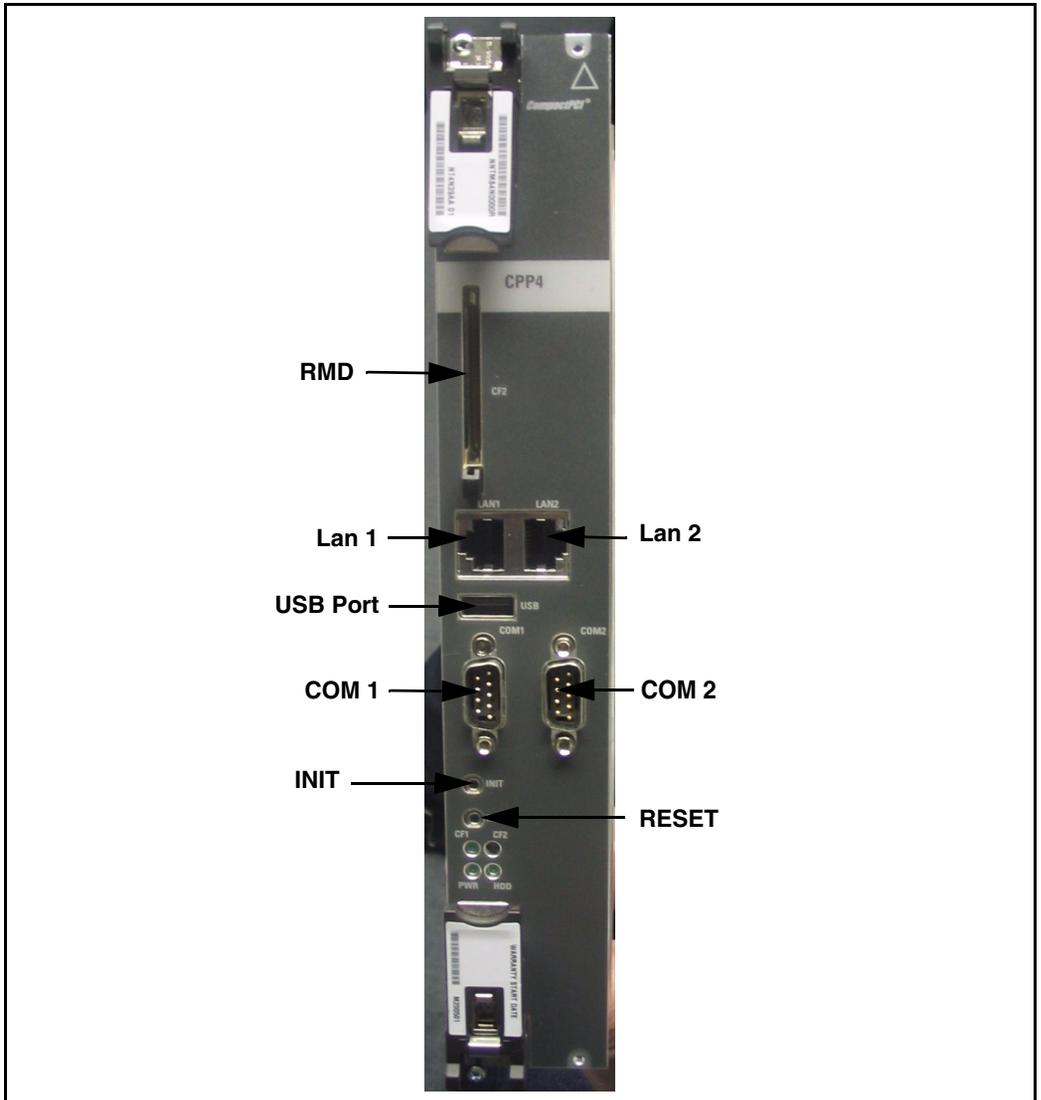


Note: Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP card cage.

- 7 Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.
- 8 Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA before you secure the card cage.
 - a. Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. NT4N88AA is used to connect a terminal. See Figure 62 on [page 561](#).
 - b. Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. NT4N88BA is used to connect a modem. Figure 62 on [page 561](#).
 - c. Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel. Figure 62 on [page 561](#).
- 9 Connect the NTRC17BA cross over ethernet cable from LAN 2 on Core/Net 0 faceplate to LAN 2 on Core/Net 1 faceplate. Figure 62 on [page 561](#).

Figure 62
CP PIV call processor card (front)



————— End of Procedure —————

Install the Security Device

Procedure 158 Installing the Security Device

The Security Device fits into the System Utility card (see Figure 63 on [page 563](#)).

To install the Security Device:

- 1 If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
 - a. Unlock the latches and remove the IODU/C card.
 - b. Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

OR

If the original system did not have an IODU/C, use the Security Device provided with the CP PIV Software kit.

Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

- 2 Check that the Security Device is securely in place.

End of Procedure

Figure 63
Security Device



Relocate network cards to Core/Net 0

Procedure 159

Relocating Network cards to CP Core 0

- 1 Remove all network cards from the Meridian 1 Option 61C Core 0.
- 2 When you move the 3PE card, check the switch settings and jumpers. See Table 58.
 - a. All 3PE cards must be vintage F or later.
 - b. Check that the RN27 Jumper is set to "A".
 - c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 58 shows the 3PE settings for cards installed in CP PIV Core/Net Modules.
- 3 Reinstall each removed card in the same network slot in the CP PIV Core/Net 0.
- 4 Connect the tagged cables to the relocated cards.

Table 58

QPC441 (QPC440) 3PE Card installed in the CP PIV Core/Net modules

Jumper Settings: Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
CP PIV Core/Net modules only		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off

————— **End of Procedure** —————

Procedure 160
Moving Clock Controller 0**CAUTION — Service Interruption****Service Interruption**

Move only Clock Controller 0 at this point in the upgrade.

- 1 Label and disconnect the Clock Controller 0.
- 2 Disconnect the NT8D76AC cable from the Clock Controller 0 faceplate card.
- 3 If primary and secondary clock reference cables are connected to the Clock Controller 0 faceplate, disconnect them last.
- 4 Set the Clock Controller 0 switch settings according to Table 59 on [page 566](#) (QPC471H, QPC771H) and Table 60 on [page 567](#) (NTRB53).
- 5 Disable any ISDN PRI card in the Core module.



The active side Core/Net 1 registers all Network cards in Core/Net 0 as disabled.

- 6 Place Clock Controller 0 in Group 0 Network Shelf 0, slot 9.
- 7 Seat the Clock Controller 0 and faceplate-enable the card.

8 Reconnect all reference cables and clock to clock cable.

Table 59
Clock Controller switch settings for QPC471H, QPC771H

Systems upgraded to CP PIV must use the Meridian 1 Option 61C CP PIV switch settings to enable Clock Hunt software. Use the settings in this table.											
SW1				SW2				SW4			
1	2	3	4	1	2	3	4	1	2	3	4
on	on	on	on	off	off	off	off	**	on	*	*
*Total cable length between the J3 faceplate connectors:											
0–4.3 m (0–14 ft.)										off	off
4.6–6.1 m (15–20 ft.)										off	on
6.4–10.1 m (21–33 ft.)										on	off
10.4–15.2 m (34–50 ft.)										on	on
** Set to ON for Clock Controller 0. Set to OFF for Clock Controller 1.											

Table 60
Clock Controller switch settings for NTRB53

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		3	4			
1	2	3	4		5	6
Multi-group = Off Single group = On	21E = Off 51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On Side 1 = Off	71,81 = Off 21E, 51, 51C, 61. 61C, 81C = On
		Off	On			
		On	Off			
		On	On			

————— End of Procedure —————

Cable Core 0

Inspect the NT4N29 cables

The NT4N29 cables must be installed for existing Network group 0. If the system has XSDI cards, reinstall the cards and attach the cables. See Figure 64 on [page 568](#).

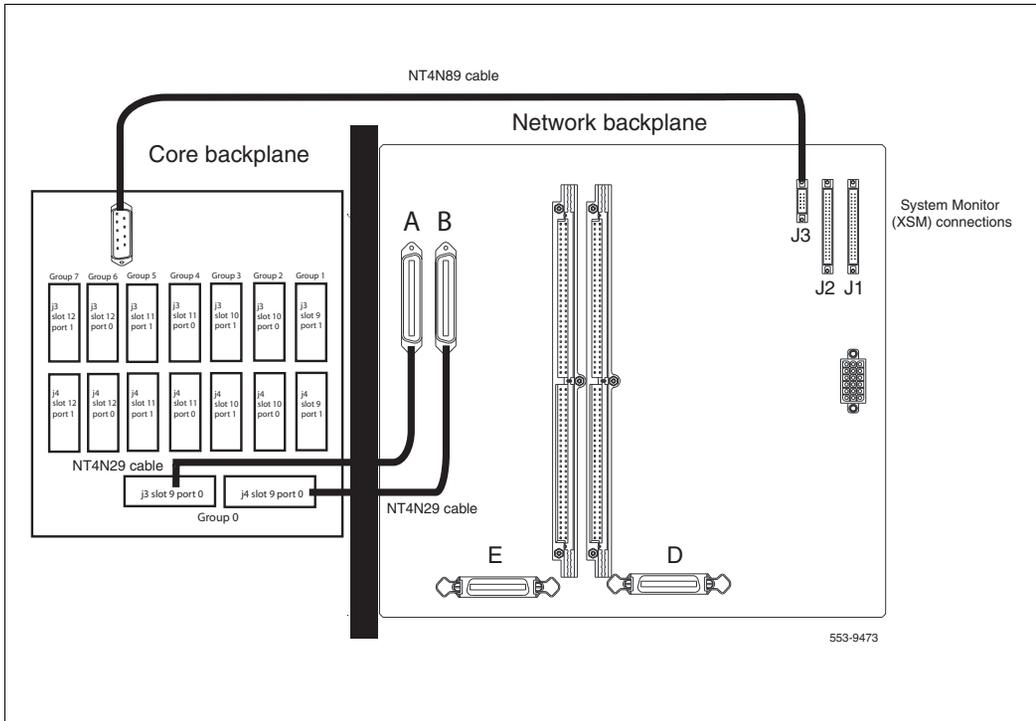
Install intermodule cables

Procedure 161

Installing intermodule cables

- 1 Locate and unpack the NT8D99AD and NT8D80BZ cables.
- 2 Install NT8D99AD cables between the D connectors on the backplane of each Core/Net module. Install another NT8D99AD cable between the E connectors on the backplane of each Core/Net module (see Figure 64 on [page 568](#)).

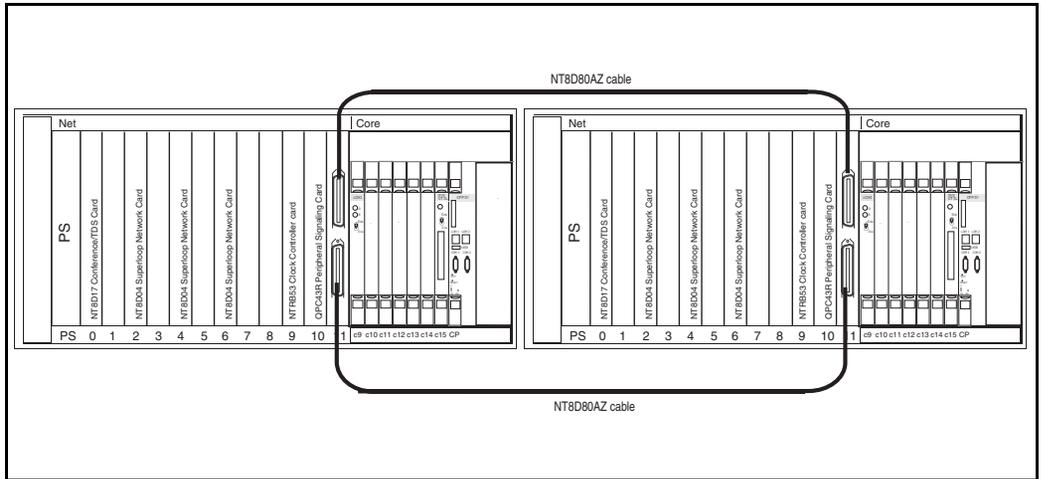
Figure 64
Fanout Panel connections on the CP Core/Net backplane



- 3 Install an NT8D80BZ cable between the J3 connector on the 3PE card in Core/Net 0 and the J3 connector on the 3PE card in Core/Net 1. Install another cable between the J4 connectors on the 3PE cards (see Figure 65 on [page 569](#)).

End of Procedure

Figure 65
3PE card connections



Unpack and install the power supply

Procedure 162

Installing the NT6D41CA (DC) or NT8D29BA (AC) power supply

- 1 Unpack the power supply.
- 2 Faceplate-disable the power supply.
- 3 Insert power supply into Core/Net module power supply slot.

————— End of Procedure —————

Connect LAN 1

The LAN 1 port is used to enable redundancy features between the two Core/Net modules. LAN 1 can also be connected to a local area network (LAN) for use with LAN based administration tools such as OTM.

The options for the LAN 1 connections are shown in Figure 66 on [page 571](#).

Procedure 163

If the system is connected to a LAN

- 1 Connect the Dual Ethernet Adapter (RJ-45) for I/O Panel (NTRE40AA) to J31. Secure the adapter to J31 with the two screws included in the shipment. Insert the adapter from the inside of the I/O panel.

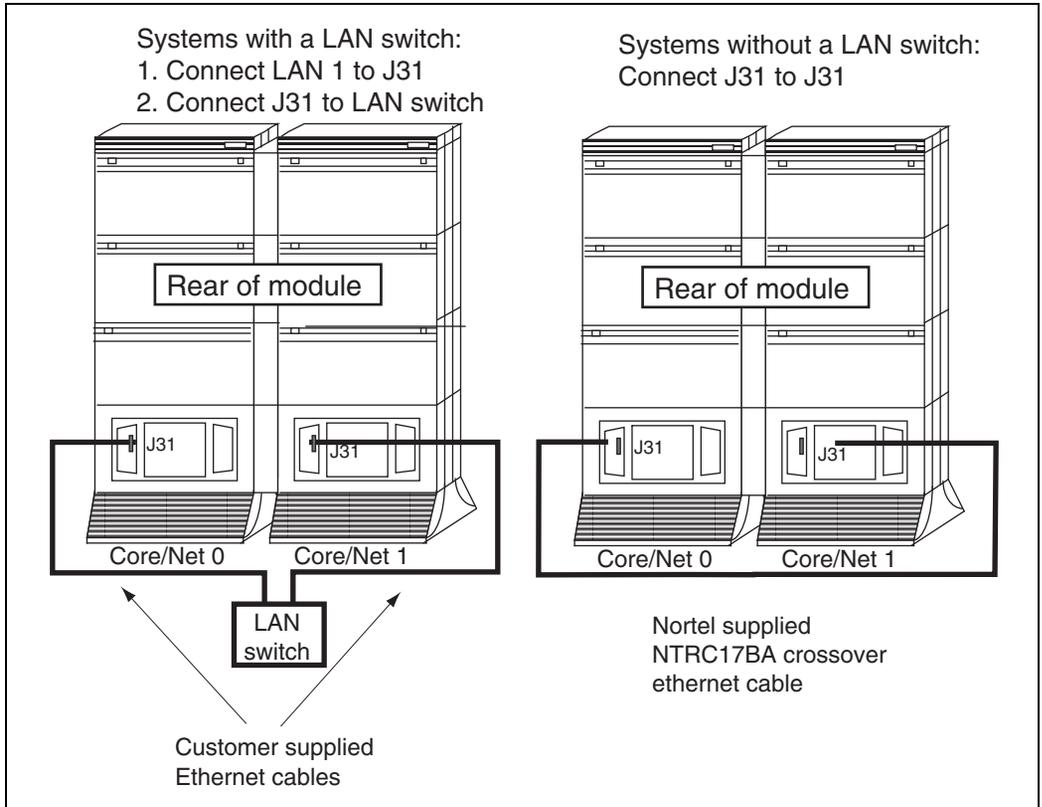
- 2 Connect LAN 1 (Ethernet) on the CP PIV faceplate to J31 (top) of the I/O panel with cable NT4N90BA. This connection can only be made *after* the Dual Ethernet Adapter is installed (see step 1 above).

- 3 Connect J31 to a LAN switch.

Note: If a LAN switch is not available, connect J31 of Core 0 to J31 of Core 1 by NTRC17BA cable.

End of Procedure

Figure 66
Options for LAN 1 connection



Power up Core 0

Procedure 164 Preparing for power up

- 1 Confirm that a terminal is connected to the J25 I/O panel connector on Core/Net 0.

Note: A maintenance terminal is required to access the Core/Net modules during the upgrade.

- 2 Connect a terminal to the J25 port on the I/O panel in Core 0.

- 3 Check the terminal settings as follows:
 - a. 9600 baud
 - b. 8 data
 - c. parity none
 - d. 1 stop bit
 - e. full duplex
 - f. XOFF

Note: If only one terminal is used for both Cores, the terminal will have to be switched from side-to-side to access each module. An “A/B” switch box can also be installed to switch the terminal from side to side.

- 4 Faceplate-enable all core and network cards.

End of Procedure

Power up Core cards

Procedure 165

Powering up core cards

- 1 Disconnect NTRC17BA crossover ethernet cable from the faceplate of CPU 0.
- 2 For AC-powered systems (NT8D29BA): set the MPDU circuit breaker located at the left end of the module to ON (top position).
- 3 For DC-powered systems: faceplate-enable the NT6D41CA power supply and then set the breaker for the Core 0 module in the back of the column pedestal to ON (top position).
- 4 10 seconds after power up of Core/Net 0, press the INI button on Core/Net 1.

- 5 Wait for the system to load and initialize.



Core/Net 1 is now active. All network cards in Core/Net 0 and Core/Net 1 are enabled. Call processing is resumed.

End of Procedure

Test Core/Net 1

Procedure 166

Testing Core/Net 1

- 1 Check dial-tone.
- 2 Test the clocks:
 - a. Verify that the clock controller is assigned to the *active* Core.

LD 60 Load program

SSCK x Get the status of the clock controllers (x is "0" or "1" for Clock 0 or Clock 1)

SWCK To switch the Clock (if necessary)

******** Exit program

- b. Verify that the clock controllers are switching correctly.

SWCK Switch the Clock

Note: You must wait a minimum of one minute for clocks to synchronize.

SWCK Switch the Clock again

******** Exit program

3 Stat D-channels:

LD 96

STAT DCH Stat all D-channels

**** Exit program

4 Stat all T1 interfaces:

LD 60

STAT Stat all DTI and PRI

**** Exit program

5 Stat network cards:

LD 32

STAT x x = loop number

**** Exit program

6 Print status of all controllers:

LD 97

REQ PRT

TYPE XPE (returns status of all controller cards)

**** Exit program

7 Make internal, external and network calls.

8 Check attendant console activity.

9 Check DID trunks.

10 Check applications (CallPilot, Symposium, Meridian Mail, and so on),

End of Procedure

CS 1000 Release 4.5 upgrade

Upgrading the software

Procedure 167 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

Procedure 167

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 displays the Install Menu. Select option "".

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

I N S T A L L M E N U

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

 Please enter:

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

 For Feature Expansion, use OVL143.

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

Enter Choice> ****

- 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 XXXXX	
Option	Choice	Status	Comment	
Dependency Lists	yes			
Option	Choice	Status	Comment	
IPMG Software	yes		install for rel XXXXX	
Option	Choice	Status	Comment	
DATABASE	yes			
Option	Choice	Status	Comment	
CP-BOOTROM	yes			

- 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 install Software release: XXXX on
the new system.

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

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

Please enter:
           <CR> -> <a> - Continue with new system
install.
           <q> - Quit.
           Enter choice>
```

- 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>
    
```

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>

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

At this point the system reloads and initializes.

End of Procedure

Verify the upgraded database

Procedure 168

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



Core 1 is now active, clock 1 is active, CNI is disabled in Core 0.

End of Procedure

Procedure 169

Connecting the system monitor to Core/Net 0

- 1 Connect the system monitor to the rear of the pedestal.
- 2 For the Core column, connect J3 and J4 cables to the system monitor.

Note: Do *not* turn off the blower units in the front of the pedestals.

End of Procedure

Check for Peripheral Software Download to Core 0

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 476](#).

If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

LD 22

REQ	PRT
TYPE	PSWV
ISSP	Print System, DepList, and Patch information
SLT	Print System Limits
TID	Print the Tape ID
****	Exit program

Making the system redundant

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

Procedure 170

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 Cores must be identical in order to successfully switch service from Core 1 to Core 0 CPUs.

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
    sut1 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
```



The system is now operating in full redundant mode with Core/Net 1 active.

Complete the CP PIV upgrade

LD 137 modifications

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

- STAT FMD
display text: **Status of Fixed Media Device (FMD)**
command parameter: none
- STAT RMD
display text: **Status of Removable Media Device(RMD)**
command parameter: none

Testing the Cores

Procedure 171

Testing Core/Net 1

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

From Core/Net 1, perform these tests:

1 Perform a redundancy sanity test:

LD 135 Load program

STAT CPU Get status of CPU and memory

TEST CPU Test CPU

2 Check the LCD states:

a. Perform a visual check of the LCDs.

b. Test LCDs:

LD 135 Load program

DSPL ALL

3 Test the System Utility cards and the cCNI cards:

LD 135 Load program

STAT SUTL Get the status of the System Utility card

TEST SUTL Test the System Utility card

STAT CNI c s Get status of cCNI cards (core, slot)

TEST CNI c s Test cCNI (core, slot)

4 Test system redundancy:

LD 137 Load program
TEST RDUN Test redundancy
DATA RDUN Test database integrity

5 Install the two system monitors. Test that the system monitors are working:

LD 37 Load program
ENL TTY x Enable the XMS, where x= system XMS
STAT XSM Check the system monitors
******** Exit program

6 Clear the display and minor alarms on both Cores:

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

- 7 Test the clocks:
 - a. Verify that the clock controller is assigned to the *active* Core:

LD 60	Load program
SSCK <i>x</i>	Get status of the clock controllers (<i>x</i> is “0” or “1” for Clock 0 or Clock 1)
SWCK	Switch the Clock (if necessary)
****	Exit program

- 8 Verify that the Clock Controllers are switching correctly:

SWCK	Switch Clock
	Note: You must wait a minimum of one minute for clocks to synchronize.
SWCK	Switch Clock again

- 9 Check applications (CallPilot, Symposium, Meridian Mail, and so on.).
- 10 Check dial tone.

End of Procedure

Switch call processing

Procedure 172 Switching call processing

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

LD 135

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

**** Exit program

- 2 After Call Server 0 initializes. log in to Call Server 0 and verify that the cutover was successful and that all hardware is operational. Perform acceptance testing as required.

3



Core/Net 0 is now the active call processor.

Procedure 173 Testing Core/Net 0

From Core/Net 0, perform these tests:

- 1 Perform a redundancy sanity test:

LD 135 Load program

STAT CPU Get status of CPU and memory

TEST CPU Test CPU

- 2 Check the LCD states:

- a. Perform a visual check of the LCDs.
- b. Test LCDs:

LD 135 Load program

TEST LCDs Test LCDs

DSPL ALL

- 3 Test the System Utility cards and the cCNI cards:

LD 135 Load program

STAT SUTL Get the status of the System Utility card

TEST SUTL Test the System Utility card

STAT CNI c s Get status of cCNI cards (core, slot)

TEST CNI c s Test cCNI (core, slot)

- 4 Test system redundancy:

LD 137 Load program

TEST RDUN Test redundancy

DATA RDUN Test database integrity

STAT FMD Status of Fixed Media Device (FMD)

STAT RMD Status of Removable Media Device (RMD)

- 5 Install the two system monitors. Test that the system monitors are working:

LD 37 Load program

ENL TTY x Enable the XMS, where x= system XMS

STAT XSM Check the system monitors

******** Exit program

6 Clear the display and minor alarms on both Cores:

LD 135 Load program

CDSP Clear displays on the cores

CMAJ Clear major alarms

CMIN ALL Clear minor alarms

7 Test the clocks:

a. Verify that the clock controller is assigned to the *active* Core:

LD 60 Load program

SSCK *x* Get status of the clock controllers (*x* is “0” or “1” for Clock 0 or Clock 1)

SWCK Switch the Clock (if necessary)

******** Exit program

8 Verify that the Clock Controllers are switching correctly:

SWCK Switch Clock

Note: You must wait a minimum of one minute for clocks to synchronize.

SWCK Switch Clock again

9 Check applications (CallPilot, Symposium, Meridian Mail, and so on.).

10 Check dial tone.

End of Procedure

Switch call processing

Procedure 174

Switching call processing

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

LD 135

CUTOVR Transfer call processing from active Core/Net to standby Core/Net

**** Exit program

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



Core/Net 1 is now the active call processor.

Perform a customer backup data dump (upgraded release)

Procedure 175

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.



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.

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

**** Exit program

The Meridian 1 Option 61C CP3, CP4 upgrade to Meridian 1 Option 61C CP PIV is complete.

Meridian 1 Option 61C CP PII upgrade to Option 61C CP PIV

This section provides instructions for upgrading a source Meridian 1 Option 61C CP PII to a target platform of Meridian 1 Option 61C Call Processor Pentium IV (CP PIV).

Prepare for upgrade

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



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).

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

Each 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 61:

Table 61
Prepare for upgrade steps (Part 1 of 2)

Procedure Step	Page
Plan upgrade	611
Upgrade Checklists	612
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Table 61
Prepare for upgrade steps (Part 2 of 2)

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Perform a template audit	617
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Transferring the database from floppy disk to CF (customer database media converter tool)	622

Plan upgrade

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.
- Ensure sufficient power for new columns/modules or applications.
- Identify all applications (CallPilot, SCCS, IP, Meridian Mail, etc.) that are currently installed on the source platform.
- Identify and correct outstanding service problems.
- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.
- 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 “Upgrade checklists” on [page 979](#). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).
- Verify proper cable lengths 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, Meridian Mail, OTM, and so on).
- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.
- Secure the source software and key code.
- Secure the target software and key code.
- Verify the new key code using the DKA program.
- Print site data.

Identifying the proper procedure

Each procedure has been written in a “source- to-target” format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

Connect a terminal

Procedure 176

Connecting a terminal

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2 The settings for the terminal are:
 - a. 9600 baud
 - b. 8 data
 - c. parity none
 - d. 1 stop bit
 - e. full duplex
 - f. XOFF

- 3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

End of Procedure

Print site data

Print site data to preserve a record of the system configuration (see Table 62). 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 62
Print site data (Part 1 of 3)

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

Table 62
Print site data (Part 2 of 3)

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

Table 62
Print site data (Part 3 of 3)

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

Perform a template audit

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

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



CAUTION — Service Interruption

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	CHECKSUM
LOW	OK

TEMPLATE 0002 USER COUNT	CHECKSUM
HIGH	OK

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	CHECKSUM
	OK

-
-

**TEMPLATE 0120 USER COUNT OK CHECKSUM
OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

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

Procedure 177 Performing a data dump

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

LD 43 Load program

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

EDD Begin the data dump



CAUTION — Service Interruption

Loss of Data

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

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

******** Exit program

- 5 Remove and label the floppy disk.



IMPORTANT!

Preserve database backup information for a minimum of 5 days.

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.

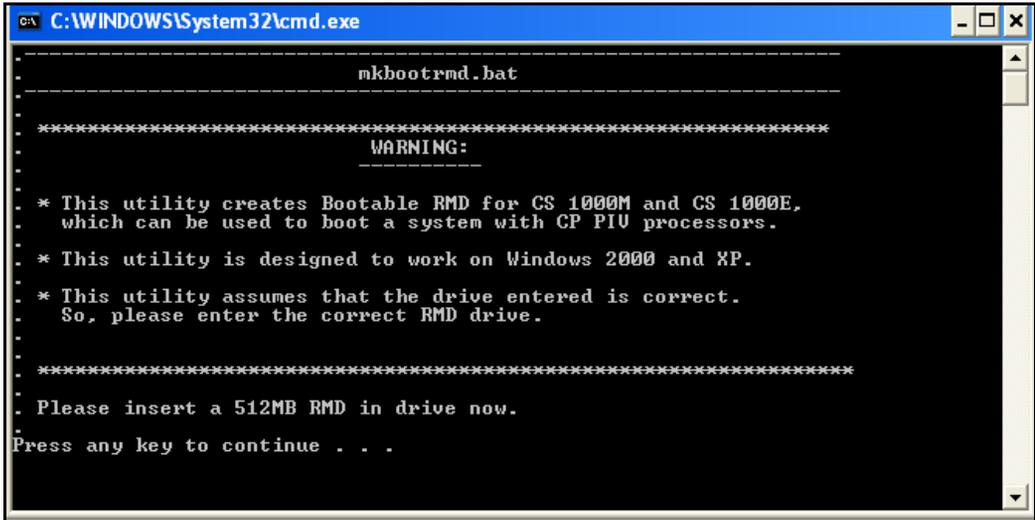
The installation RMD CF card must come pre-formatted and bootable from Nortel . Consumer CF cards are not bootable by default and must be made bootable as outlined in Procedure 206 on [page 719](#).

Procedure 178 Making the RMD bootable

- 1 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the utilities folder.

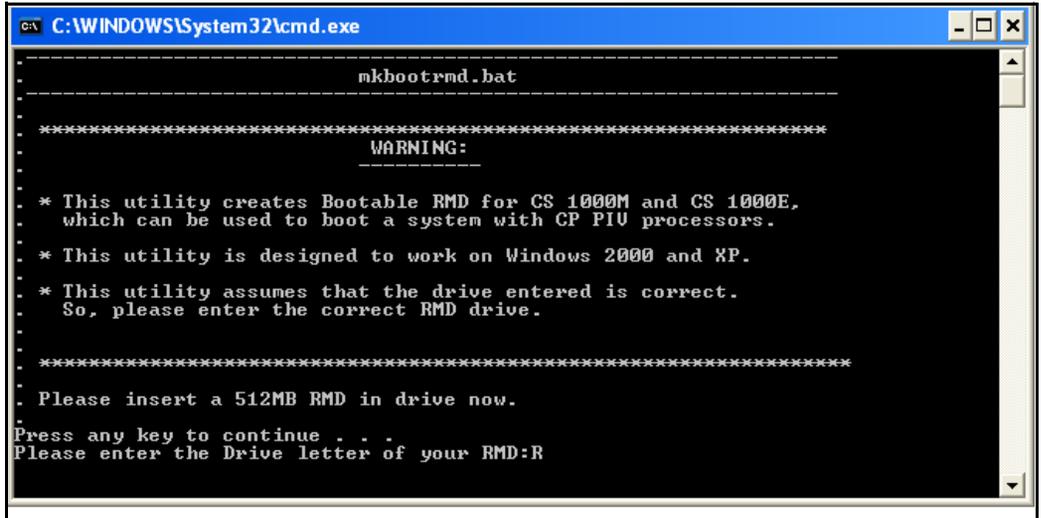
- 3 Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 90).

Figure 67
mkbootrmd.bat



- 4 Enter the correct drive letter of the RMD (see Figure 68).

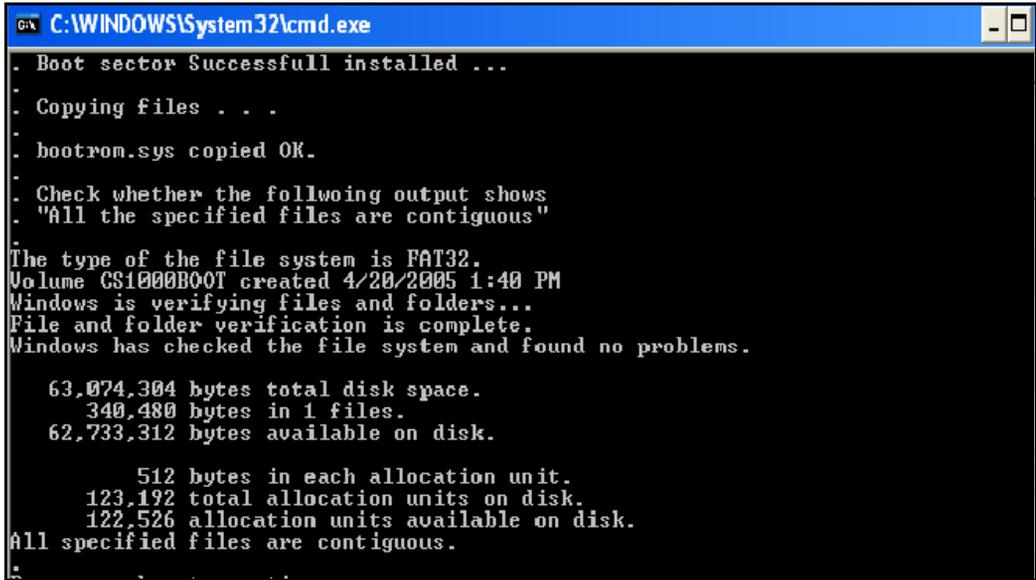
Figure 68
mkbootrmd.bat



```
CA 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 PIU 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 nvr.am.sys) are successfully copied making the CF card bootable (see Figure 69).

Figure 69
Boot sector successfully installed



```
C:\WINDOWS\System32\cmd.exe
. Boot sector Successfull installed ...
. Copying files . . .
. bootrom.sys copied OK.
. Check whether the follwoing output shows
. "All the specified files are contiguous"
.
The type of the file system is FAT32.
Volume CS10000000T 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 —————

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



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).

The floppy disk that contains the backed up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MByte floppy disk to CF card, which is restored during the CS 1000

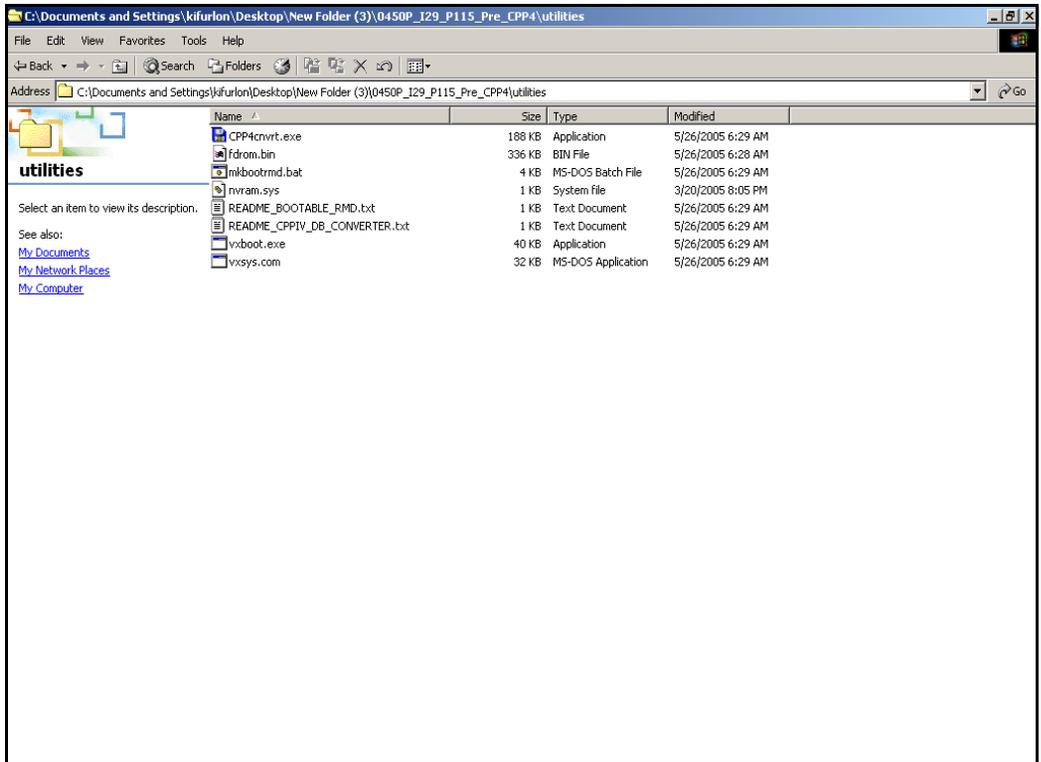
Release 4.5 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

Procedure 179 **Transferring the customer database from floppy disk to CF**

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).

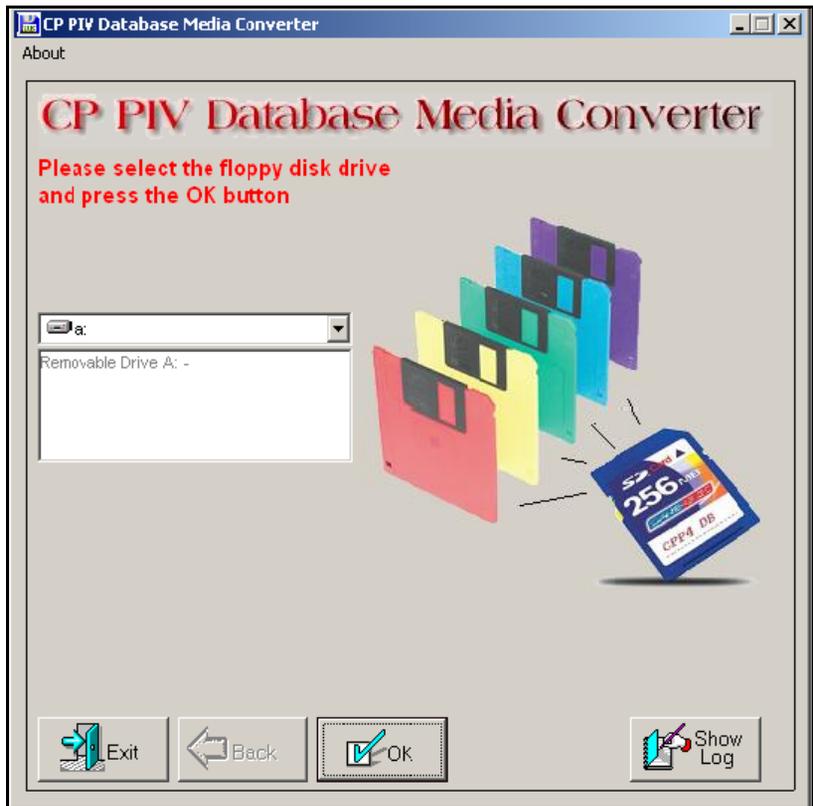
- 1 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the Utilities folder. See Figure 70.

Figure 70
Utilities folder



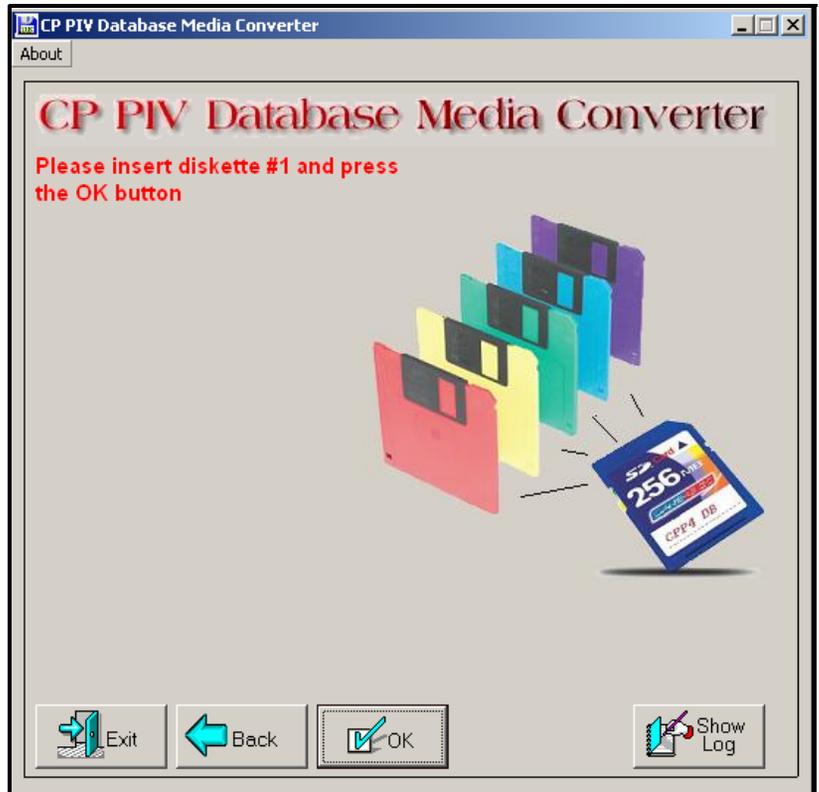
- 3 Insert the floppy disk containing the backed up customer database from Procedure 129 on [page 481](#).
- 4 Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
- 5 Start the Database Media Converter utility by double clicking the CPP4cnvrt.exe file. The first screen (Figure 71) prompts you to select the correct drive letter for the floppy disk drive.

Figure 71
Select the floppy disk drive



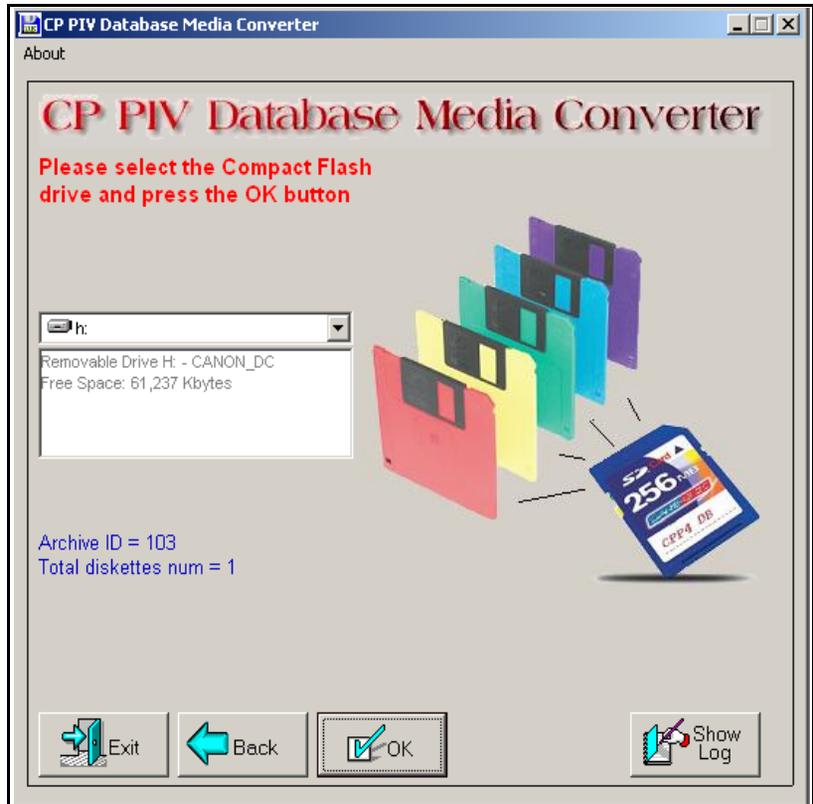
- 6 The utility then prompts you to insert the the floppy disk (diskette 1) and click OK (see Figure 45 on [page 490](#)).

Figure 72
Insert diskette 1



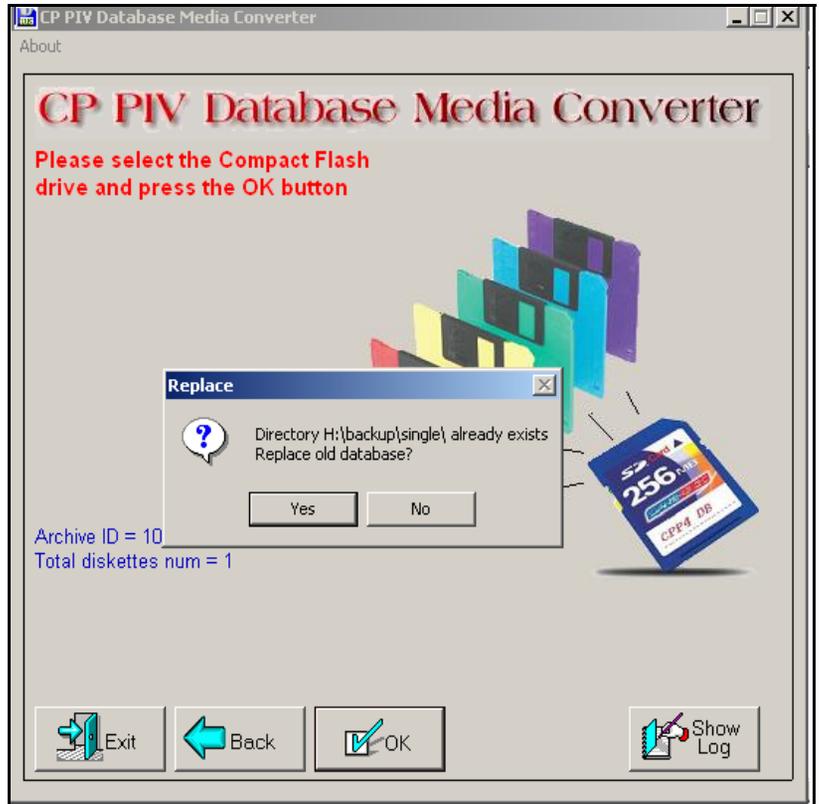
- 7 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 46 on [page 491](#)).

Figure 73
Select the CF drive



- 8** 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 47 on [page 492](#)). Click yes to replace old database.
 - b.** If the CF card is blank, the database is backed up to the CF card.

Figure 74
Replace database on CF drive



- 9 The utility completes the transfer to CF and prompts you to copy another or EXIT.

Figure 75
Copy another or exit



End of Procedure

Perform upgrade

Review upgrade requirements

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

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



WARNING

Service Interruption

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



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).

Check required software

Compact Flash Software Install Kit (CP PIV)

The Compact Flash Software Install Kit contains the following items:

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

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

	IMPORTANT!
<p>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 Downloads web site and installed as part of the upgrade process.</p>	

Check required hardware

Meridian 1 Option 61C CP PIV hardware is configured at the factory according to customer requirements. Table 63 lists the hardware required for the upgrade.

Table 63
Hardware requirements for Meridian 1 Option 61C CP PIV upgrade

Order number	Description	Quantity per system
NT4N39	Control Processor Pentium IV	2
N0026096	MMDU replacement faceplate	2

Figure 76 on [page 631](#) shows the CP PIV processor card side view. Figure 77 on [page 632](#) shows the CP PIV processor card front view.

Figure 76
CP PIV call processor card (side)

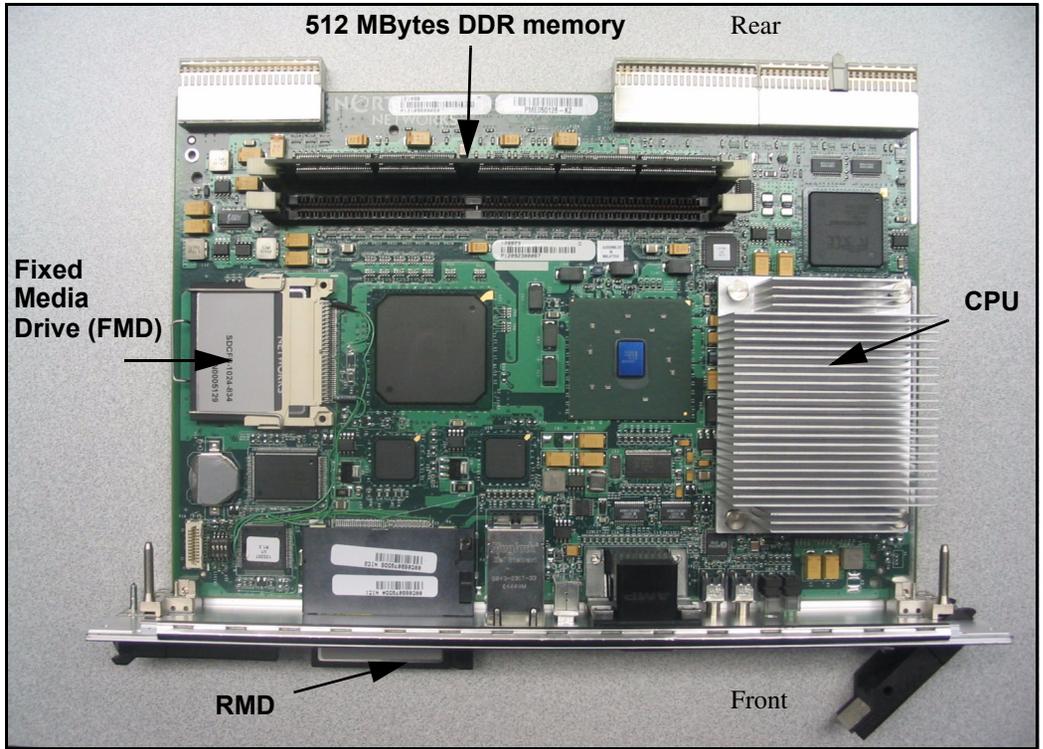


Figure 77
CP PIV call processor card (front)

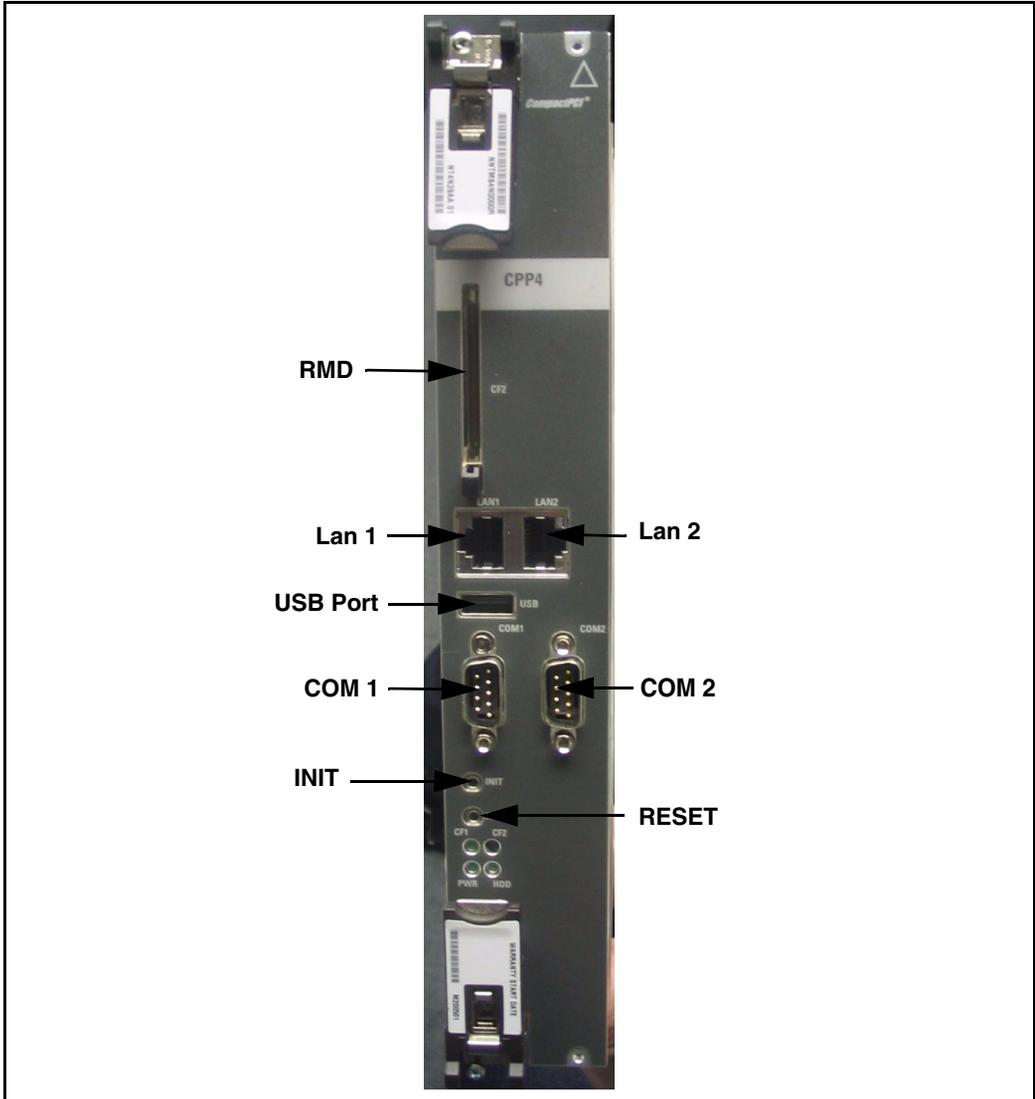
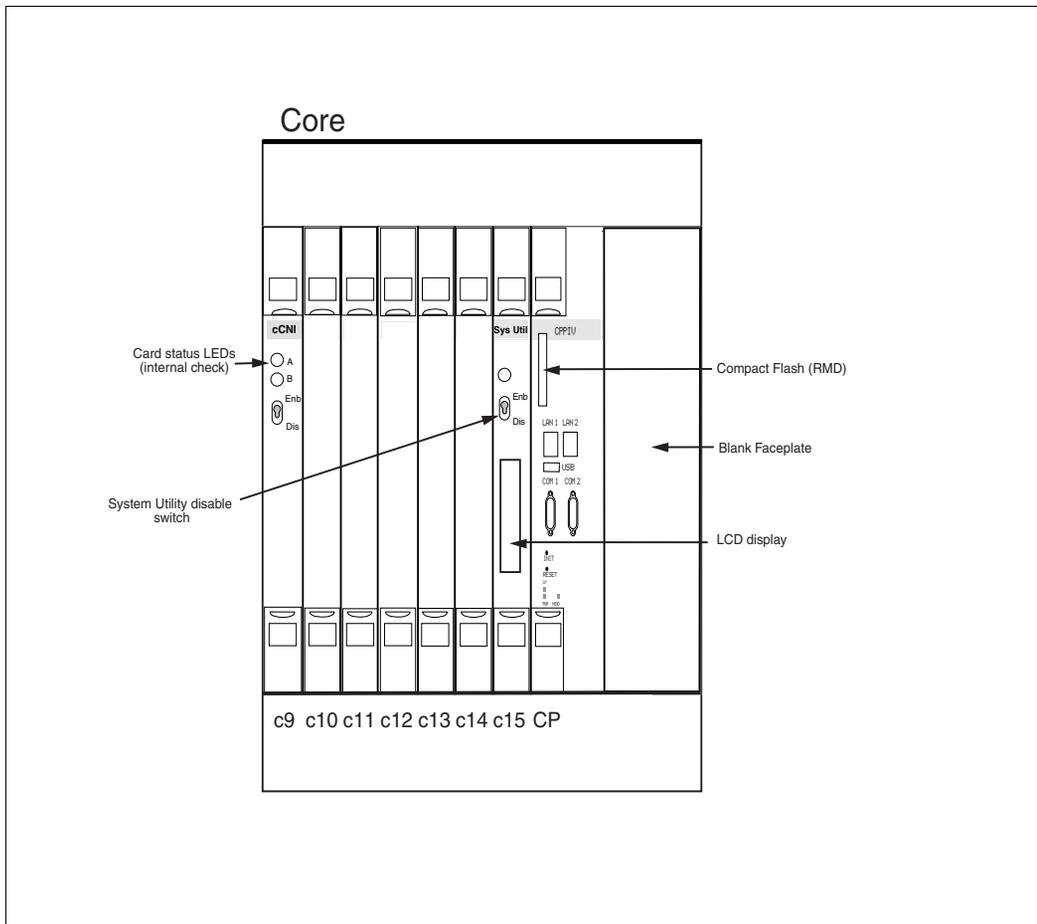


Figure 79
CP PIV Card location



Remove equipment from Core 1

Procedure 180

Checking that Core 0 is active

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

- 1 Verify that Core 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 Core 0 (if necessary)

******** Exit program

End of Procedure

Procedure 181

Checking that Clock Controller 0 is active

- 1 Check the status of the Clock Controllers:

LD 60 Load program

SSCK 0 Get the status of Clock Controller 0

SSCK 1 Get the status of Clock Controller 1

- 2 If Clock Controller 1 is active, switch to Clock Controller 0.

SWCK Switch to Clock Controller 0 (if necessary)

******** Exit program

End of Procedure

Procedure 182
Splitting the Cores

- 1 In Core/Net 0, enter the SPLIT command from LD 135.

LD 135 Load program

SPLIT Split the Cores

******** Exit program

- 2 Hardware disable all CNI cards in Core 1.



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

End of Procedure

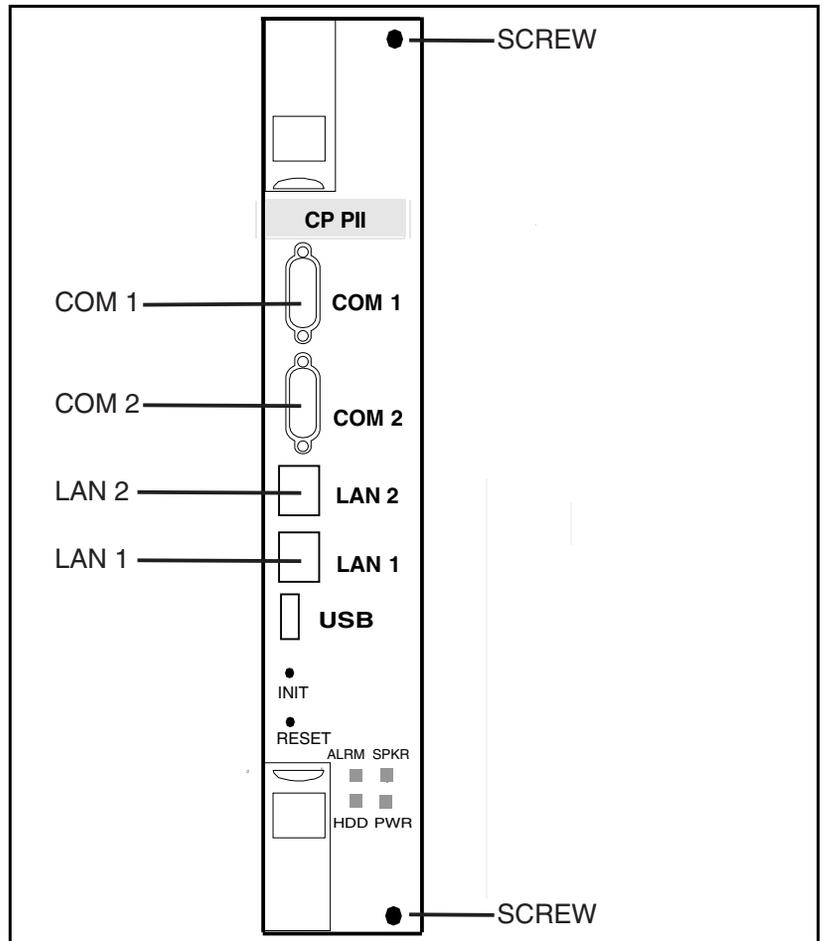
Remove Core 1 CP PII card and MMDU

Procedure 183

Removing the Core 1 CP PII processor and MMDU

- 1 Disconnect and label the LAN1 and LAN 2 cables from the Core 1 CP PII card faceplate. See Figure 80.

Figure 80
CP PII faceplate connections



- 2 Disconnect and label the COM 1 and COM 2 cables from the Core 1 CP PII card faceplate. See Figure 80 on [page 637](#).
- 3 Unscrew and unlatch the Core 1 CP PII card. See Figure 80 on [page 637](#).
- 4 Pull the Core 1 CP PII card from its slot.
- 5 Remove the rear access plate on the left side of the Core 1 module. See Figure 81.

Figure 81
NT4N46 Core/Net module



- 6 From the rear access point of the Core 1 shelf (add picture of the 40 shelf here), remove the MMDU power cable from the backplane.

- 7 From the rear access point of the Core 1 shelf (, remove the two IDE cables from the backplane. See Figure 81 on [page 638](#).
- 8 Unscrew the MMDU from the front of Core 1.
- 9 Slowly pull the MMDU from its slot. Ensure the IDE and power cables do not catch on other equipment as you remove the MMDU.
- 10 Retain the MMDU (and database backup) in a safe and secure location until the successful completion of this upgrade.

**IMPORTANT!**

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

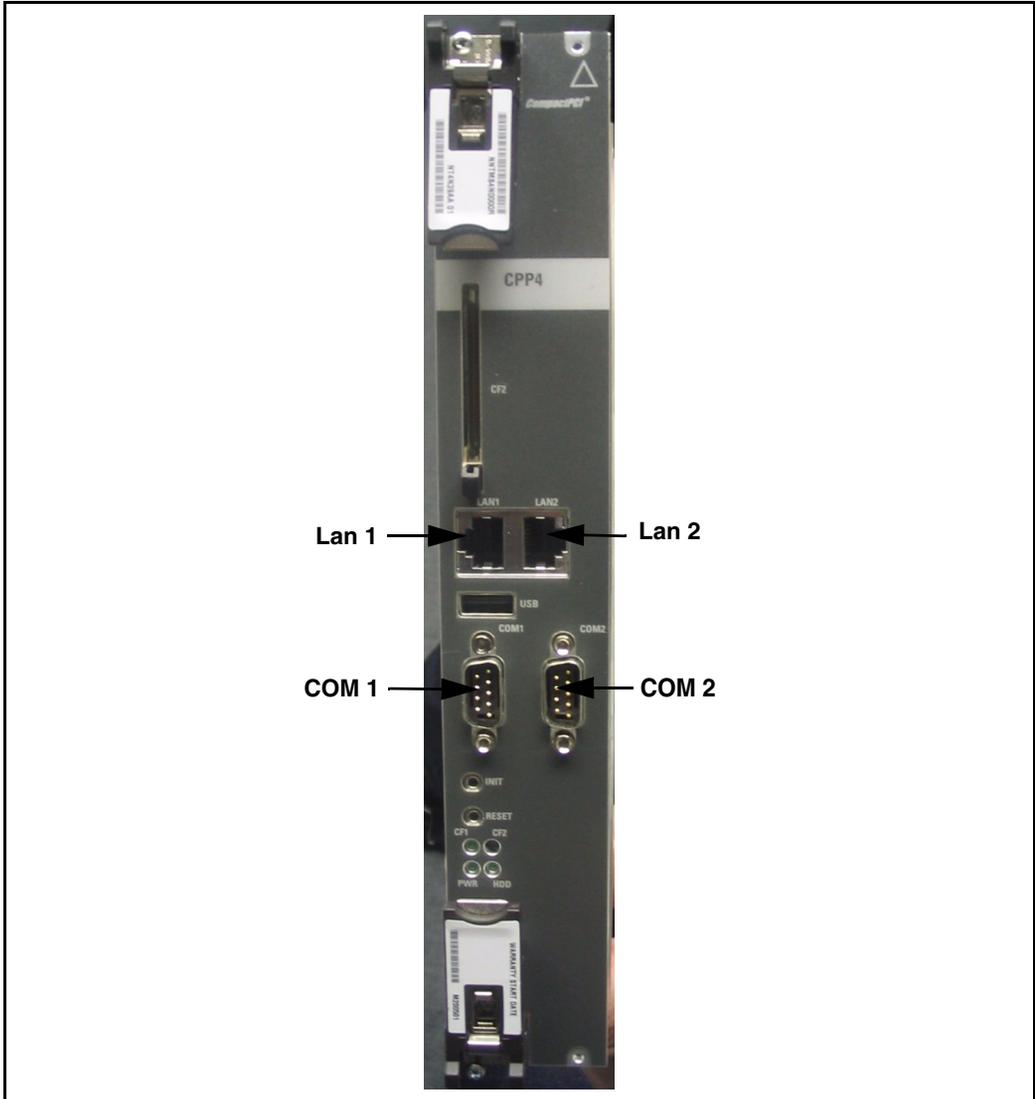
End of Procedure

Install Core 1 CP PIV card and blank faceplate

Procedure 184**Installing the Core 1 CP PIV processor and blank faceplate**

- 1 Attach the blank faceplate to the empty MMDU slot using the supplied screws.
- 2 Insert the CP PIV card into the empty CP slot in Core 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 82 on [page 640](#).

Figure 82
CP PIV faceplate connections



- 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 Cores are upgraded.

————— **End of Procedure** —————

CS 1000 Release 4.5 upgrade

Upgrading the software

Procedure 185 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

Procedure 185

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  
  
=====
```

<pre>You selected to quit. Please confirm. Please enter: <CR> -> <y> - Yes, quit. <n> - No, DON'T quit. Enter choice></pre>

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 displays the Install Menu. Select option "".

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

I N S T A L L M E N U

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

 Please enter:

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

 For Feature Expansion, use OVL143.

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

Enter Choice>

- 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 XXXXX	
Option	Choice	Status	Comment	
Dependency Lists	yes			
Option	Choice	Status	Comment	
IPMG Software	yes		install for rel XXXXX	
Option	Choice	Status	Comment	
DATABASE	yes			
Option	Choice	Status	Comment	
CP-BOOTROM	yes			

- 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 install Software release: XXXX on
the new system.
This will create all necessary directories and
pre-allocate files on the hard disk.
You may continue with software install or quit
now and leave your software unchanged.
Please enter:
           <CR> -> <a> - Continue with new system
install.
           <q> - Quit.
           Enter choice>
```

- 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>
    
```

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>

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

At this point the system reloads and initializes.

End of Procedure

Verify the upgraded database

Procedure 186

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

Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 614](#). If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

Access LD 22 and print Target peripheral software version.

LD 22	Load program
REQ	PRT
TYPE	PSWV
ISSP	Print System, DepList, and Patch information
SLT	Print System Limits
TID	Print the Tape ID
****	Exit program

Reconfigure I/O ports and call registers

Procedure 187

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 1000 and 20000 (respectively)). If changes are required, reconfigure the values in LD 17:

LD 17 Load program

CHG

CFN

PARM YES

500B 1000 Use 1000 as a minimum value

NCR 20000 Use 20000 as a minimum value

******** Exit program

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

LD 22 Load program

REQ PRT Set the print Option

TYPE CFN Print the configuration

******** Exit program

End of Procedure



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

Switch call processing to Core/Net 1



CAUTION — Service Interruption

Service Interruption

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

Procedure 188

Switching call processing

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

LD 135

CUTOVR Transfer call processing from active Core/Net to standby Core/Net

**** Exit program

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

End of Procedure

Test Core/Net 1

Procedure 189

Testing Core/Net 1

- 1 Check dial-tone.
- 2 Stat D-channels:

LD 96

STAT DCH Stat all D-channels

**** Exit program

3 Stat all T1 interfaces:

LD 60

STAT Stat all DTI and PRI

******** Exit program

4 Stat network cards:

LD 32

STAT x x = loop number

******** Exit program

5 Print status of all controllers:

LD 97

REQ PRT

TYPE XPE (returns status of all controller cards)

******** Exit program

6 Make internal, external and network calls.

7 Check attendant console activity.

8 Check DID trunks.

9 Check applications (CallPilot, Symposium, Meridian Mail, and so on).



Call processing should be active on Core/Net 1.

End of Procedure

Remove equipment from Core 0

Procedure 190

Checking that Core 1 is active

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

- 1 Verify that Core 0 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 Core 1 (if necessary)

******** Exit program

End of Procedure

Procedure 191

Checking that Clock Controller 1 is active

- 1 Check the status of the Clock Controllers:

LD 60 Load program

SSCK 0 Get the status of Clock Controller 0

SSCK 1 Get the status of Clock Controller 1

- 2 If Clock Controller 0 is active, switch to Clock Controller 1.

SWCK Switch to Clock Controller 1 (if necessary)

******** Exit program

End of Procedure

Procedure 192
Hardware disable CNI cards

- 1 Hardware disable all CNI cards in Core 0.

————— **End of Procedure** —————

Remove Core 0 CP PII card and MMDU

Procedure 193
Removing the Core 0 CP PII processor and MMDU

- 1 Disconnect and label the LAN1 and LAN 2 cables from the Core 0 CP PII card faceplate. See Figure 83.
- 2 Disconnect and label the COM 1 and COM 2 cables from the Core 0 CP PII card faceplate. See Figure 83 on [page 667](#).
- 3 Unscrew and unlatch the Core 0 CP PII card. See Figure 83 on [page 667](#).
- 4 Pull the Core 0 CP PII card from its slot.
- 5 Remove the rear access plate on the left side of the Core 0 module. See Figure 84.

Figure 83
CP PII faceplate connections

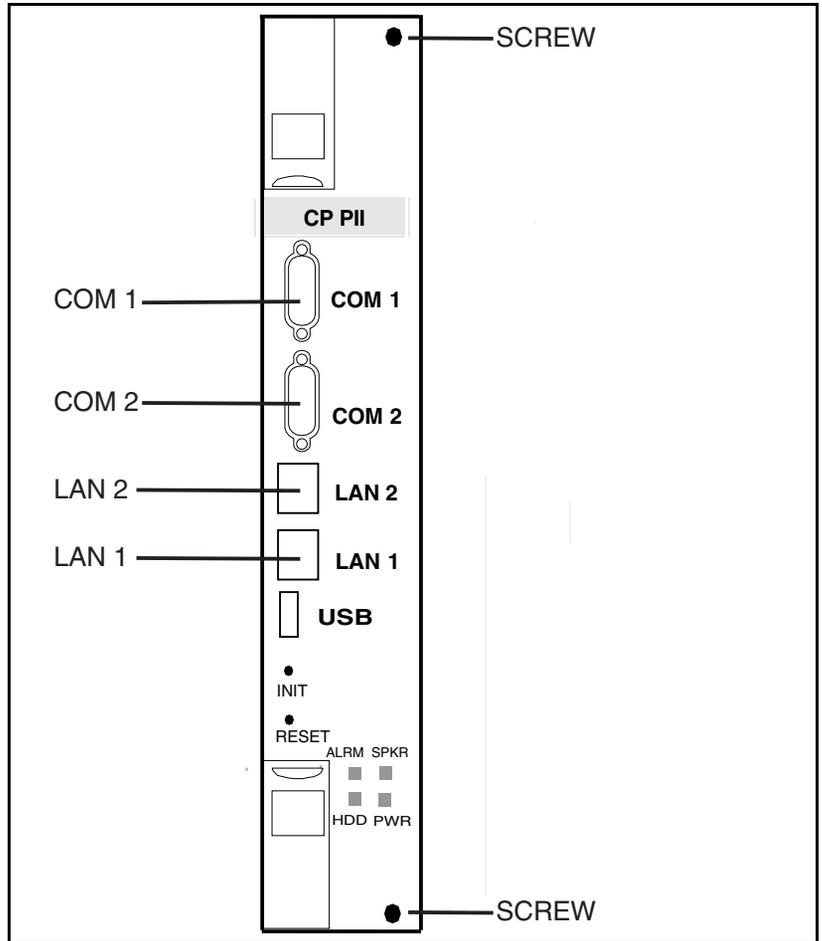


Figure 84
NT4N46 Core/Net module



- 6** From the rear access point of the Core 0 shelf, remove the MMDU power cable from the backplane.
- 7** From the rear access point of the Core 0 shelf, remove the two IDE cables from the backplane.
- 8** Unscrew the MMDU from the front of Core 0. See Figure 84 on [page 668](#).
- 9** Slowly pull the MMDU from its slot. Ensure the IDE and power cables do not catch on other equipment as you remove the MMDU.

- 10 Retain the MMDU (and database backup) in a safe and secure location until the successful completion of this upgrade.



IMPORTANT!

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

End of Procedure

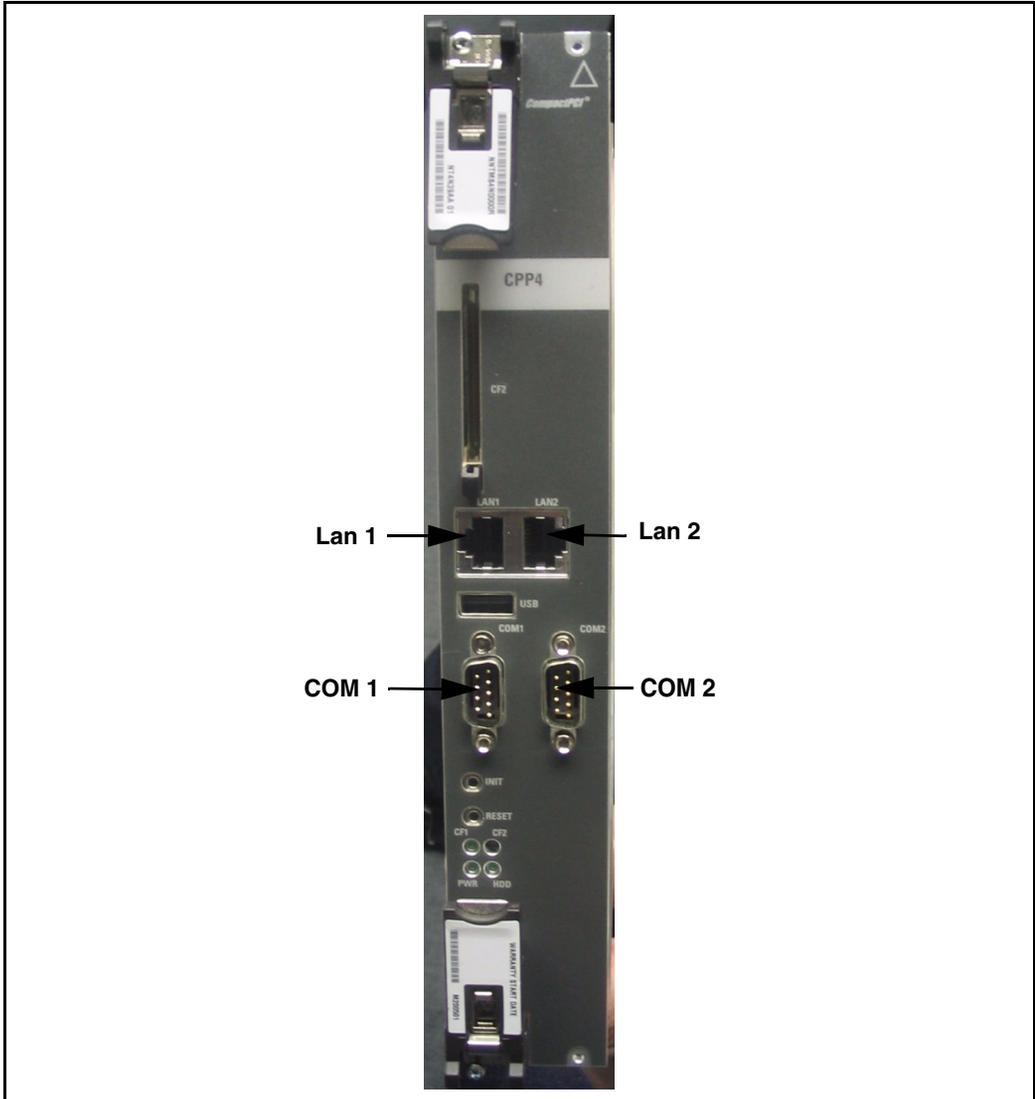
Install Core 0 CP PIV card and blank faceplate

Procedure 194

Installing the Core 0 CP PIV processor and blank faceplate

- 1 Attach the blank faceplate to the empty MMDU slot using the supplied screws.
- 2 Insert the CP PIV card into the empty CP slot in Core 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 85 on [page 670](#).

Figure 85
CP PIV faceplate connections



- 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 Cores are upgraded.

End of Procedure

CS 1000 Release 4.5 upgrade

Upgrading the software

Procedure 195 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

Procedure 195

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 displays the Install Menu. Select option "".

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

I N S T A L L M E N U

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

 Please enter:

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

 For Feature Expansion, use OVL143.

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

Enter Choice> ****

- 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 XXXXX	
Option	Choice	Status	Comment	
Dependency Lists	yes			
Option	Choice	Status	Comment	
IPMG Software	yes		install for rel XXXXX	
Option	Choice	Status	Comment	
DATABASE	yes			
Option	Choice	Status	Comment	
CP-BOOTROM	yes			

- 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 install Software release: XXXX on
the new system.
This will create all necessary directories and
pre-allocate files on the hard disk.
You may continue with software install or quit
now and leave your software unchanged.
Please enter:
           <CR> -> <a> - Continue with new system
install.
           <q> - Quit.
           Enter choice>
```

- 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>
    
```

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>

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

At this point the system reloads and initializes.

End of Procedure

Verify the upgraded database

Procedure 196

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



Core 1 is now active, clock 1 is active, FIJI 1 is active (if equipped), CNI is disabled in Core 0.

End of Procedure

Making the system redundant

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

Procedure 197

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 Cores must be identical in order to successfully switch service from Core 1 to Core 0 CPUs.

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
    sut1 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
    
```



The system will now operate in full redundant mode with Core/Net 1 active.

End of Procedure

Complete the CP PIV upgrade

LD 137

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

- STAT FMD
display text: **Status of Fixed Media Device (FMD)**
command parameter: none
- STAT RMD
display text: **Status of Removable Media Device (RMD)**
command parameter: none

Testing the Cores

Procedure 198

Testing Core/Net 1

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

From active Core/Net 1, perform the following tests on Core/Net 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 and the cCNI cards:

LD 135 Load program

STAT SUTL Get the status of the System Utility card

TEST SUTL Test the System Utility card

STAT CNI c s Get status of cCNI cards (core, slot)

TEST CNI c s Test cCNI (core, slot)

- 4 Test system redundancy and media devices:
- LD 137** Load program
 - TEST RDUN** Test redundancy
 - DATA RDUN** Test database integrity
 - STAT FMD** Status of Fixed Media Device (FMD)
 - STAT RMD** Status of Removable Media Device (RMD)
- 5 Test that the system monitors are working:
- LD 37** Load program
 - ENL TTY x** x= system XMS
 - STAT XSM** Check the system monitors
 - ****** Exit program
- 6 Clear the display and minor alarms on both Cores:
- LD 135** Load program
 - CDSP** Clear the displays on the cores
 - CMAJ** Clear major alarms
 - CMIN ALL** Clear minor alarms

7 Test the clocks:

- a. Verify that the clock controller is assigned to the *active* Core.

LD 60 Load program

SSCK *x* To get the status of the clock controllers
(*x* is "0" or "1" for Clock 0 or Clock 1)

SWCK To switch the Clock (if necessary)

******** Exit program

- b. Verify that the Clock Controllers are switching correctly.

SWCK Switch the Clock

Note: You must wait a minimum of one minute for clocks to synchronize.

SWCK Switch the Clock again

8 Check dial tone.

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

End of Procedure

Switch call processing

Procedure 199

Switching call processing

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

LD 135

CUTOVR Transfer call processing from active Core/Net to standby Core/Net

**** Exit program

- 2 After Core/Net 0 initializes. log in to Core/Net 0 and verify that the cutover was successful and that all hardware is operational. Perform acceptance testing as required.



Core/Net 0 is now the active call processor.

End of Procedure

Procedure 200
Testing Core/Net 0

From active Core/Net 0, perform these tests on Core/Net 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 Test the System Utility card and the cCNI cards:

LD 135 Load program

STAT SUTL Get the status of the System Utility card

TEST SUTL Test the System Utility card

STAT CNI c s Get status of cCNI cards (core, slot)

TEST CNI c s Test cCNI (core, slot)

3 Test system redundancy and media devices:

LD 137 Load program

TEST RDUN Test redundancy

DATA RDUN Test database integrity

STAT FMD Status of Fixed Media Device (FMD)

STAT RMD Status of Removable Media Device (RMD)

******** Exit the program

4 Test that the system monitors are working:

LD 37 Load program

STAT XSM Check the system monitors

******** Exit the program

5 Clear the display and minor alarms on both Cores:

LD 135 Load program

CDSP Clear the displays on the cores

CMAJ Clear major alarms

CMIN ALL Clear minor alarms

6 Test the clocks:

a. Verify that the clock controller is assigned to the *active* Core.

LD 60 Load 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

b. Verify that the Clock Controllers are switching correctly.

SWCK Switch the Clock

Note: You must wait a minimum of one minute for clocks to synchronize.

SWCK Switch the Clock again

7 Check dial tone.

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

End of Procedure

Switch call processing

Procedure 201

Switching call processing

- 1 Enter LD 135 on Core/Net 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.



Core/Net 1 is now the active call processor.

End of Procedure

Perform a customer backup data dump (upgraded release)

Procedure 202

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.



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.

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

******** Exit program

The Meridian 1 Option 61C CP PII upgrade to Meridian 1 Option 61C CP PIV is complete.

Meridian 1 Option 61C upgrade to Option 81C CP PIV/FNF

The source platform for this procedure is the Meridian Option 61C CP1, CP2, CP3, CP4 with NT5D21 or NT9D11 shelves.



DANGER OF ELECTRIC SHOCK

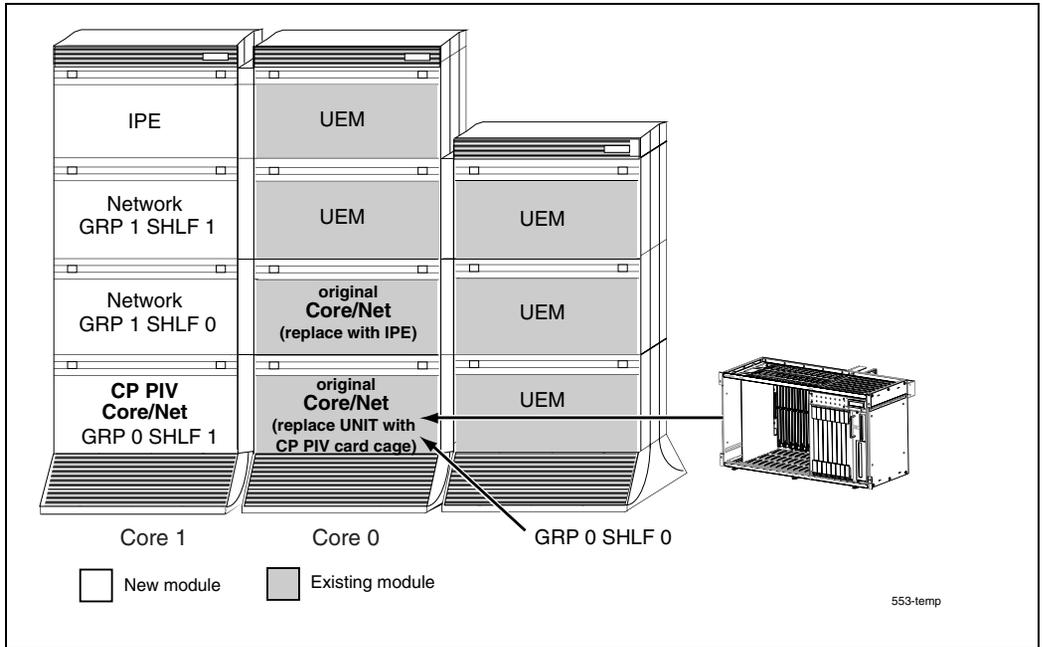
In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

The target upgrade, Meridian 1 Option 81C CP PIV with FNF, must meet the requirements of Product Bulletins P2002-1658-NA, PAA-2003-0199-NA, and 2000-047 rev 1. These bulletins provide information on:

- NTRB53 Clock Controller requirement
- NT5D12AC, AD, and AG (1.54MB) support
- NT5D97AB, AD (2.0MB) support.

Figure 86 on page 705 shows an upgrade from a Meridian 1 Option 61C to Meridian 1 Option 81C with CP PIV and Fiber Network Fabric.

Figure 86
Meridian 1 Option 61C to Meridian 1 Option 81C CP PIV with FNF



Meridian 1 Option 61C can be upgraded to Meridian 1 Option 81C with both CP PIV and Fiber Network Fabric. Upgrades from Meridian 1 Options 61/61C to Fiber Network Fabric alone are not supported.

The procedures in this section upgrade a Meridian 1 Option 61C to a two group Meridian 1 PBX 81C CP PIV with Fiber Network Fabric. Additional groups can be added by following the procedures “Adding a Network Group (NT4N46)” and “Adding a Network Group (NT4N40) in this NTP.

To upgrade a Meridian 1 Option 61C system to a Meridian 1 Option 81C CP PIV with Fiber Network Fabric:

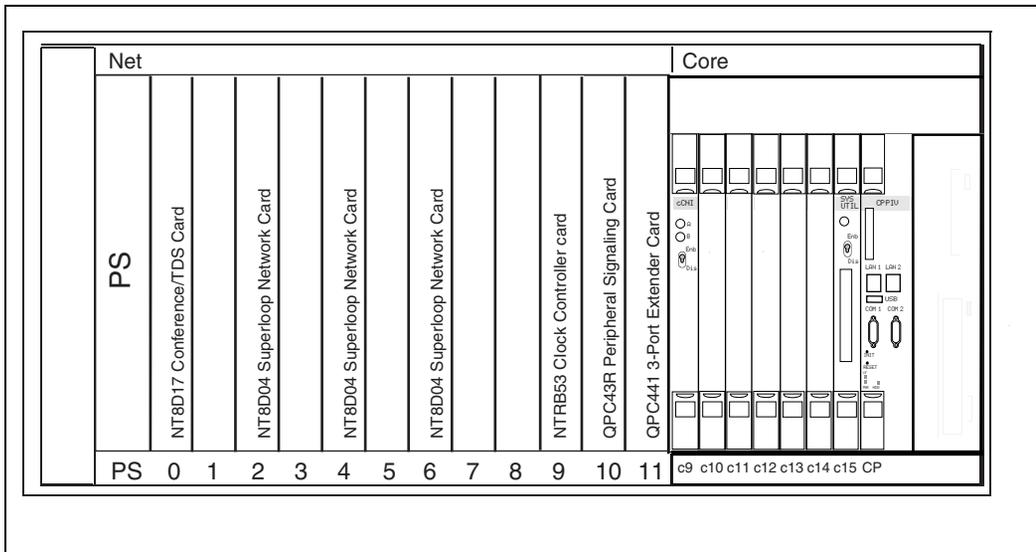
- One card cage in the existing Core/Net module is replaced with an NT4N40 CP card cage. The NT4N41 Core/Net module is also required.

- The CP Core/Net modules are side-by-side directly on top of the pedestals. This ensures power and cooling redundancy as well as proper cooling from the pedestal fans.
- New CP PIV cards are located in the Core/Net modules or card cage.
- Existing network cards are relocated to the CP card cages.
- Two new Group 1 Network modules are installed on top of the new CP Core/Net 1 module. This provides the new system with a minimum of two full Network groups.
- The existing Clock Controllers are moved from the Core/Net to the Network shelves.

Note: Clock Controller cards must be NTRB53.

- Cards for Fiber Network Fabric are added: NTRB33 Fiber Junctor Interface (FJI) card and the NTRE39 Optical Cable Management Card (OCMC).
- An IPE module can be installed on top of CP Core/Net 0 module.

Figure 87
CP Core/Net Module



Prepare for upgrade

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

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

Each 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 64.

Table 64
Prepare for upgrade steps

Procedure Step	Page
Plan upgrade	708
Upgrade Checklists	708
Prepare	708
Identifying the proper procedure	709
Connect a terminal	710
Check the Core ID switches	711
Print site data	713
Perform a template audit	716
Back up the database (data dump)	718
Transferring the database from floppy disk to CF (customer database media converter tool)	722
Identify two unique IP addresses	729
Check requirements for cCNI to 3PE cables (NTND14)	729

Plan upgrade

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.
- Ensure sufficient power for new columns/modules or applications.
- 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.
- Determine if software can be converted on site or must be sent to Nortel.
- 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 “Upgrade checklists” on [page 979](#). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Determine the current patch or Dep lists installed at the source platform.
- Determine the required patch or Dep lists at the target platform.
- 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.

Identifying the proper procedure

Each procedure has been written in a “source- to-target” format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.



IMPORTANT!

Preserve database backup information for a minimum of 5 days.

Connect a terminal

Procedure 203 Connecting a terminal

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2 The settings for the terminal are:
 - a. 9600 baud
 - b. 8 data
 - c. parity none
 - d. 1 stop bit
 - e. full duplex
 - f. XOFF
- 3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

End of Procedure

Check the Core ID switches

Procedure 204 Checking the Core ID switches

Each CP NT4N40 Core/Net card cage or module is identified as “Core 0” or “Core 1”. This setting is made by a set of option switches on the System Utility card. The Core ID switches are set in the factory. Confirm that these settings match the identification labels for the module into which they will be installed.



CAUTION — Service Interruption

The CP Core/Net card cages **MUST** be installed in the correct Core 0 or Core 1 module.

- 1 Pull the System Utility card (NT4N48) far enough out of its slot so you can see the ID switch settings. See Figure 89 on [page 713](#).
- 2 Check and confirm the switch settings according to Table 65.
- 3 Reinstall the System Utility card.
 - a. Gently slide the card into the slot until it makes contact with the backplane. Never force a card into the slot.
 - b. Push in the top and bottom latches on the card to lock it in place.

————— **End of Procedure** —————

Table 65
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

Figure 88
Core card placement in the NT4N40 Core/Net card cage (front)

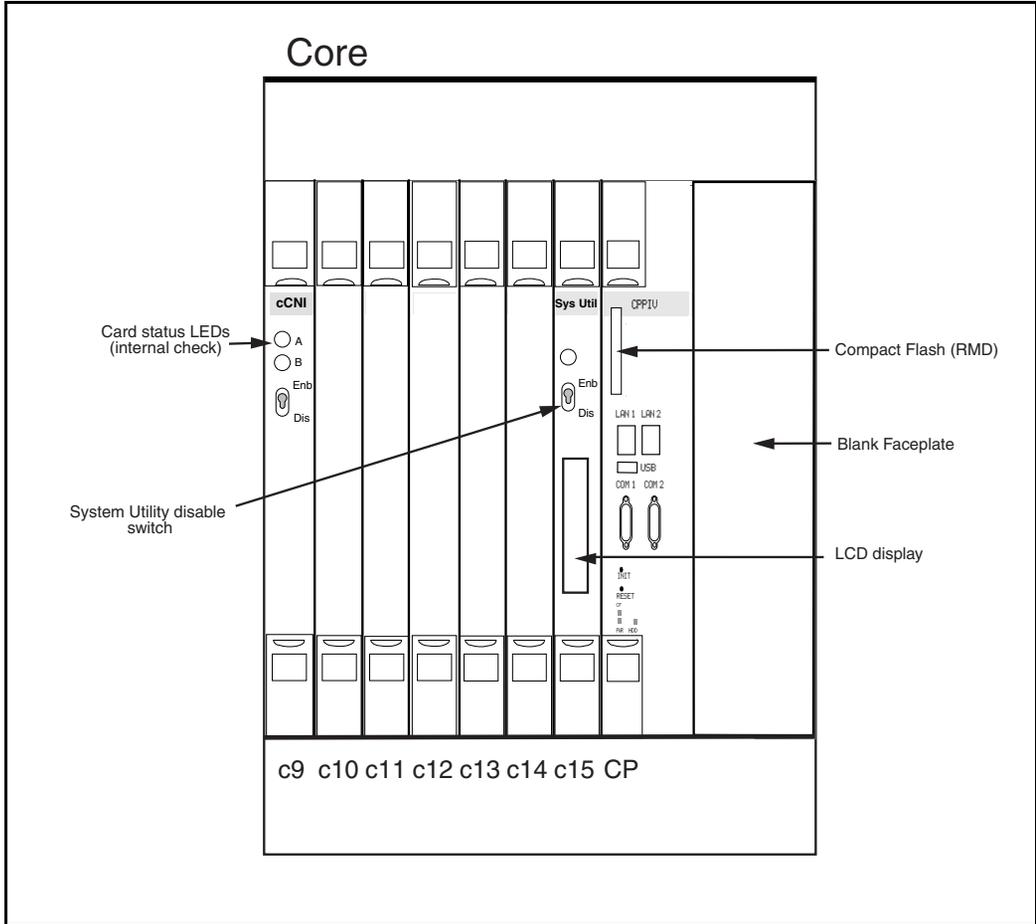
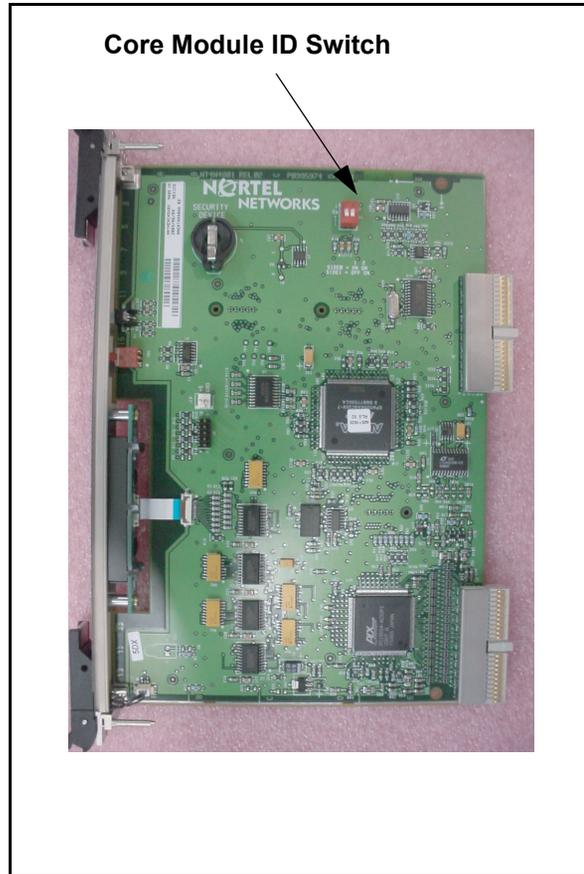


Figure 89
Core Module ID switch



Print site data

Print site data to preserve a record of the system configuration (see Table 66). 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 66
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 66
Print site data (Part 2 of 3)

Site data	Print command	
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	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 66
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 CHG TYPE SUPL SUPL Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop. xxx = 0-252 in multiples of four for MG 1000E xxx = 96-112 in multiples of four for MG 1000T (See Table 29)
Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

Perform a template audit

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

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



CAUTION — Service Interruption

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	CHECKSUM
LOW	OK

TEMPLATE 0002 USER COUNT	CHECKSUM
HIGH	OK

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	CHECKSUM
	OK

-
-

TEMPLATE 0120 USER COUNT OK	CHECKSUM
	OK

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

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

Procedure 205 Performing a data dump

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

LD 43 Load program

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

EDD Begin the data dump



CAUTION — Service Interruption

Loss of Data

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

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

**** Exit program

- 5 Remove and label the floppy disk.



IMPORTANT!

Preserve database backup information for a minimum of 5 days.

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.

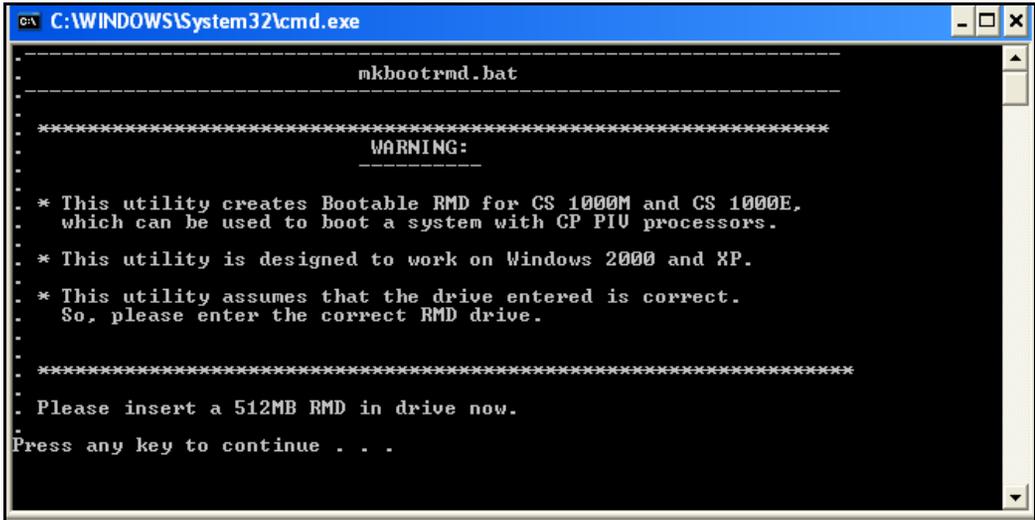
The installation RMD CF card must come pre-formatted and bootable from Nortel . Consumer CF cards are not bootable by default and must be made bootable as outlined in Procedure 206 on [page 719](#).

Procedure 206 **Making the RMD bootable**

- 1 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the utilities folder.

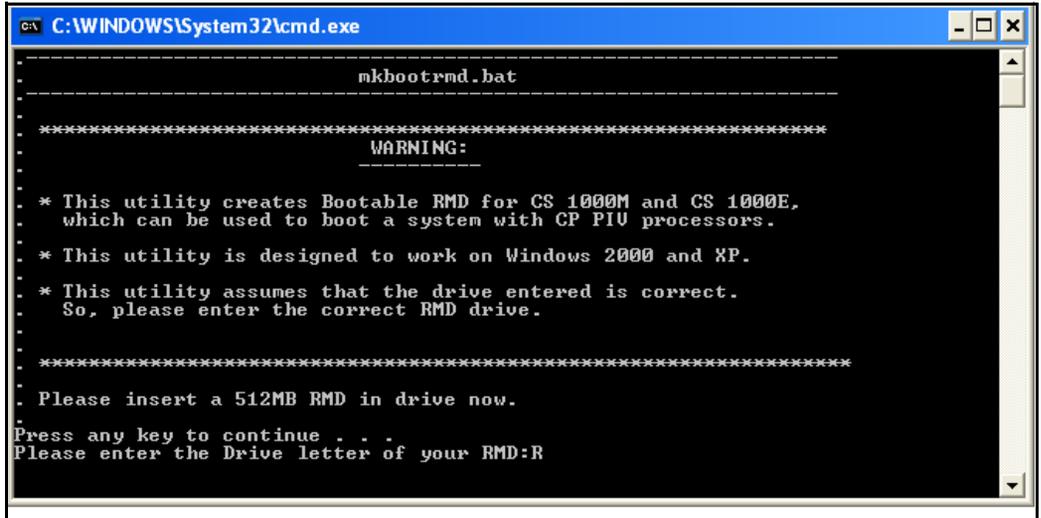
- 3 Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 90).

Figure 90
mkbootrmd.bat



- 4 Enter the correct drive letter of the RMD (see Figure 91).

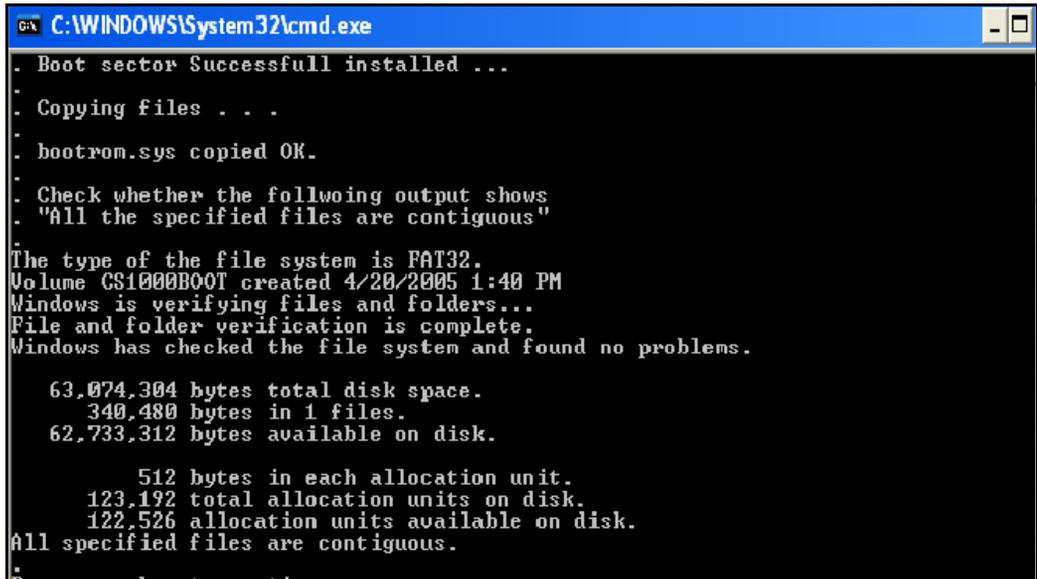
Figure 91
mkbootrmd.bat



```
CA 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 PIU 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 nvr.am.sys) are successfully copied making the CF card bootable (see Figure 92).

Figure 92
Boot sector successfully installed



```
C:\WINDOWS\System32\cmd.exe
. Boot sector Successfull installed ...
. Copying files . . .
. bootrom.sys copied OK.
. Check whether the follwoing output shows
. "All the specified files are contiguous"
.
The type of the file system is FAT32.
Volume CS10000000T 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 —————

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



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).

The floppy disk that contains the backed up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MByte floppy disk to CF card, which is restored during the CS 1000

Release 4.5 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

Procedure 207**Transferring the customer database from floppy disk to CF**

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).

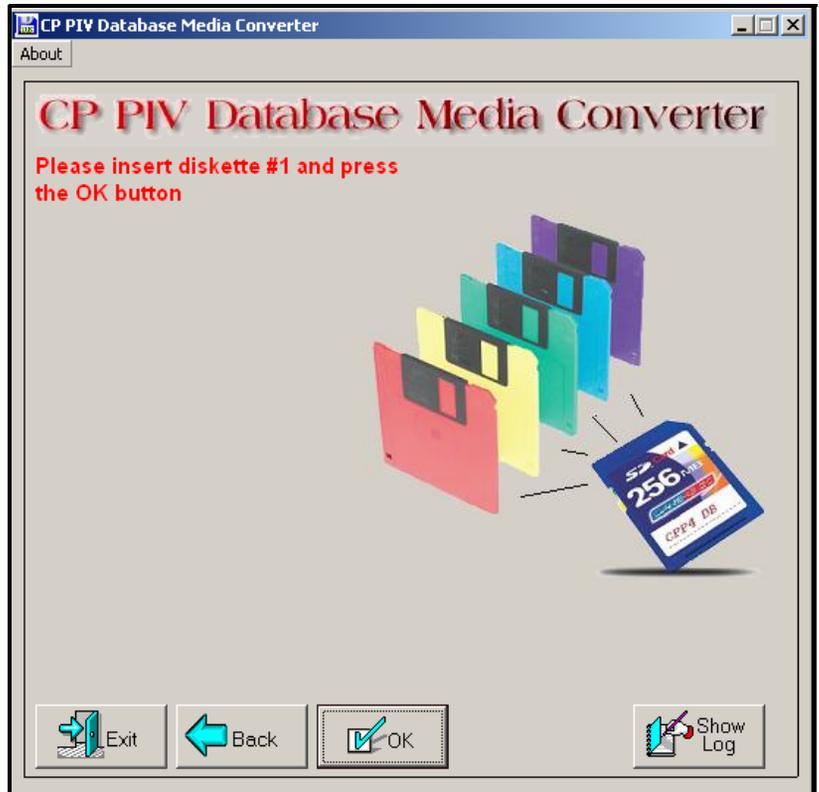
- 1 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the Utilities folder.
- 3 Insert the floppy disk containing the backed up customer database from Procedure 129 on [page 481](#).
- 4 Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
- 5 Start the Database Media Converter utility by double clicking the CPP4cnvrt.exe file. The first screen (Figure 93) prompts you to select the correct drive letter for the floppy disk drive.

Figure 93
Select the floppy disk drive



- 6 The utility then prompts you to insert the the floppy disk (diskette 1) and click OK (see Figure 94 on [page 725](#)).

Figure 94
Insert diskette 1



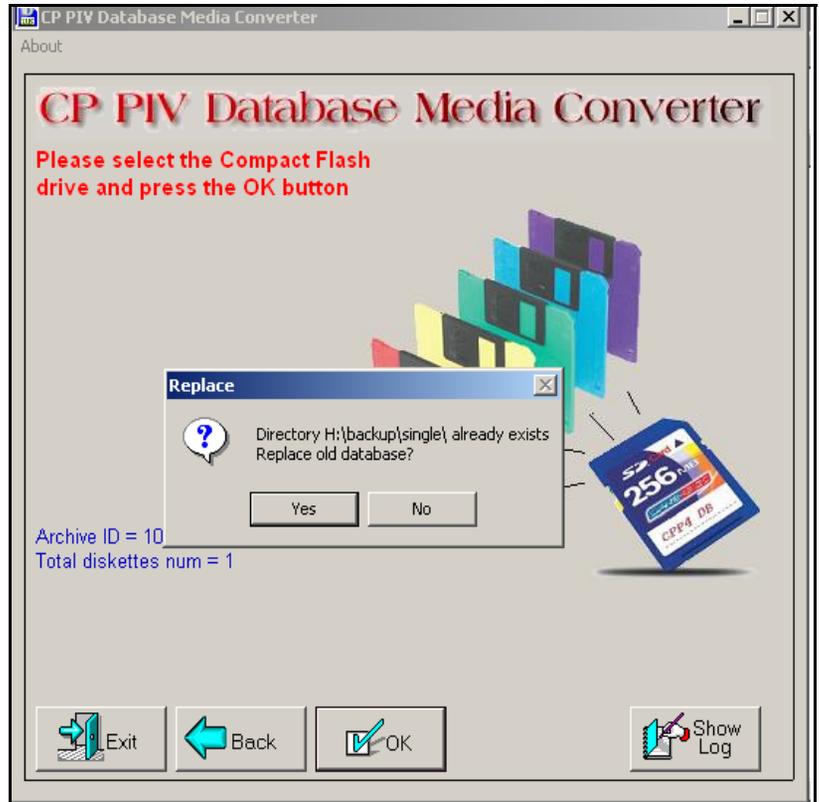
- 7 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 95 on [page 726](#)).

Figure 95
Select the CF drive



- 8** 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 96 on [page 727](#)). Click yes to replace old database.
 - b.** If the CF card is blank, the database is backed up to the CF card.

Figure 96
Replace database on CF drive



- 9 The utility completes the transfer to CF and prompts you to copy another or EXIT.

Figure 97
Copy another or exit



End of Procedure

Identify two unique IP addresses

If not previously configured, each CP PIV system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your System Administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see “Configuring IP addresses” on [page 792](#).

Check requirements for cCNI to 3PE cables (NTND14)

Existing NTND14 CNI to 3PE cables on Meridian 1 81 and 81C platforms using NT5D21 and/or NTND60 shelves can be reused if they meet the following conditions:



IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

Note: The NTND14 BX 50' cables are manufacture discontinued.

Perform upgrade

Review upgrade requirements

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

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



WARNING

Service Interruption

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



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).

Check required software

The following software packages are required to upgrade a system to Meridian 1 Option 81C with CP PIV:

- CORENET Core Network Module Package 299
- CPP_CNI CP Pentium Backplane for Intel Machine Package 368
- FIBN Fiber Network Package 365

- Compact Flash Software Install Kit, containing the following items:
 - One CF (512 MByte) card containing:
 - Install Software files
 - CS 1000 Release 4.5 software
 - Dep. Lists (PEPs)
 - Key code File
 - One blank CF card for database backup
 - One Nortel CS 1000 Release 4.5 Documentation CD

**IMPORTANT!**

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

Check vintage requirements for existing hardware

Check the list below to make sure that existing hardware meets the minimum vintage requirements for CP PIV.

If any of the equipment listed does not meet the requirements, replace the equipment before you begin the upgrade.

**CAUTION — Service Interruption****Service Interruption**

Equipment that does not meet the minimum vintage requirements will cause system malfunctions and loss of call processing.

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.

- The NTRB53 Clock Controller cards must be minimum vintage A.
- If the Clock Controllers are moved in Meridian 1 Option 61/61C systems, the new Clock Controller reference cables must be the correct length. Order new NT8D79 or NTCG03 PRI/DTI to Clock Controller cables if necessary.

Note: QPC720 PRI cards require NT8D79 cables. NT5D12 Dual PRI/DTI cards require NTCG03 cables.

- The QPC43 Peripheral Signaling cards must be minimum vintage R.

Check required hardware

Table 67 on [page 733](#) describes the *minimum* equipment required to upgrade a system to CP PIV. Additional equipment for increased Network capacity is ordered separately.

Table 67
Minimum requirements for Meridian 1 PBX 81C CP PIV system with FNF (Part 1 of 2)

Order Number	Description	Quantity
NT4N40AA	Card Cage, cPCI Core/Network AC or DC	1
NT4N41	Module, cPCI Core/Network AC or DC	1
NT4N48AA	Card, cPCI System Utility	2
NT4N39	Pack, CP PIV Processor with 512 MBytes Memory	2
NT4N65AB	Card, cPCI Core Network Interface (2 Ports)	2
NT4N88AA	Cable, CP to I/O Panel DTE, 48 in.	2
NT4N88BA	Cable, CP to I/O Panel DCE, 48 in.	2
NT4N90BA	Cable, CP to I/O Panel Ethernet, 48 in.	2
NT7D00	Top Cap AC or DC	1
NT7D06AA	Blank Faceplate, 2.75 in., dummy panel for NTKW Module	2
NT8D17HB	Pack, Conference, Tone & Digit Switch, (CT)	2
NT8D22AC	Pack, System Monitor (SM)	1
NT8D35	Module, Network (NET) AC or DC	2
NT8D46AL	Cable, System Monitor Serial Link, 7 ft.	1
NT8D46AS	Cable, System Monitor CPU Internal, 30 in.	1
NT8D49AA	Kit, Multi-column Expansion	2
NT8D99AB	Cable, Network to Network, 2 ft.	5
NT8D99AD	Cable, Core Network to Core Network, 6 ft.	2
NTND14BA	Cable, cCNI to 3PE, 6 ft.	2
NTND14BB	Cable, cCNI to 3PE, 10 ft.	2
NTRB33AD	Card, fiber Junctor Interface (FIJI)	4
NTRC46BC	Cable, Clock to FIJI, 5.5 ft. – 8 ft.	2

Table 67
Minimum requirements for Meridian 1 PBX 81C CP PIV system with FNF (Part 2 of 2)

Order Number	Description	Quantity
NTRC17BA	Cable, CP Ethernet to Ethernet, 8.5 ft./3 meter	2
NTRC47AA	Cable, FIJI to FIJI Sync, 5 ft.	1
NTRC48AA	Cable, FIJI to FIJI fiber Ring, 6 ft./2 meter	4
NTRC49AA	Cable, Fiber Network Clock-Clock Sync, 6 ft.	1
NTRD25AA/ NT4N57AA	Assembly, Pedestal AC or DC	1
NTRE39AA	Card, Optical Cable Management (OCMC)	2
NTRE40AA	Adapter Assembly, I/O Panel Dual Ethernet, RJ-45 (CP to ELAN subnet network Interface)	2
P0712003	Package, Instruction	1
P0605337	Panel, cPCI Card Slot Filler	4
QPC43R	Pack, Peripheral Signaling, (PS)	2
QPC441F	Pack, Three Port Extender, (3PE)	2

Figure 98 on [page 735](#) shows the CP PIV processor card side view. Figure 99 on [page 736](#) shows the CP PIV processor card front view.

Figure 98
CP PIV call processor card (side)

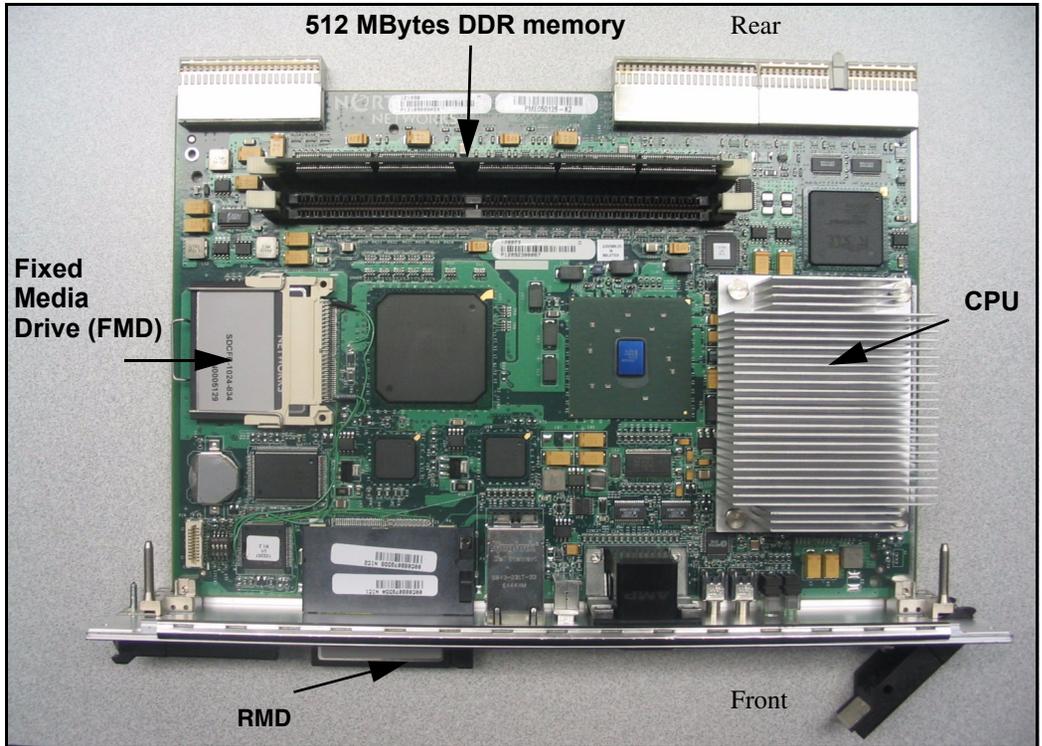
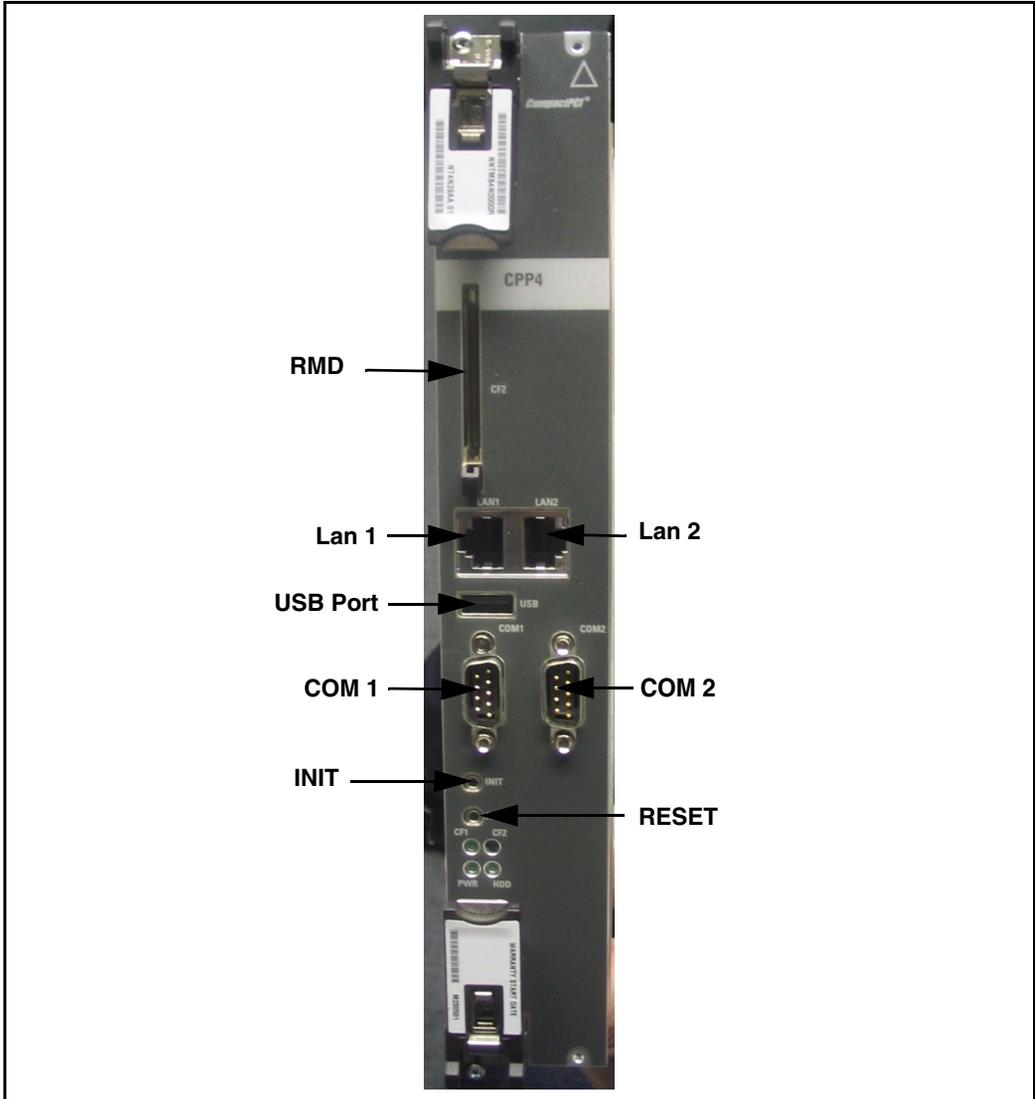


Figure 99
CP PIV call processor card (front)



Check required power equipment

Table 68 lists the equipment required for DC-powered systems.

Table 69 lists the equipment required for AC-powered systems.

Table 68
DC power requirements for Meridian 1 Option 81C upgrades

Order number	Description	Quantity per system
NT6D41CA	Core/Network Power Supply DC	2
NT4N97BA	CP PII Upgrade Kit DC (Misc. Card Cage Components)	1

Table 69
AC power requirements for Meridian 1 Option 81C upgrades

Order number	Description	Quantity per system
NT8D29BA	Core/Network Power Supply AC	2
NT4N97AA	CP PII Upgrade Kit AC (Misc. Card Cage Components)	1

Tools

Table 70 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 70
List of recommended tools (Part 1 of 2)

Digital Multimeter (DMM)	Electric drill and drill bits
Pliers, needlenose	Hammer and sheet metal center punch
Pliers, standard	1/4" socket wrench
Screwdriver, 3/16" flat blade	3/8" socket wrench

Table 70
List of recommended tools (Part 2 of 2)

Screwdriver, #2 Phillips	1/4" nut driver
Wire cutters	7/16" socket driver
Electrical insulation tape	11/32 Deep Socket
5/16" socket wrench	Flashlight

Check personnel requirements

Nortel recommends that a minimum of two people perform the card cage upgrade.

Database requirements

If the system is running pre-release 23 software or the source platform is a Meridian 1 Option 21E, 51, 61, 71, STE, NT or XT, the database must be sent to Nortel for conversion.

	IMPORTANT!
	Database conversion for Meridian 1 Options 21E, 51, 61, 71, STE, NT and XT must be completed by Nortel Software Conversion Lab. Consult the current Nortel price book for cost and contact information.
	All systems can be converted by Nortel in the software conversion lab.

CS 1000 compatibility

Consult *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120) for CS 1000 Release 4.5 product compatibility.

Install Core/Net 1 hardware

Procedure 208

Checking main Core card installation

The main Core cards are installed in the factory as shown in Figure 100 on page 740:

- 1 NT4N65AC CP Core Network Interface (cCNI) cards:
Each system contains one NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots c10-c12, which do not contain cCNIs.

Note: In the NT4N41 Core/Net module, port 0 on the NT4N65 Core to Network Interface (cCNI) Card in slot c9 must be configured as “group 0.” The cCNI and 3PE cards for group 0 communicate through the NT4N29 cable. Only one cCNI card is required for group 0 in a Meridian 1 Option 61C CP PIV.

- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15. Check side ID switch settings for SU card in Core/Net 1 according to Table 71.

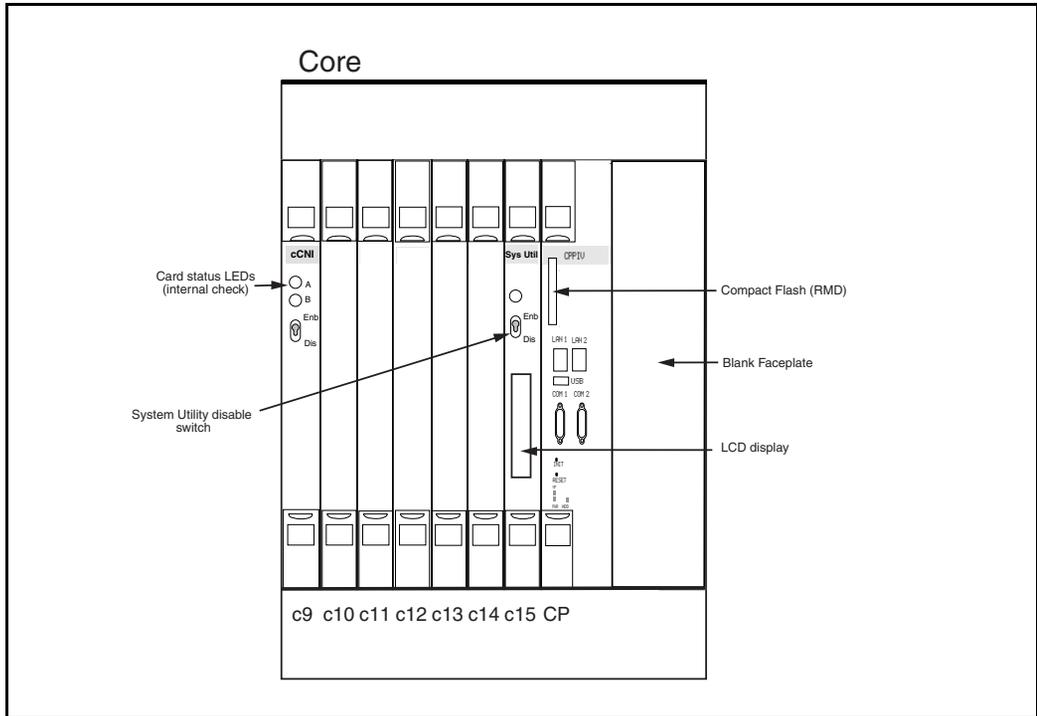
Table 71
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 4 NT4N39 CP PIV is located in the Call Processor slot.
- 5 The N0026096 blank faceplate is located in the extreme right-hand slot next to the CP PIV card.

————— **End of Procedure** —————

Figure 100
Core card placement in the NT4N41 Core/Net Module (front)



Check for the shelf power cable

Check that the NT4N4405 Shelf Power Cable is installed in the CP card cage backplane. See Figure 101 on [page 741](#) for cable location.

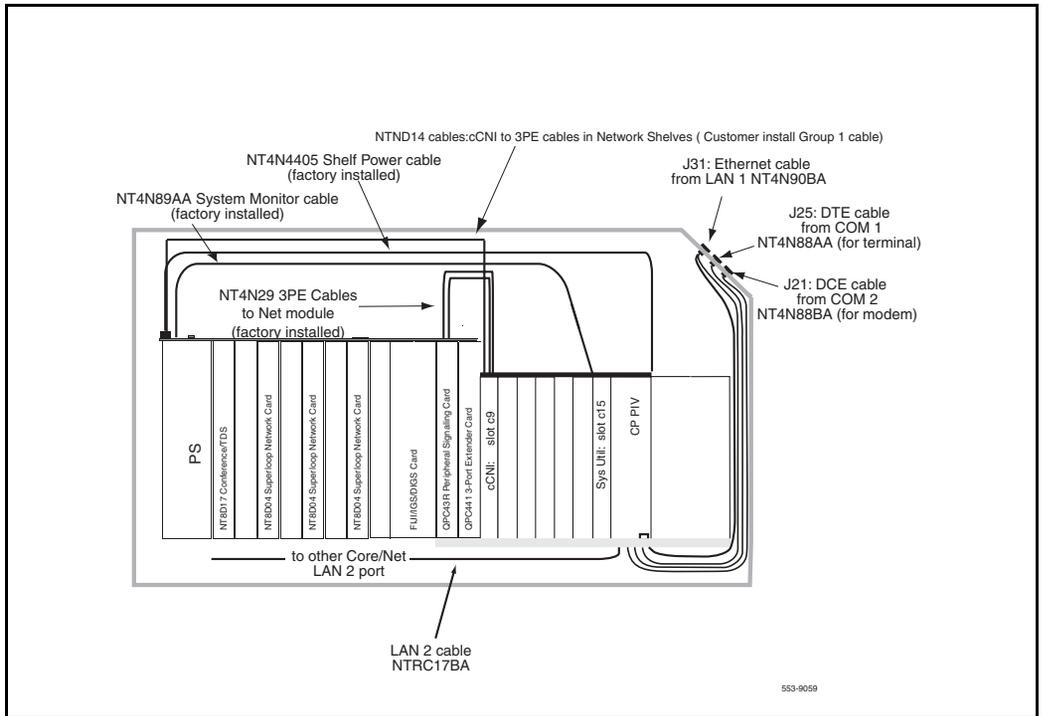
Check factory-installed cables

Table 72 lists factory-installed cables.

Table 72
Factory-installed cables

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

Figure 101
Core/Net cable connections (top view)



Check factory-installed cables

Table 73 lists factory-installed cables. See Figure 101 on [page 741](#).

Table 73
Factory-installed cables

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

Disable Core 1

Procedure 209

Checking that Core 0 is active

Get the status of the CPU, CMA or OCMA, extenders, and memory. Verify that all common equipment is enabled.

- 1 Verify that Core 0 is active.

LD 35 Load the program.

STAT CPU Get the status of both CPUs.

STAT MEM Get the memory status.

- 2 Test and switch CPUs.

TCPU CPU Test the CPUs.

SCPU Switch the CPUs.

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

SCPU Switch to Core 0.

******** Exit the program.

- 4 Place CPU 0 into maintenance by setting the NORM/MAINT faceplate switch on the CP card in CPU 0 to MAINT.

- 5 Faceplate disable CNI card in **Core 1**.

End of Procedure

Procedure 210

Checking that Clock Controller 0 is active

- 1 Check the status of the Clock Controllers:

LD 60 Load the program.

SSCK 0 Get the status of Clock Controller 0.

SSCK 1 Get the status of Clock Controller 1.

- 2 If Clock Controller 1 is active, switch to Clock Controller 0 and software disable Clock Controller 1.

SWCK If necessary, switch to Clock Controller 0.

DIS CC 1 Disable Clock Controller 1.

******** Exit the program.

- 3 Faceplate disable Clock Controller 1.

- 4 Verify the status of both CPUs. Verify that CPU 0 is enabled and CPU 1 is in standby.

LD 35 Load the program.

STAT CPU Get the status of both CPUs.

******** Exit the program.

End of Procedure

Procedure 211
Moving Clock Controller 1**IMPORTANT!**

Clock Controller cards must be NTRB53 Clock Controller cards.

**CAUTION — Service Interruption**

Service Interruption occurs if wrong Clock Controller is removed!

Move only Clock Controller 1 at this point in the upgrade.

Do not move Clock Controller 0 at this time.

If the system has a QPC471 or QPC775 Clock Controller, replace it with NTRB53 Clock Controller and verify settings according to Table 74 on [page 746](#).

Move Clock Controller 1 from Slot 14 of the NT8D34 CPU module to network shelf 1, any group, slot 13.

- 1 Label and disconnect the clock to clock cable from Clock Controller 1.
- 2 If primary and secondary clock reference cables are connected to the Clock Controller 1 faceplate, label and disconnect them last.
- 3 Unseat and remove Clock Controller 1.
- 4 Set the new NTRB53 Clock Controller 1 switch settings according to Table 74 on [page 746](#).
Note: If the NTRC49AA cable is used, set switches 3 and 4 to 0-14 feet. If the NTRC49BA cable is used, set switches 3 and 4 to 15-20 feet.
- 5 Place Clock Controller 1 in any Network Shelf 1, slot 13. Do NOT seat the Clock Controller 1 and do not faceplate-enable the card.

6 Re-connect reference cable(s).

Note: If possible, Clock Controllers 0 and 1 should be located in different Network groups in different columns.

————— End of Procedure —————

Table 74
Clock Controller switch settings for NTRB53

Multi Group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		3	4			
1	2	3	4		5	6
Multi Group = Off Single group = On	21E = Off 51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On Side 1 = Off	71,81 = Off 21E, 51, 51C, 61. 61C, 81C = On
		Off	On	4.6–6.1 m (15–20 ft.)		
		On	Off	6.4–10.1 m (21–33 ft.)		
		On	On	10.4–15.2 m (34–50 ft.)		
Note: Switch 7 and 8 are not used.						

Software disable Network cards in Core/Net 1 from Core/Net 0

**CAUTION — Service Interruption****Service Interruption**

At this point, the upgrade interrupts service.

Procedure 212**Software disabling cards of Core/Net 1 from Core/Net 0**

1 In CPU 1 only, software disable all network and I/O cards such as XNET, TTY, Conf/TDS and ISDN cards.

a. In CPU 1 only, disable XNET.

LD 32 Load the program.

DISL sl Disable the XNET, where sl = the superloop number of the XNET card.

******** Exit the program.

b. In CPU 1 only, disable ENET.

LD 32 Load the program.

DISL X Disable the ENET, where X= the loop number of the ENET card.

******** Exit the program.

c. In CPU 1 only, software disable each port on the SDI cards.

LD 37 Load the program.

DIS TTY x Disable each port, where x = the number of the interface device attached to a port.

******** Exit the program.

d. In CPU 1 only, disable DTI cards.

LD 60 Load the program.

DISL x Disable DTI card, where x = the loop number of the DTI port.

******** Exit the program.

e. In CPU 1 only, disable PRI cards.

LD 60 Load the program.

DISL x Disable PRI card, where x = the loop number PRI port.

******** Exit the program.

f. In CPU 1 only, disable MSDL cards.

LD 48 Load the program.

DIS MSDL x Disable MSDL card, where x = the MSDL card number. System will respond with group 0.

******** Exit the program.

g. In CPU 1 only, disable XCT cards.

LD 34 Load the program.

DISX x Disable XCT card, where x = the superloop number of the XCT card.

******** Exit the program.

2 In CPU 1 only, software disable the QPC43 Peripheral Signaling Card:

LD 32 Load the program.

DSPS x Disable QPC43 card. Table 75 lists Peripheral Signaling Card numbers.

******** Exit the program.

Table 75
Peripheral Signaling Card numbers

Group/ shelf	Peripheral Signaling Card	Loops disabled/enabled		
0 / 0	0	0	–	15
0 / 1	1	16	–	31
1 / 0	2	32	–	47
1 / 1	3	48	–	63
2 / 0	4	64	–	79
2 / 1	5	80	–	95
3 / 0	6	96	–	111
3 / 1	7	112	–	127
4 / 0	8	128	–	143
4 / 1	9	144	–	159
5 / 0	10	160	–	175
5 / 1	11	176	–	191
6 / 0	12	192	–	207
6 / 1	13	208	–	223
7 / 0	14	224	–	239
7 / 1	15	240	–	255

- 3** In CPU 1 only, faceplate-disable the following cards in the following order: network cards, Per Sig and 3PE.

End of Procedure



CAUTION — Service Interruption

Service Interruption

The system can shut down if the system monitors are not removed. Remove the monitors and keep the cooling fans ON.

Procedure 213

Removing the system monitors from Core 0 and Core 1

Note: This procedure applies to both AC and DC systems.

- 1 In **Core 0**, software disable the master system monitor (NT8D22):

LD 37 Load the program.

DIS TTY # Disable the master system monitor TTY interface.

- 2 Remove J3 and J4 cables on Core 0 and Core 1 system monitors.

Note: Do *not* turn off the blower units in the front of the pedestals

- 3 Remove the system monitor from the rear of the pedestal on Core 0 and Core 1.

End of Procedure

Power down Core/Net 1



CAUTION — Service Interruption

Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.



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.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 1 module in the back of the column pedestal to OFF (down position).

Procedure 214**Removing Core 1 cables and card cage**

- 1 Label and disconnect all cables from the front of the module.
- 2 Tape over the contacts to avoid grounding.
- 3 Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4 Remove the rear-access panel by turning the screws on each side. Set the panel aside.
- 5 Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6 Tag and disconnect all plugs, wires, and cables to the backplane.

Note: Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

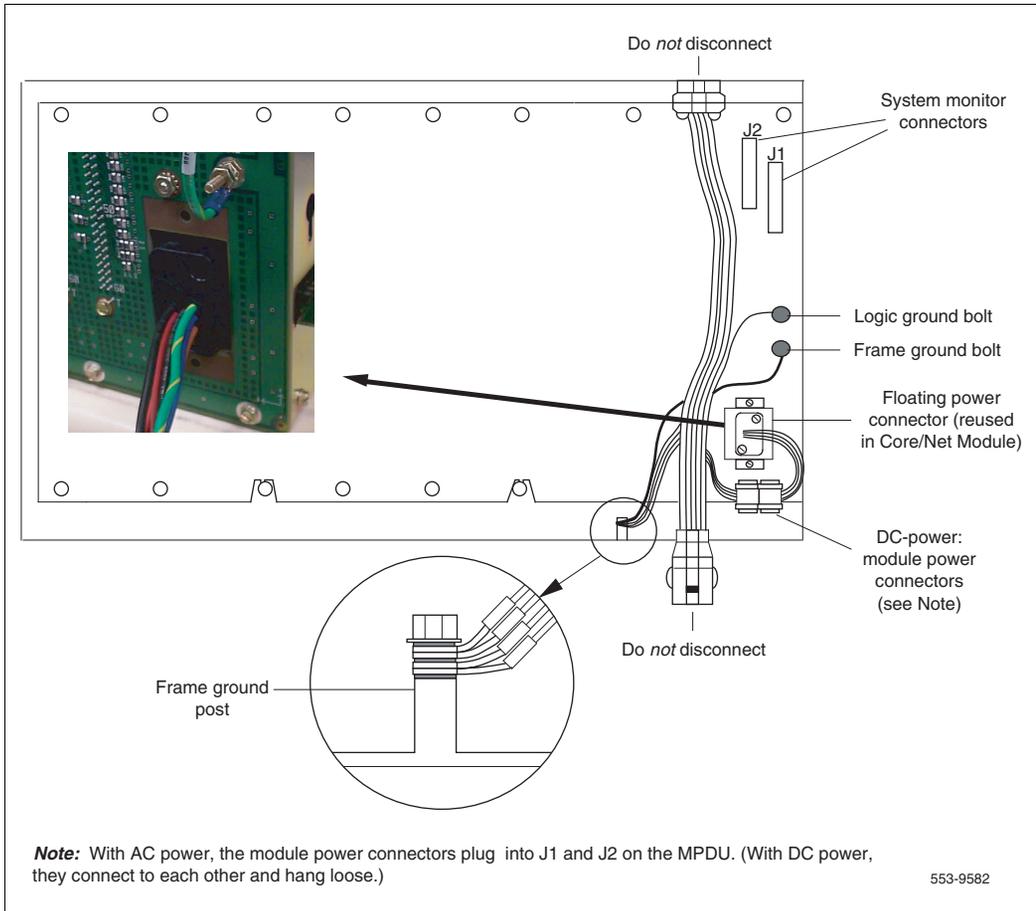
- 7 Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage. The screws secure the card cage to the module casting. Keep the screws for use with the CP card cage.

**CAUTION — Service Interruption**

Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

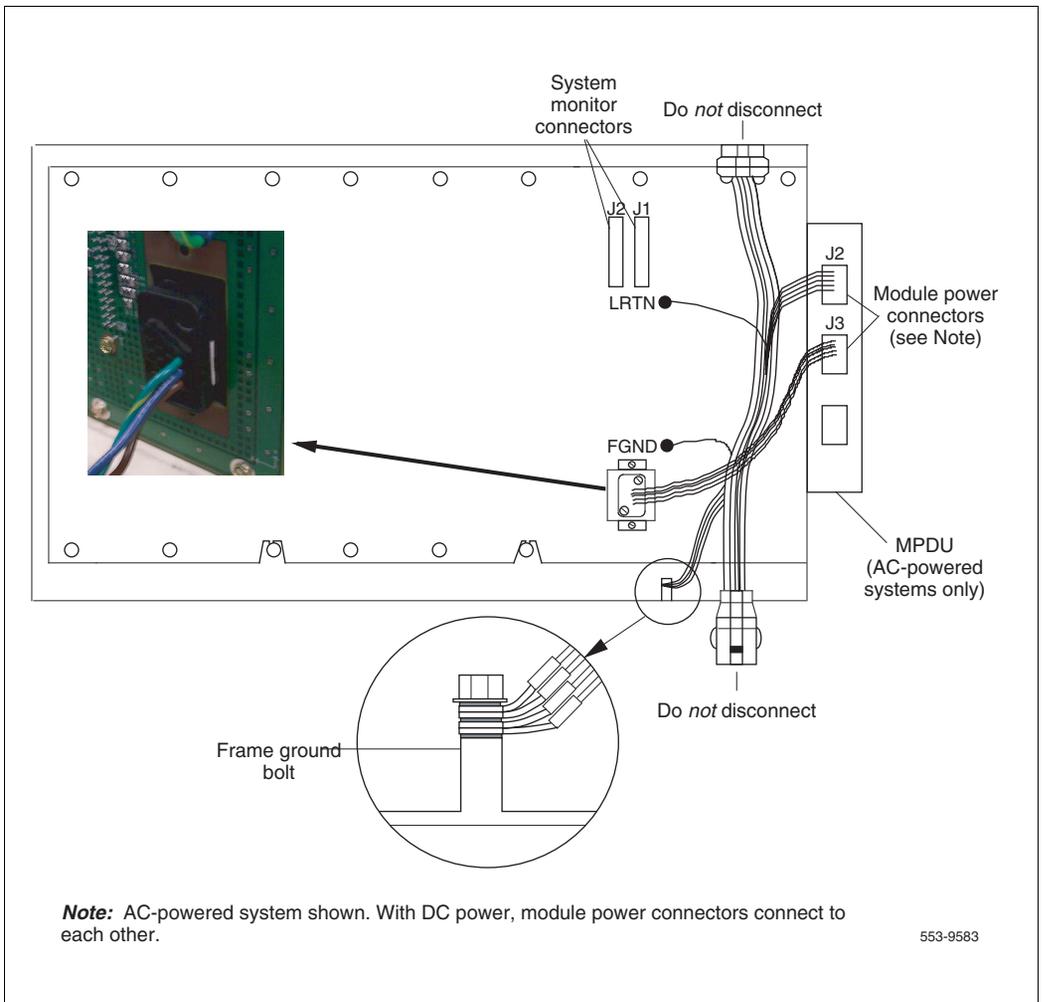
- 8 Remove the front trim panels on both sides of the card cage.
- 9 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Keep the screws for use with the CP card cage.
- 10 Pull the card cage forward until it is halfway out of the module.
- 11 Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful; do not drop the nut or lock washer into the pedestal. See Figure 102 on [page 752](#) for DC power connectors. See Figure 103 on [page 753](#) for AC power connectors.
- 13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.

Figure 102
DC power connectors on the Core module backplane



- 14 Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15 Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16 Remove the Core card cage from the module.

Figure 103
AC power connectors on the Core module backplane



- 17** Remove the power harness and reserve it for reinstallation when you install the new NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply. See Figure 102 on [page 752](#).
- For AC systems, relocate power harness NT8D40.
 - For DC systems, relocate power harness NT7D11.
- 18** Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.



WARNING

If you do not tape the EMI shield in position, you cannot install the card cage in the module correctly.



CAUTION — Service Interruption

Damage to Equipment

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

- 19** In AC-power systems only, plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).

End of Procedure

Install the CP card cage in Core 1

Procedure 215 Installing the CP card cage in Core 1

- 1 Check that the card cage is configured as Core 1. See Table 76 for instructions.

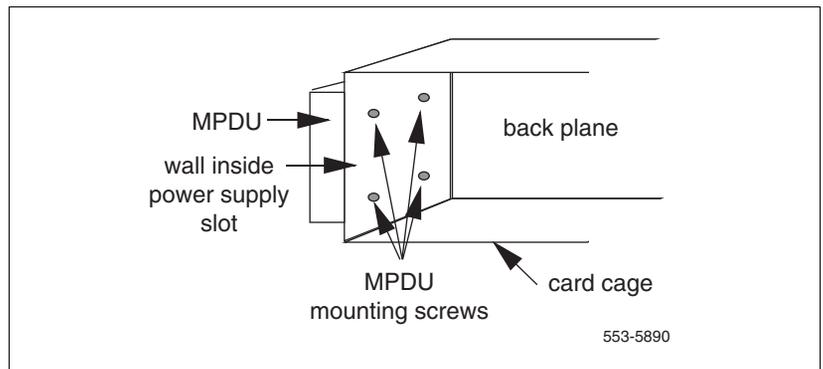
Table 76
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 2 For AC-powered systems only, attach the MPDU, part of the CP PIV Upgrade kit, to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 104.

Note: Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

Figure 104
Location of the screws for the MPDU



- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP card cage.

- 4 Slide the CP card cage halfway into the module.
- 5 Hold the card cage firmly and make the following connections at the rear of the module.
 - a. In AC-powered systems, connect the remaining module power connectors to J2 on the MPDU. Then plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage.)
 - b. In DC-powered systems, connect the module power connectors to each other.
 - c. Attach the system monitor ribbon cables:
 - i. Connect the ribbon cable that goes down to the column to connector J1 on the backplane.
 - ii. Connect the ribbon cable that goes up the column to J2 on the backplane.
 - d. Use a 11/32" socket wrench to attach the green ground wire to the frame ground bolt on the module. Remove the nut and the lock washer at the top of the bolt. Put the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.

Note: For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave a lock washer at the bottom of the bolt and at the top of the bolt. Leave a third lock washer between the second and third, or the third and fourth, wire terminals.
 - e. Attach the orange logic return wire. Remove one nut and the lock washer from the LRTN bolt at the rear of the card cage. Put the wire terminal over the bolt, reinstall the lock washer and nut, then tighten down the nut. (You need a 1/4" socket wrench.)
- 6 Slide the card cage all the way into the module.
- 7 Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.
- 8 Secure the card cage and EMI shield to the module re-using the existing screws.
- 9 Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.

- a. Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
 - b. Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem.)
- 10 Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.
- 11 Do not connect the NTRC17BA crossover ethernet cable at this time.

End of Procedure

Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply

Procedure 216

Installing the power supply

- 1 Unpack the power supply.
- 2 Faceplate-disable the power supply.
- 3 Insert power supply into Core/Net module power supply slot.

End of Procedure

Procedure 217

Relocating Network cards to CP PIV Core/Net 1

- 1 Move any existing cards from slots 0-11 of the old Core/Net 1 card cage to the same slots (0-11) in the new NT4N40 Core/Net 1 card cage.
- 2 Connect the tagged cables to the relocated cards.
- 3 When you move the 3PE card, check the switch settings and jumpers. See Table 77 on [page 758](#).
 - a. All 3PE cards must be vintage F or later.
 - b. Check that the RN27 Jumper is set to "A".

- c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves. Table 77 shows the 3PE settings for cards installed in CP Core/Net Modules.

Table 77
QPC441 3PE Card installed in the NT4N40 Module

Jumper settings. Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PIV)		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
	Group 1	off	on	on	off	on	on	off	on
	Group 2	off	on	on	off	on	off	on	on
	Group 3	off	on	on	off	on	off	off	on
	Group 4	off	on	on	off	off	on	on	on
	Group 5	off	on	on	off	off	on	off	on
	Group 6	off	on	on	off	off	off	on	on
	Group 7	off	on	on	off	off	off	off	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off
	Group 1	off	on	on	off	on	on	off	off
	Group 2	off	on	on	off	on	off	on	off
	Group 3	off	on	on	off	on	off	off	off
	Group 4	off	on	on	off	off	on	on	off
	Group 5	off	on	on	off	off	on	off	off
	Group 6	off	on	on	off	off	off	on	off
	Group 7	off	on	on	off	off	off	off	off

————— **End of Procedure** —————

Install the Security Device

Procedure 218 Installing the Security Device

The Security Device fits into the System Utility card (see Figure 105 on [page 760](#).) To install the Security Device, do the following.

- 1 If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
 - a. Unlock the latches and remove the IODU/C card.
 - b. Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

Or

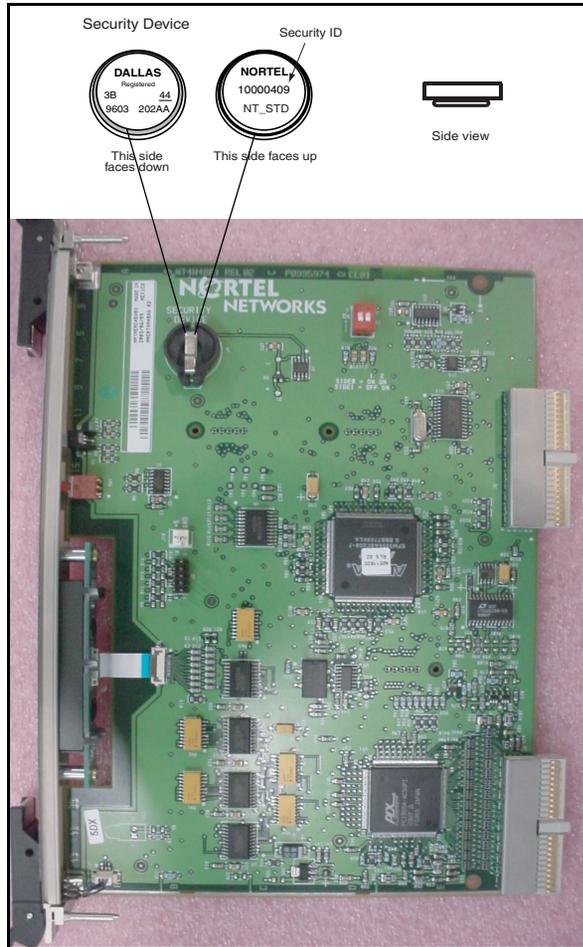
If the original system did not have an IODU/C, use the Security Device provided with the Software Install Kit.

Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

- 2 Check that the Security Device is securely in place.

End of Procedure

Figure 105
Security Device

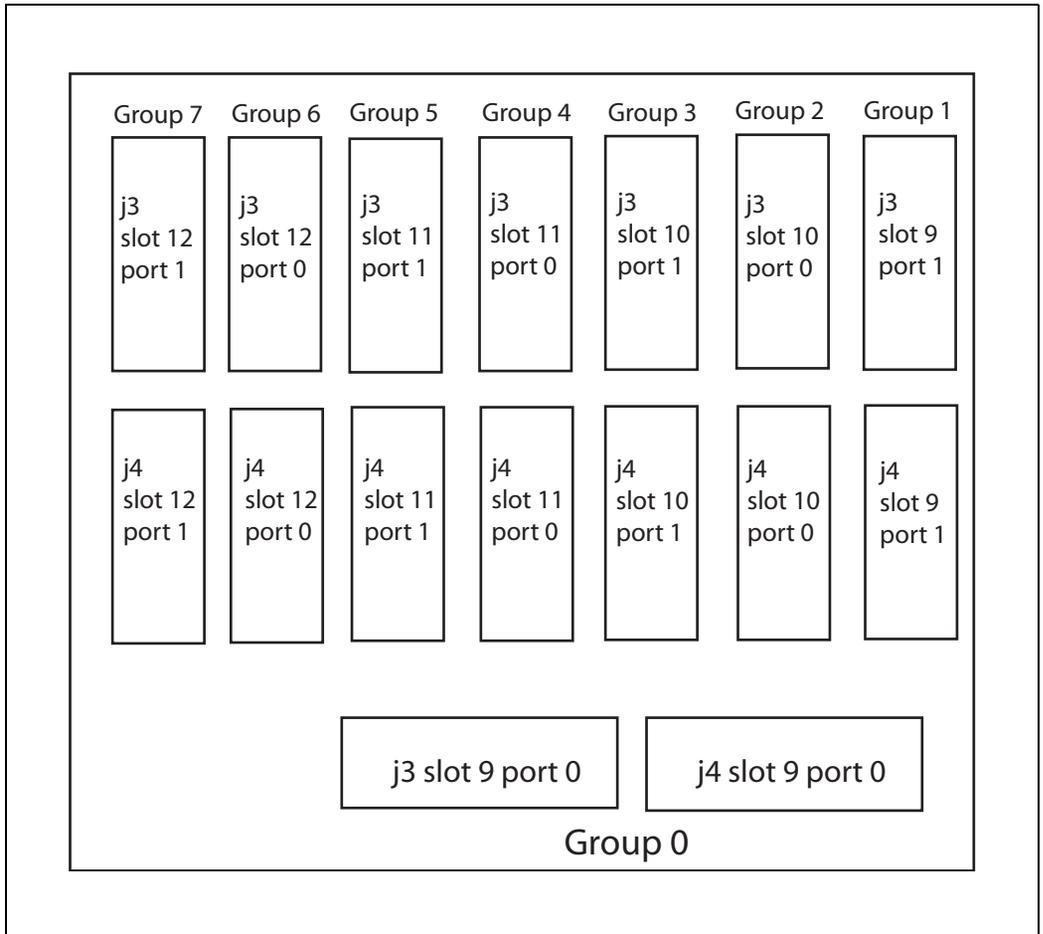


Cable Core 1

In Core 1, inspect factory installed cables

The NT4N29AA cables should be installed for the existing network group in Core/Net 1. If the system has XSDI cards, reinstall the cards and attach the cables. Inspect the system monitor cables (NT4N89).

Figure 106
Connectors for CNI-3PE cables to the Fanout panel



In Core 1, route and connect the CNI to 3PE (NTND14) cables

The existing NTND14 cables may be reused if they meet the requirements of the Important box below. If it is determined that existing NTND14 cables must be replaced on side 1, remove the existing cables and replace with the correct length cables. Connect the NTND14 cables to the Fanout panel in Core/Net 1 and the 3PE cards in each equipped network shelf 1. See Figure 107 on [page 764](#) and Table 78 on [page 763](#).



IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

Note: The NTND14 BX 50' cables are manufacture discontinued.



WARNING

Damage to Equipment

Do not pry the against the connector with the extraction tool. Simply inserting the tool between the connector and the securing clip is sufficient to unlock the connector. Prying may cause damage to the connector or the backplane pins.

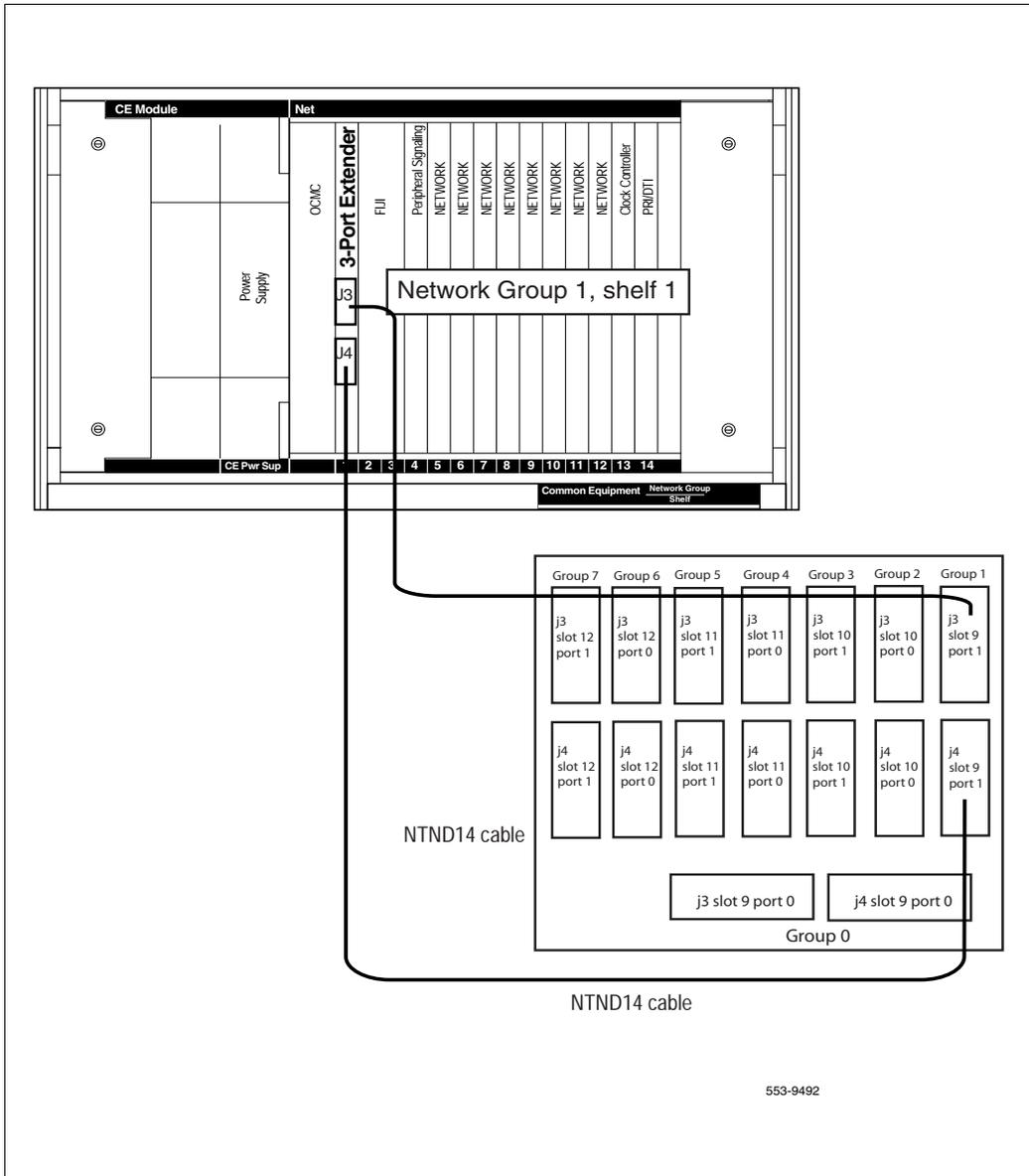
Table 78
Fanout Panel to 3PE card connectors

Group Number	Fanout Panel connector	3PE card connector
0	9-0, J3	A
0	9-0, J4	B
1	9-1, J3	J3
1	9-1, J4	J4
2	10-0, J3	J3
2	10-0, J4	J4
3	10-1, J3	J3
3	10-1, J4	J4
4	11-0, J3	J3
4	11-0, J4	J4
5	11-1, J3	J3
5	11-1, J4	J4
6	12-0, J3	J3
6	12-0, J4	J4
7	12-1, J3	J3
7	12-1, J4	J4

Note 1: Group 0 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1. See Figure 107 on [page 764](#).

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1. See Figure 107 on [page 764](#).

Figure 107
3PE Fanout Panel connections



553-9492

Add Side 1 FIJI hardware

Procedure 219 Add Side 1 FIJI hardware

- 1 Faceplate-disable the FIJI cards.
- 2 Insert the FIJI cards in Side 1. **DO NOT seat the FIJI cards.**

Note: FIJI cards are installed in slots 2 and 3 of the Network modules, and slots 8 and 9 of the Core/Net modules.

End of Procedure

Procedure 220 Connecting the shelf 1 FIJI Ring cables (descending)



IMPORTANT!

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

Note: When adding an additional network group, fiber cables must be changed to adhere to the rules above.

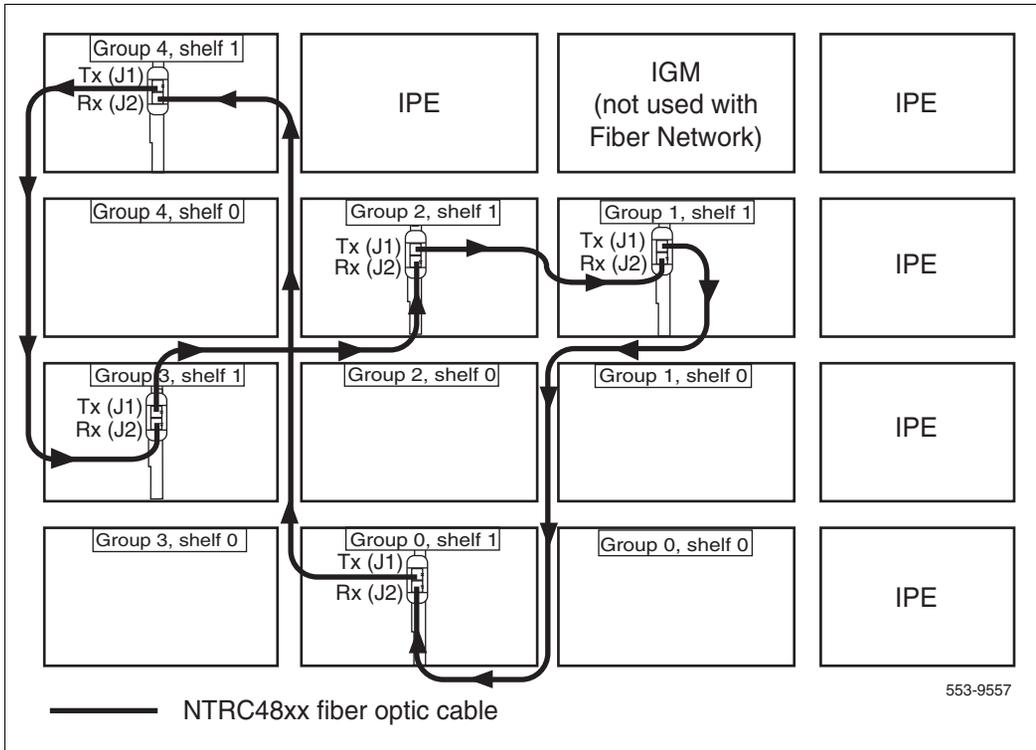
Create Fiber Ring 1. Connect the FIJI cards in all Network shelves 1 in **descending** order, from Tx to Rx (Figure 108 on [page 766](#).)

Remove the black cap from the end of each cable before it is connected.

Note: Each end of the NTRC48xx cable is labeled “Tx” or Rx” in the factory.

- 1 Start with Network group 0, shelf 1.
- 2 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 1** to the Rx (J2) port of the FIJI card in the **highest Network group, shelf 1**.

Figure 108
Shelf 1 descending fiber-optic Ring (Meridian 1 Option 81C 5 group example)



- 3 Connect a NTRC48xx cable from the Tx (J1) port of the FIJI card from the Tx (J1) port in the **highest Network group, shelf 1** to the Rx (J2) port in the **second highest Network group, shelf 1**.
- 4 Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 1 of each Network group. Connect these cables in **descending** order of Network groups.

- 5 To complete the Ring, connect a final cable from Tx in **Group 1, shelf 1** to Rx in Group 0, shelf 1.

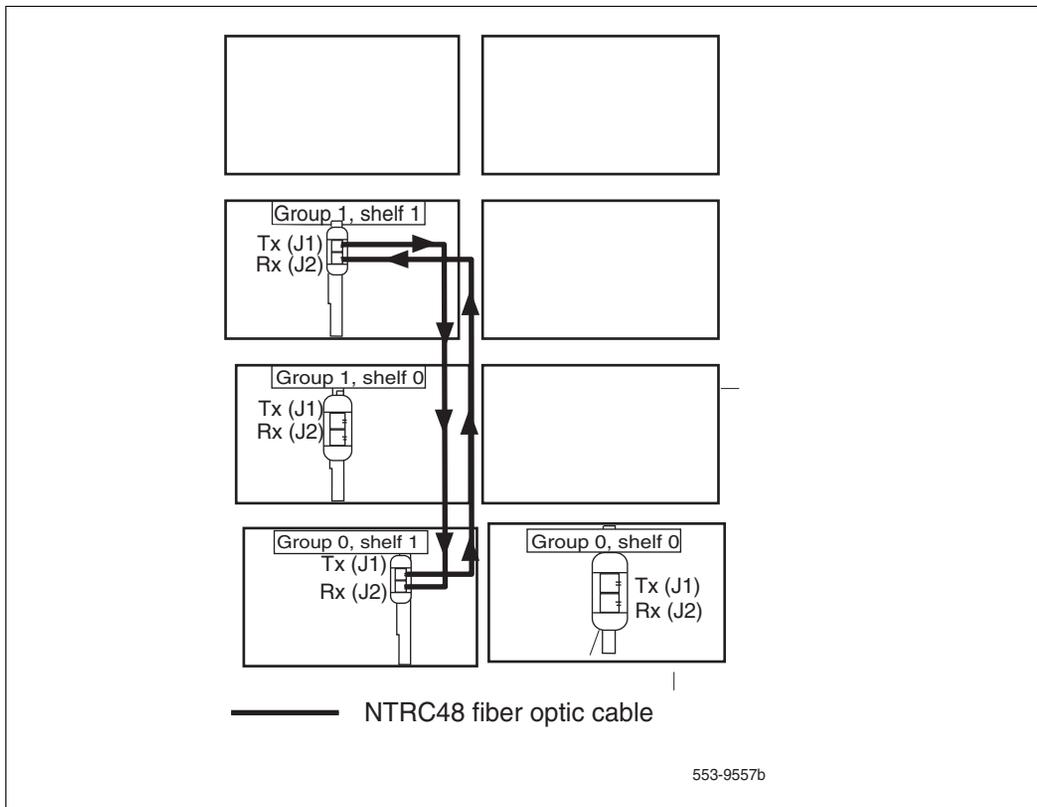
Note: Connect the Side 1 FIJI Ring cables only.

Table 79
FIJI Ring 1 connections

Groups 0 - X are cabled in descending order		
Group/Shelf	FIJI Connector	Tx/Rx
0/1	P1	Tx
7/1	P2	Rx
7/1	P1	Tx
6/1	P2	Rx
6/1	P1	Tx
5/1	P2	Rx
5/1	P1	Tx
4/1	P2	Rx
4/1	P1	Tx
3/1	P2	Rx
3/1	P1	Tx
2/1	P2	Rx
2/1	P1	Tx
1/1	P2	Rx
1/1	P1	Tx
0/1	P2	Rx

————— **End of Procedure** —————

Figure 109
Shelf 1 descending fiber-optic Ring (Meridian 1 Option 81 2 group example)



Procedure 221

Cable the Clock Controller 1 to FIJI hardware

Connect the cables to the Clock Controller 1 as shown in Figure 110 on [page 770](#).

- 1 Connect J2 of the NTRC49 cable to J1 of the NTRC46 cable.
- 2 Connect P2 of the NTRC49 cable to port J3 of Clock Controller 1.

- 3 Connect P2 of the NTRC46 cable from Clock 1 to J3 of the FIJI card in group 0, shelf 1.

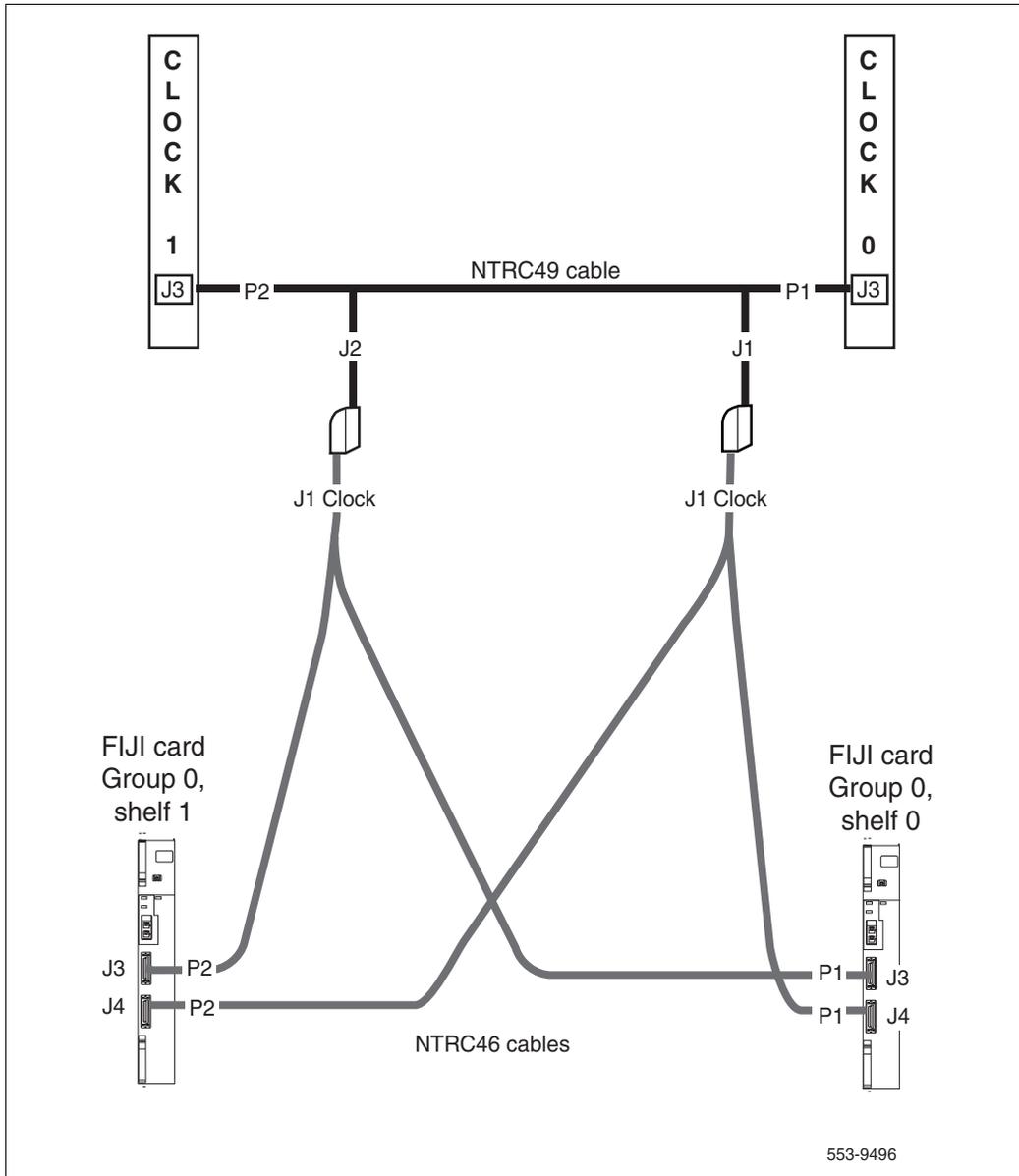


IMPORTANT!

Both NTRC46 cables must be the same length.

End of Procedure

Figure 110
Clock Controller cable configuration



Power up Core 1

Procedure 222

Preparing for power up

- 1 Check that a terminal is connected to the J25 I/O panel connector (COM 1) on Core/Net 1.

Note: A maintenance terminal is required to access the Core/Net modules during the upgrade.

- 2 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core.
- 3 Check the terminal settings as follows:
 - a. 9600 baud
 - b. 8 data
 - c. parity none
 - d. 1 stop bit
 - e. full duplex
 - f. XOFF

Note: If only one terminal is used for both Cores, the terminal will have to be switched from side to side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

- 4 Faceplate-enable all core and network cards.
- 5 Faceplate-enable the power supply.

End of Procedure

Power up Core cards

Procedure 223

Powering up core cards

- 1 For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to ON (top position).
- 2 For DC-powered systems: set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).

End of Procedure

Restore power

Procedure 224

Restoring power

- 1 Restore power to Core/Net 1.
- 2 Check that the Network and I/O cards have working power.



System is in split mode, CP 0 is active, Clock 0 is active.

CS 1000 Release 5.0 upgrade

Upgrading the software

Procedure 225 outlines the steps involved in installing CS 1000 Release 5.0 for the CP PIV processor.

Procedure 225

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 displays the Install Menu. Select option "".

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

I N S T A L L M E N U

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

Please enter:

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

For Feature Expansion, use OVL143.

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

Enter Choice> ****

- 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 XXXXX
Option	Choice	Status	Comment
Dependency Lists	yes		
Option	Choice	Status	Comment
IPMG Software	yes		install for rel XXXXX
Option	Choice	Status	Comment
DATABASE	yes		
Option	Choice	Status	Comment
CP-BOOTROM	yes		

- 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 install Software release: XXXX on
the new system.
This will create all necessary directories and
pre-allocate files on the hard disk.
You may continue with software install or quit
now and leave your software unchanged.
Please enter:
        <CR> -> <a> - Continue with new system
install.
        <q> - Quit.
        Enter choice>
```

- 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>
    
```

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>

>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 226

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

Configuring IP addresses

Procedure 227 Configuring IP addresses

If unique IP addresses were not configured prior to the upgrade, two unique IP addresses are required for the CP PIV system to communicate with the LAN. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core.

- 1 Use the following to check the status of the system's IP address:

LD 117	Load program
PRT HOST	Print the configured host information

If the system returns with host names “active” and “inactive”, go to “Check for Peripheral Software Download to Core 1” on [page 793](#). If the system returns no host names, complete the steps below.

- 2 Contact your System Administrator to identify IP address and subnet mask information.
- 3 Configure the primary (*active*) and secondary (*inactive*) IP addresses:

LD 117	Load program
NEW HOST NAME 1 IP ADDRESS	Define the first IP address: “name 1” is an alias for the IP address such as “primary” (The IP address is the IP number)

CHG ELNK ACTIVE NAME I	Assign the “name 1” address to the <i>active</i> Core
NEW HOST ‘NAME 2’ ‘IP ADDRESS’	Define the second IP address: “name 2” is an alias for the IP address such as “secondary” (The IP address is the IP number)
CHG ELNK INACTIVE NAME 2	Assign the “name 2” address to the <i>inactive</i> Core.
CHG MASK XXX.XXX.XXX.XXX	Set the sub-net per local site (This number allows external sub-nets to connect to the system)

4 Enable the new Ethernet interface.

LD 137	Load program
update dbs	Update the ELINK database
dis elnk	<i>Disable</i> the old IP interface values
enl elnk	<i>Enable</i> the new IP interface values

End of Procedure

Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 713](#). If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

Load LD 22 and print Target peripheral software version.

```
LD 22
REQ          PRT
TYPE        PSWV
****        Exit program
```

For systems with fewer than eight groups, delete CNIs

Procedure 228 Deleting CNIs

Software has configured the system for eight groups. If the system has eight groups, skip this procedure. If the system has fewer than eight groups, you must software remove the CNIs not used in the system configuration:

- 1 In Core/Net 1, disable all cCNI cards using LD 135:

```
LD 135      Load program
STAT CNI    Get status of all cCNI cards
DIS CNIP x s p  Disable cCNI ports where:
                x = Core number (0 or 1)
                s = card slot (9-12)
                p = port (0 or 1)
DIS CNI x s    Disable cCNI cards where:
                x = Core number (0 or 1)
                s = card slot (9-12)
STAT CNI      Confirm that cCNI cards are disabled
****        Exit program
```

- 2 Use LD 17 to remove the extra cCNI cards.

```
LD 17      Load program
CHG        CFN
```

TYPE	CEQU
CEQU	
carriage return to EXTO	
EXTO 3PE	Core/Net 0 extended to 3PE
CNI s p x	Out the cCNI card, where: s = card slot (9-12) p = port (0 or 1) x = out network group
EXTI 3PE	Core/Net 1 extended to 3PE
CNI s p x	Out the cCNI card, where: s = card slot (9-12) p = port (0 or 1) x = out network group
carriage return to end of program	
****	Exit program

3 Use LD 135 to re-enable cCNI cards:

LD 135	Load program
STAT CNI	Get status of all cCNI cards
ENL CNI x s	Enable cCNI cards where: x= Core number (0,1) s = card slot (9-12)
ENL CNIP x s p	Enable cCNI ports where: x= Core number (0,1) s = card slot (9-12) p = port (0 or 1)
STAT CNI	Confirm that cCNI cards are enabled (see note below)
****	Exit program

Note: At this point, cCNI cards in Core 1 are controlled by the active call processor in Core 0. Therefore, it remains disabled.

End of Procedure

Reconfigure I/O ports and call registers

Procedure 229

Reconfiguring I/O ports and call registers

- 1 Remap all I/O ports (except CPSI ports) to the proper groups.
The group number of these ports is determined by the physical location of the card. The configuration information must match the CNI configuration

```
LD 17          Load program
CHG           CFN
TYPE         ADAN CHG AAA X G
carriage
return to end
of program
****          Exit program
```

- 2 Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 1000 and 20000 (respectively). If changes are required, reconfigure the values in LD 17:

```
LD 17          Load program
CHG           CFN
TYPE         PARM
carriage
return to end
of program
****          Exit program
```

End of Procedure

Procedure 230
Rebooting Core 1



CAUTION — Service Interruption

Service Interruption

The INI may take up to 15 minutes to complete.



CAUTION — Service Interruption

Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

At this stage, Core 0 is still the active call processor with Clock Controller 0 active. The following procedure will transfer call processing from Core 0 to Core 1, switching Clock Controller from 0 to 1 and switching from IGS/DIGS to FIJI.

- 1 In Core/Net 0 only, faceplate-disable the CNI cards.
- 2 In Core/Net 0 only, faceplate-disable the IODU/C card.
- 3 In Core/Net 0 only, unseat the Core Processor card.
- 4 Faceplate-disable Clock Controller 0 and unseat the card.
- 5 Seat and faceplate-enable Clock Controller 1.
- 6 Seat and faceplate-enable all FIJI cards in shelf 1.
- 7 Press the 'INIT' button on the CP PIV card faceplate in Core/Net 1 to initialize the system.
- 8 Wait for "DONE" and then "INI" messages to display before you continue.



CAUTION — Service Interruption

Service Interruption

Allow the system to recover from all downloads after the INI completes.

During INI, FIJI error messages (from Shelf 0) appear on the screen. FIJI card on shelf 1 resets. Upon INI completion, RING 1 is full, FIJI Ring 0 (in Core/Net 0) is disabled, AUTO recovery is on and Clock Controller 1 is active.

End of Procedure



Core 1 is now active with ring 1 drives full. Clock Controller 1 is active. Call processing should be active on Core/Net 1.

Performing the customer's test plan

Ensure that all network resources in Core/Net shelf 1 are now functional.

Faceplate-disable cards in Core/Net 0



CAUTION — Service Interruption

Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

Procedure 231

Faceplate disabling cards in core and network slots of Core/Net 0:

- 1 Faceplate-disable all core and network cards in Core/Net 0.
- 2 Set the ENB/DIS switch on the 3PE card to DIS.

End of Procedure

Procedure 232
Moving Clock Controller 0



IMPORTANT!

Clock Controller cards must be NTRB53 Clock Controller cards.



CAUTION — Service Interruption

Service Interruption occurs if wrong Clock Controller is removed!

Move only Clock Controller 0 at this point in the upgrade.

Do not move Clock Controller 1 at this time.

If the system has a QPC471 or QPC775 Clock Controller, replace it with NTRB53 Clock Controller and verify settings according to Table 80 on [page 801](#).

Move Clock Controller 0 from Slot 14 of the NT8D34 CPU module to network shelf 0, any group, slot 13.

- 1 Label and disconnect the clock to clock cable from Clock Controller 0.
- 2 If primary and secondary clock reference cables are connected to the Clock Controller 0 faceplate, label and disconnect them last.
- 3 Unseat and remove Clock Controller 0.
- 4 Set the new NTRB53 Clock Controller 0 switch settings according to Table 74 on [page 746](#).

Note: If the NTRC49AA cable is used, set switches 3 and 4 to 0-14 feet. If the NTRC49BA cable is used, set switches 3 and 4 to 15-20 feet.

- 5 Place Clock Controller 0 in any Network Shelf 0, slot 13. Do NOT seat the Clock Controller 0 and do not faceplate-enable the card.

- 6 Re-connect reference cable(s).

Note: If possible, Clock Controllers 1 and 0 should be located in different Network groups in different columns.

End of Procedure

Table 80
Clock Controller switch settings for NTRB53

Multi Group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		3	4			
1	2	3	4		5	6
Multi Group = Off Single group = On	21E = Off 51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On Side 1 = Off	71,81 = Off 21E, 51, 51C, 61. 61C, 81C = On
		Off	On	4.6–6.1 m (15–20 ft.)		
		On	Off	6.4–10.1 m (21–33 ft.)		
		On	On	10.4–15.2 m (34–50 ft.)		
Note: Switch 7 and 8 are not used.						

Procedure 233
Cabling the Clock Controllers

Earlier in the upgrade, you checked that Clock Controller 1 is installed in Network 1 shelf 1, slot 13; and Clock Controller 0 has been moved to Network group 1 shelf 0, slot 13.

Connect the cables to the Clock Controllers as shown in Figure 111:

- 1 Connect J1 of the NTRC49 cable to J1 of the second NTRC46 cable.
- 2 Connect P1 of the NTRC49 cable to port J3 of Clock Controller 0.

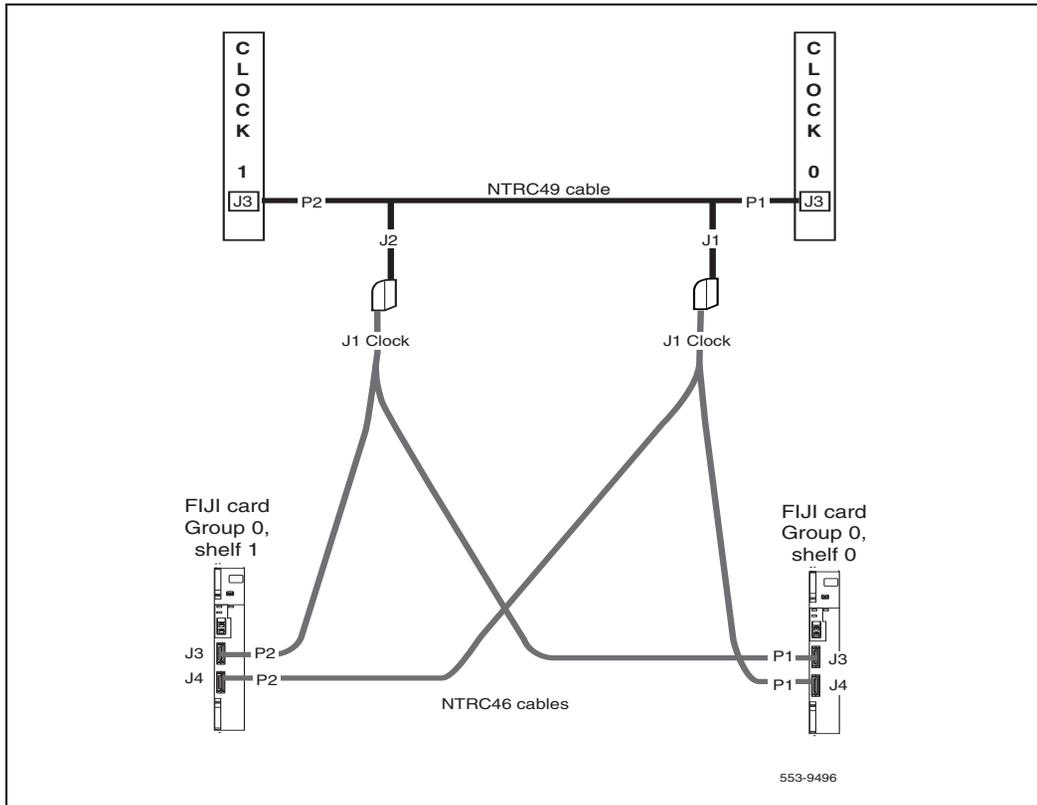
- 3 Connect P2 of the NTRC46 cable from Clock 0 to J4 of the FIJI card in group 0, shelf 1.



IMPORTANT!

Both NTRC46 cables must be the same length.

Figure 111
Clock Controller cable configuration



Procedure 234**Removing Core 0 cables and card cage**

- 1 Label and disconnect all cables from the front of the module.
- 2 Tape over the contacts to avoid grounding.
- 3 Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4 Remove the rear-access panel by turning the screws on each side. Set the panel aside.
- 5 Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6 Tag and disconnect all plugs, wires, and cables to the backplane.

Note: Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

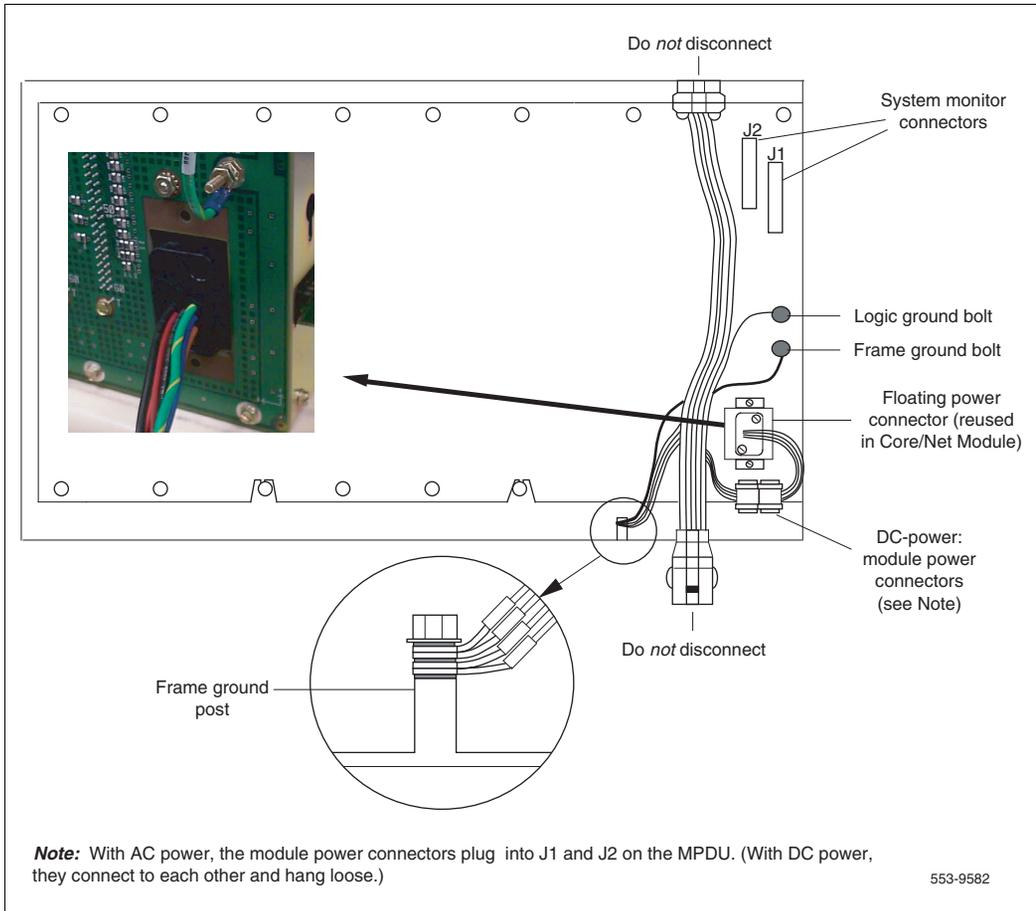
- 7 Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage. The screws secure the card cage to the module casting. Keep the screws for use with the CP card cage.

**CAUTION — Service Interruption**

Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

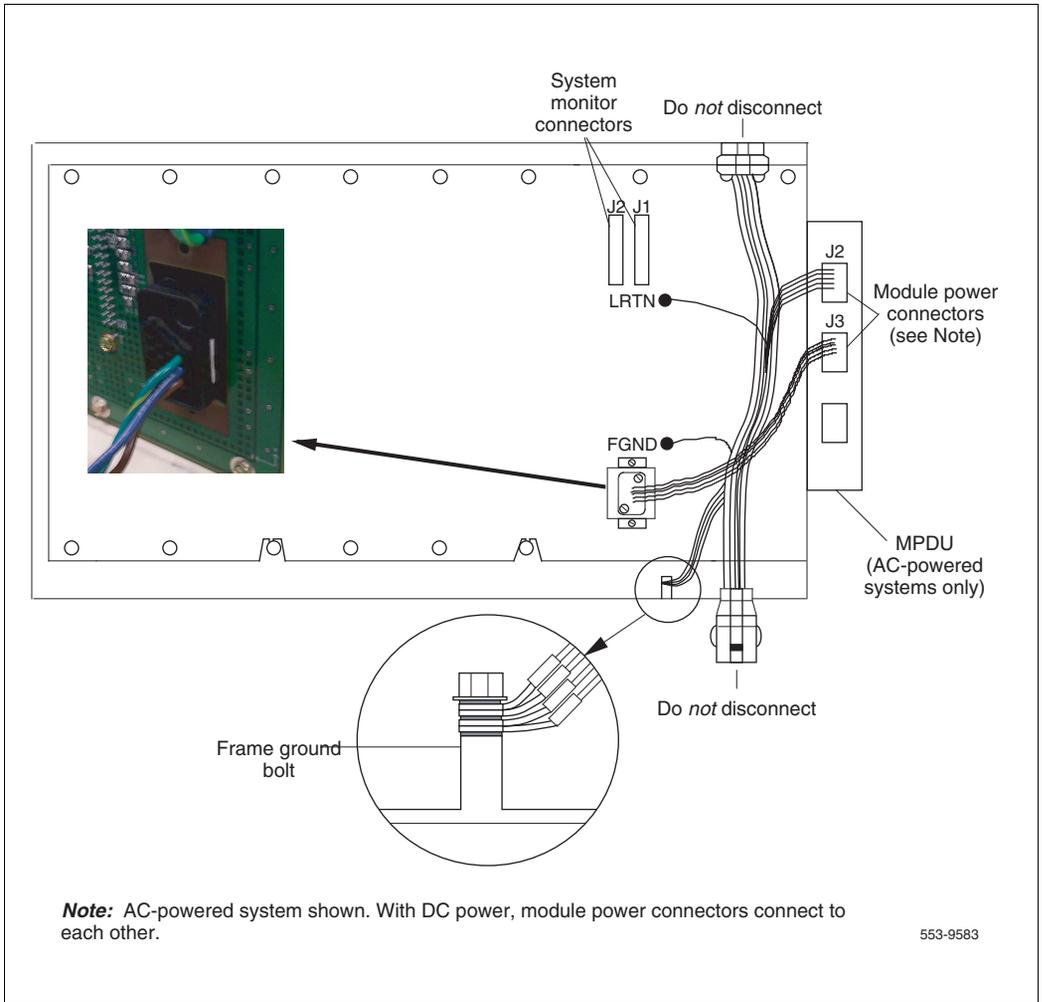
- 8 Remove the front trim panels on both sides of the card cage.
- 9 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Keep the screws for use with the CP card cage.
- 10 Pull the card cage forward until it is halfway out of the module.
- 11 Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful; do not drop the nut or lock washer into the pedestal. See Figure 102 on [page 752](#) for DC power connectors. See Figure 103 on [page 753](#) for AC power connectors.
- 13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.

Figure 112
DC power connectors on the Core module backplane



- 14 Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15 Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16 Remove the Core card cage from the module.

Figure 113
AC power connectors on the Core module backplane



- 17 Remove the power harness and reserve it for reinstallation when you install the new NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply. See Figure 102 on [page 752](#).
 - For AC systems, relocate power harness NT8D40.
 - For DC systems, relocate power harness NT7D11.
- 18 Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.



WARNING

If you do not tape the EMI shield in position, you cannot install the card cage in the module correctly.



CAUTION — Service Interruption

Damage to Equipment

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

- 19 In AC-power systems only, plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).

End of Procedure

Upgrade Core 0 hardware

Procedure 235

Checking main Core card installation

The main Core cards are installed in the factory as shown in Figure 114 on [page 808](#).

- 1 NT4N65AC CP PII Core Network Interface (cCNI) cards:
Each system contains 1-4 NT4N65AC cCNI card per Core/Net module. The cCNI cards are located in slot c9-c12. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots which do not contain cCNIs.

Note: In the NT4N40 Core/Net card cage, port 0 on the NT4N65AC Core to Network Interface (cCNI) Card in slot c9 must be configured as “group 0.” Port 1 on this card must be configured as group 1. The cCNI and 3PE cards for group 0 communicate through the NT4N29 cables. The cCNI to 3PE cables for groups 1 to 7 communicate through the NTND14 cables.
- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.
 - a. Check side ID switch settings for SU card in Core/Net 0 according to Table 81.

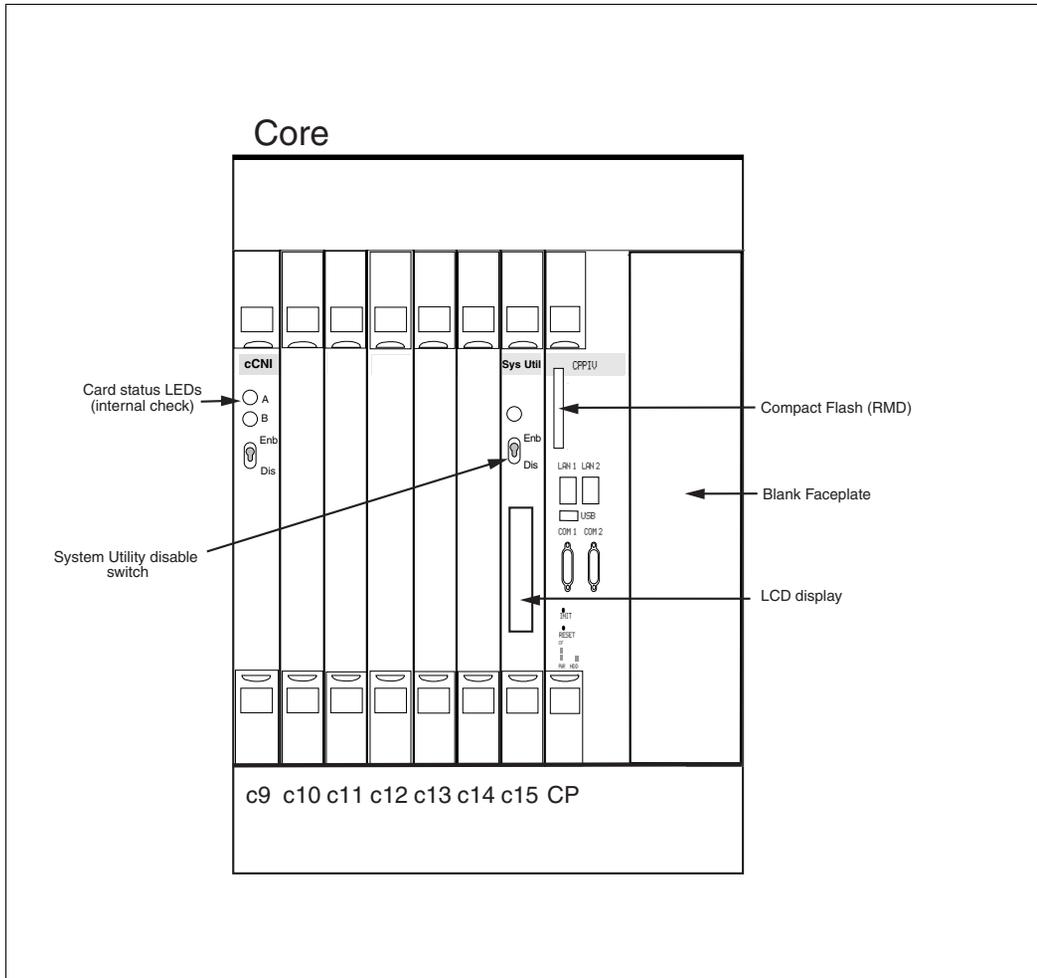
Table 81
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 4 NT4N39 CP PIV is located in the Call Processor slot.

————— **End of Procedure** —————

Figure 114
Core card placement in the NT4N41 Core/Net Module (front)



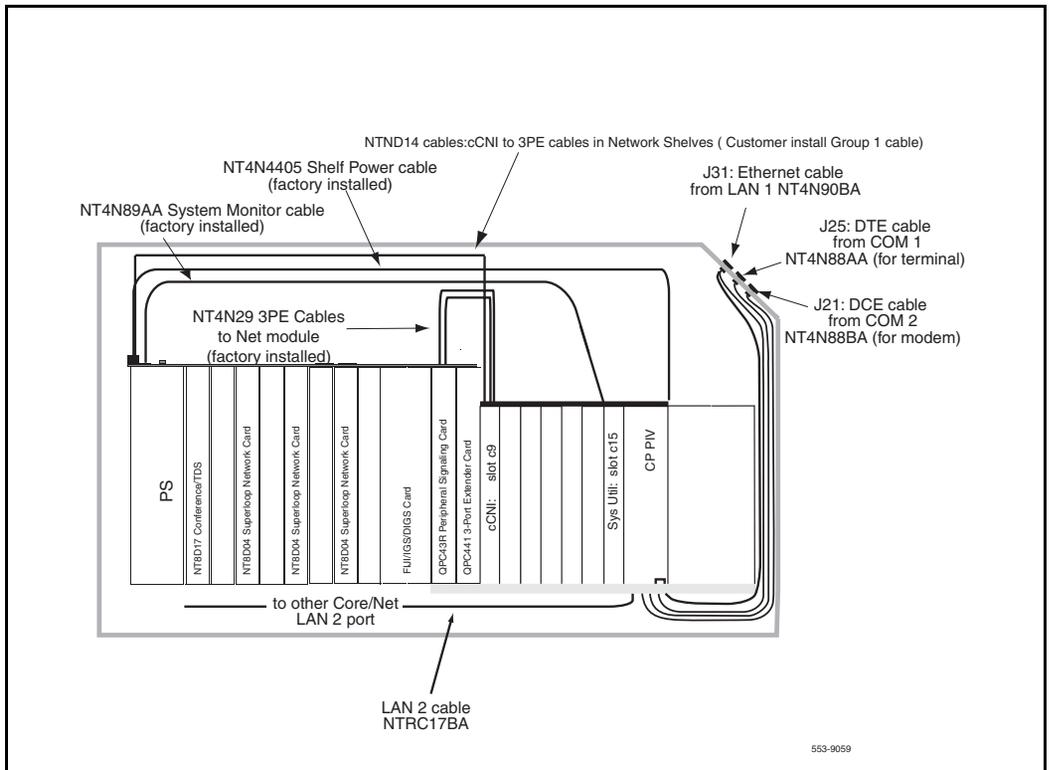
Check factory-installed cables

Table 82 lists factory-installed cables. See Figure 115.

Table 82
Factory-installed cables

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

Figure 115
Core/Net cable connections



Install the Security Device

Procedure 236

Installing the Security Device

The Security Device fits into the System Utility card (see Figure 116 on [page 811](#)).

To install the Security Device:

- 1 If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
 - a. Unlock the latches and remove the IODU/C card.
 - b. Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

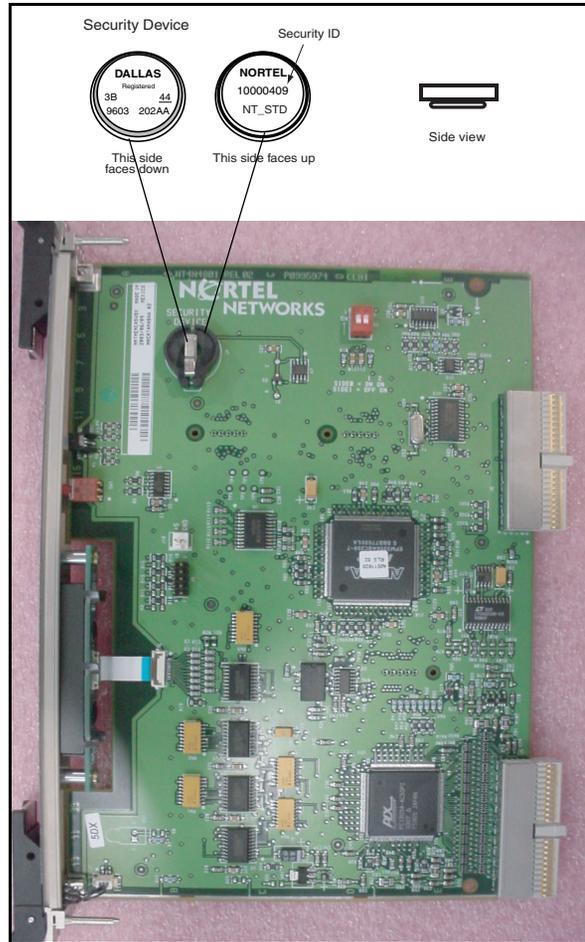
OR

If the original system did not have an IODU/C, use the Security Device provided with the CP PIV Software kit.

Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

Check that the Security Device is securely in place.

Figure 116
Security Device



Install the CP card cage in Core 0

Procedure 237

Installing the CP card cage in Core 0

- 1 Check that the card cage is configured as Core 0. See Table 83 for instructions.

Table 83

Core module ID switch settings (System Utility card)

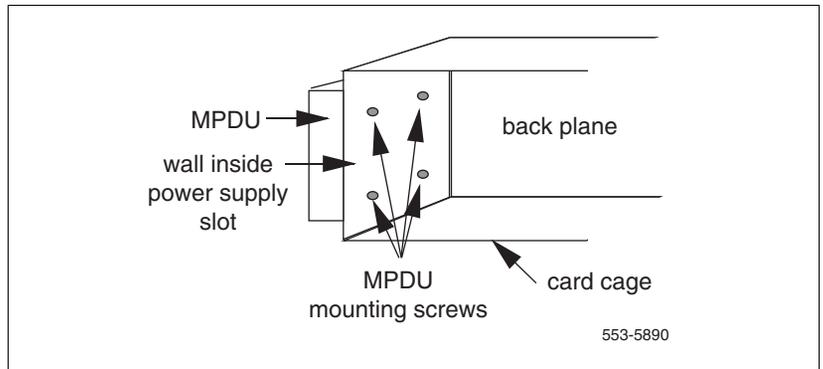
	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 2 For AC-powered systems only, install the new MPDU (part of the CP PIV Upgrade kit) to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 117 on page 813.

Note: Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

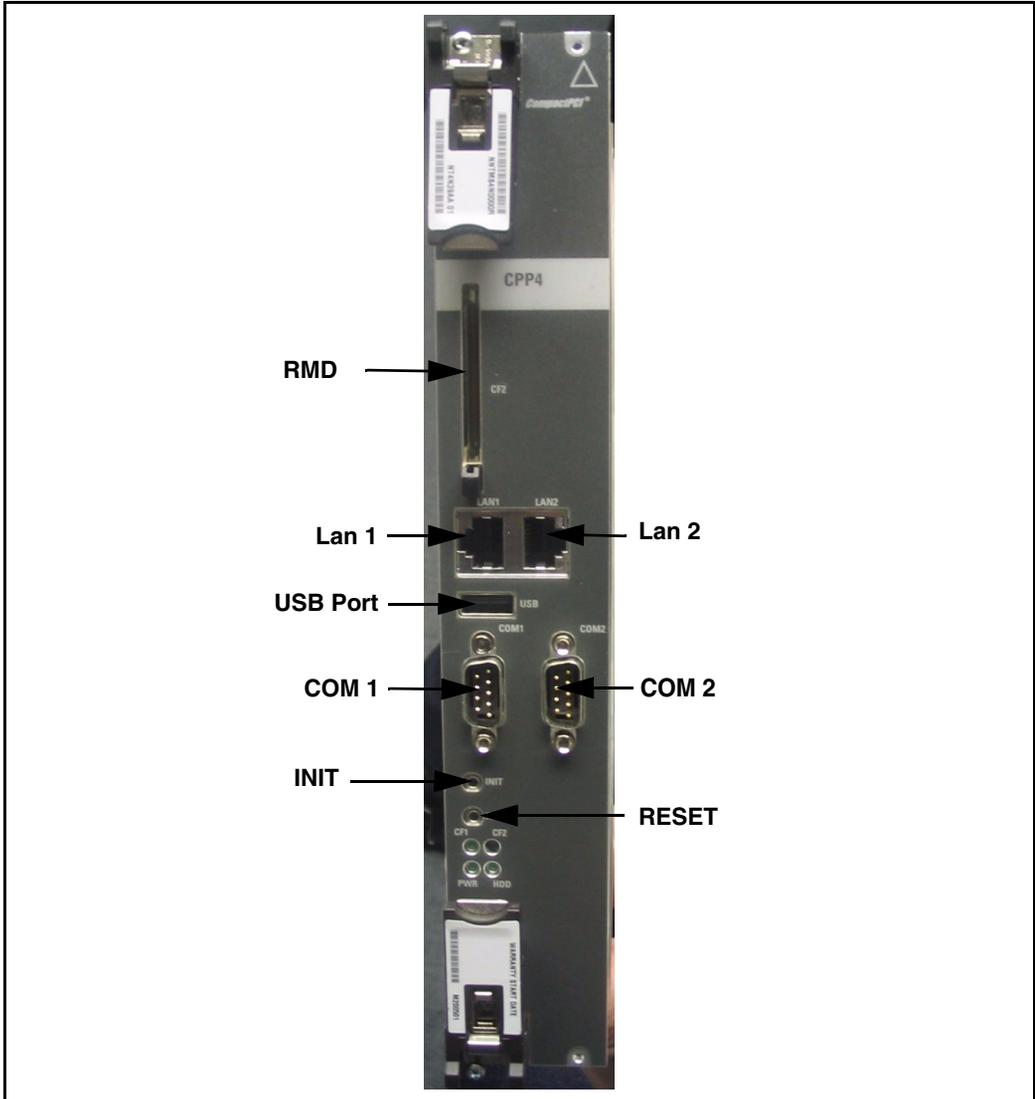
- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP PII card cage.
- 4 Slide the CP PII card cage halfway into the module.

Figure 117
Location of the screws for the MPDU



- 8** Secure the card cage and EMI shield to the module re-using the existing screws.
- 9** Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.
- 10** Connect the NTRC17BA cross over ethernet cable from LAN 2 on Core/Net 0 faceplate to LAN 2 on Core/Net 1 faceplate. Figure 62 on [page 561](#).

Figure 118
CP PIV call processor card (front)



————— End of Procedure —————

Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply

Procedure 238 Installing the power supply

- 1 Unpack the power supply.
- 2 Faceplate-disable the power supply.
- 3 Insert power supply into Core/Net module power supply slot.

End of Procedure

Procedure 239 Relocating Network cards to CP PIV Core/Net 0

- 1 Move any existing cards from slots 0-11 of the old Core/Net 0 card cage to the same slots (0-11) in the new NT4N40 Core/Net 0 card cage.
- 2 Connect the tagged cables to the relocated cards.
- 3 When you move the 3PE card, check the switch settings and jumpers. See Table 77 on [page 758](#).
 - a. All 3PE cards must be vintage F or later.
 - b. Check that the RN27 Jumper is set to "A".

- c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves. Table 84 shows the 3PE settings for cards installed in CP Core/Net Modules.

Table 84
QPC441 3PE Card installed in the NT4N40 Module

Jumper settings. Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PIV)		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
	Group 1	off	on	on	off	on	on	off	on
	Group 2	off	on	on	off	on	off	on	on
	Group 3	off	on	on	off	on	off	off	on
	Group 4	off	on	on	off	off	on	on	on
	Group 5	off	on	on	off	off	on	off	on
	Group 6	off	on	on	off	off	off	on	on
	Group 7	off	on	on	off	off	off	off	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off
	Group 1	off	on	on	off	on	on	off	off
	Group 2	off	on	on	off	on	off	on	off
	Group 3	off	on	on	off	on	off	off	off
	Group 4	off	on	on	off	off	on	on	off
	Group 5	off	on	on	off	off	on	off	off
	Group 6	off	on	on	off	off	off	on	off
	Group 7	off	on	on	off	off	off	off	off

————— **End of Procedure** —————

Cable Core 0

Cable COM 1 and COM 2 to the I/O panel

- 1 Connect COM1 on the CP PIV faceplate to J25 on the I/O panel with cable NT4N88AA.
- 2 Connect COM2 on the CP PIV faceplate to J21 on the back of the I/O panel with cable NT4N88BA.

Connect a terminal and modem to the I/O panel

- 1 Connect J25 to a terminal for use during the upgrade. Use a separate terminal for each Core if available. J25 can also be connected to an A/B box to share a terminal between both Cores.
- 2 Connect J21 to the device connected in the original system (such as a modem or A/B box).

Connect LAN 1

The LAN 1 port is used to enable redundancy features between the two Core/Net modules. LAN 1 can also be connected to a local area network (LAN) for use with LAN based administration tools such as OTM. The options for the LAN 1 connections are shown in Figure 119 on [page 820](#).

Procedure 240

If the system will be connected to a LAN

- 1 Connect the Dual Ethernet Adapter (RJ-45) for I/O Panel (NTRE40AA) to J31. Secure the adapter to J31 with the two screws included in the shipment. Insert the adapter from the inside of the I/O panel.
- 2 Connect LAN 1 (Ethernet) on the CP PIV faceplate to J31 (top) of the I/O panel with cable NT4N90BA. This connection can only be made *after* the Dual Ethernet Adapter is installed (see step 1 above).
- 3 Connect J31 to a LAN switch.
- 4 If a LAN switch is not available, connect J31 of Core 0 to J31 of Core 1 by NTRC17BA cable.

End of Procedure

Figure 119
Options for LAN 1 connection

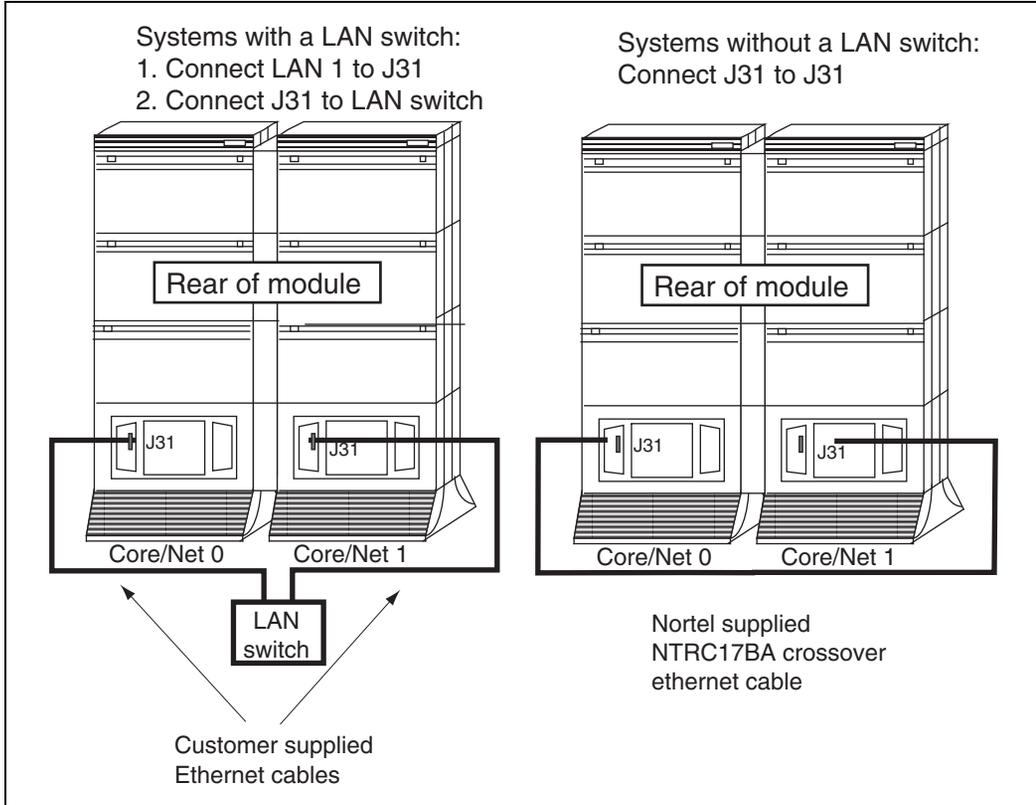
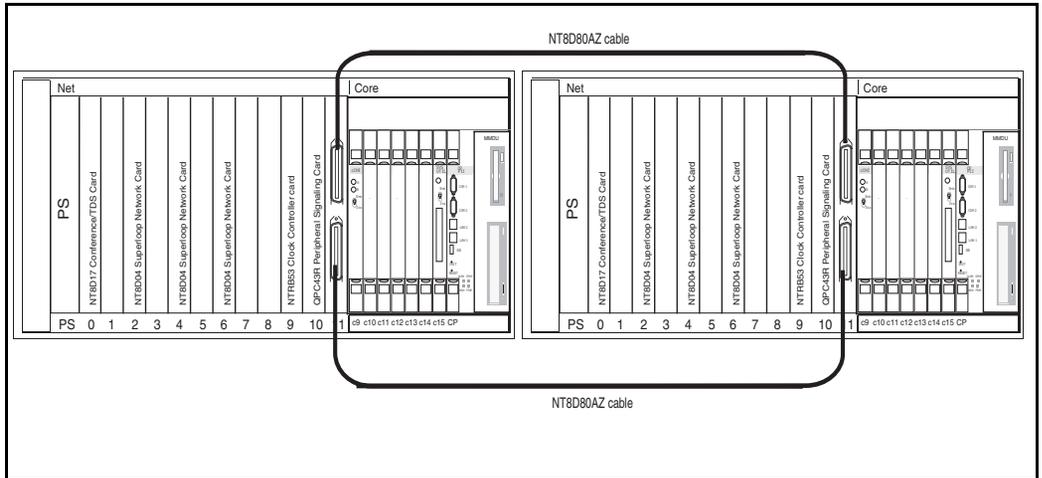


Figure 120
3PE card connections



In Core 0, inspect factory-installed cables

The NT4N29AA cables should be installed for the existing network group in Core/Net 0. If the system has XSDI cards, reinstall the cards and attach the cables. Inspect the system monitor cables (NT4N89).

Installing intermodule cables

Procedure 241

Installing intermodule cables

- 1 Connect the NT8D99AD and NT8D80BZ cables.
- 2 Install NT8D99AD cables between the D connectors on the backplane of each Core/Net module. Install another NT8D99AD cable between the E connectors on the backplane of each Core/Net module (see Figure 121 on [page 822](#)).

- 3 Install an NT8D80BZ cable between the J3 connector on the 3PE card in Core/Net 0 and the J3 connector on the 3PE card in Core/Net 1. Install another cable between the J4 connectors on the 3PE cards (see Figure 122 on [page 823](#)).
- 4 If the system has XSDI cards, reinstall the cards and attach the cables.

————— End of Procedure —————

Figure 121
Fanout Panel connections on the CP Core/Net backplane

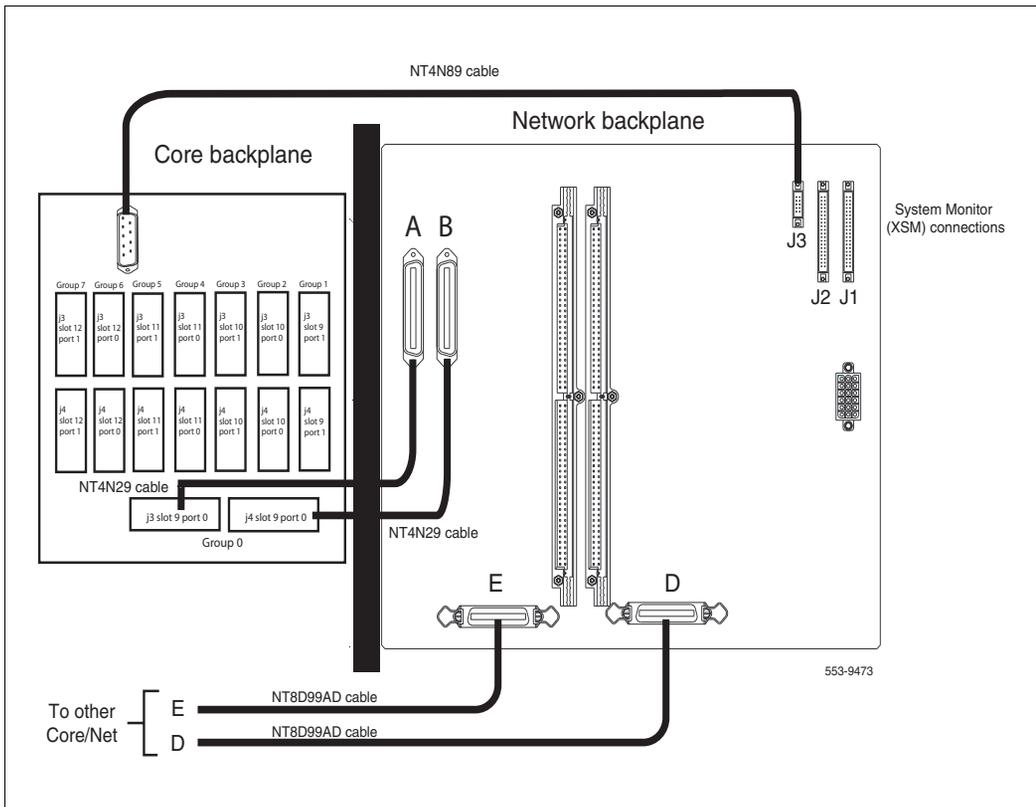
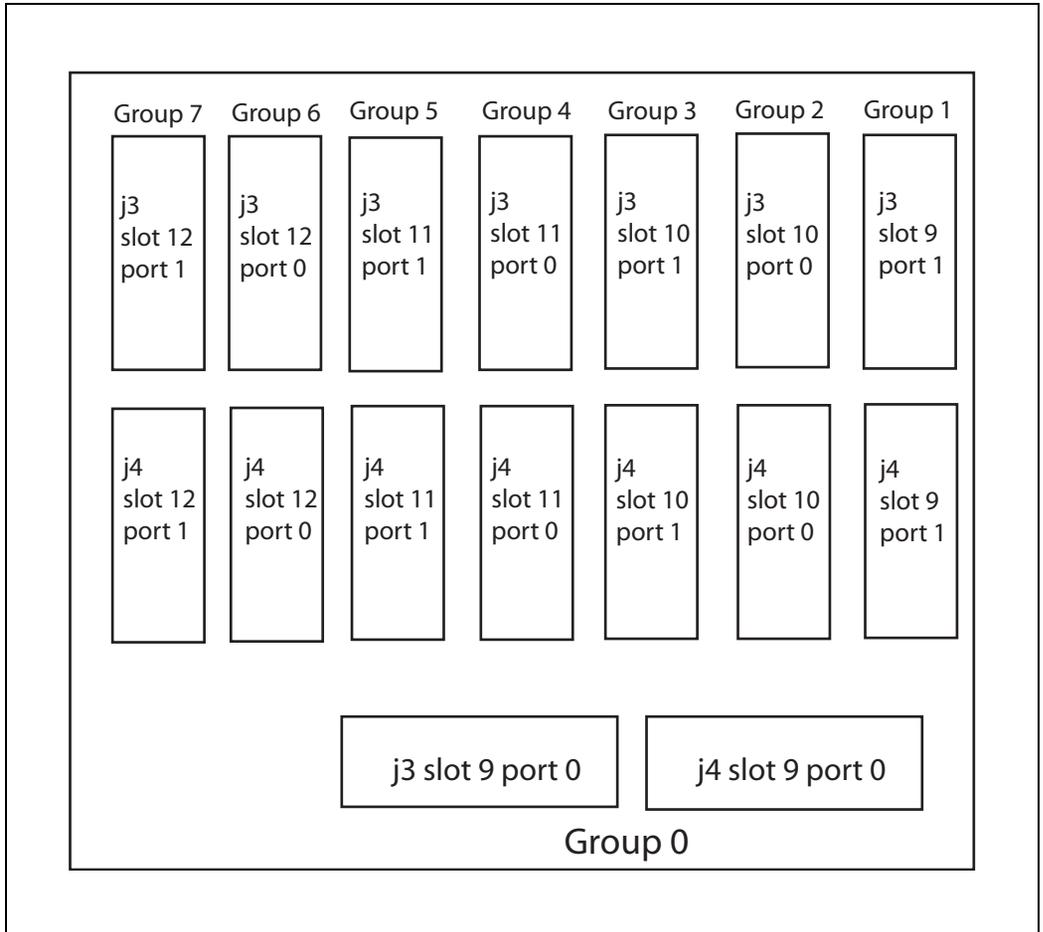


Figure 122
Fanout panel connectors





WARNING

Damage to Equipment

Do not pry against the connector with the extraction tool. Simply inserting the tool between the connector and the securing clip is sufficient to unlock the connector. Prying may cause damage to the connector or the backplane pins.

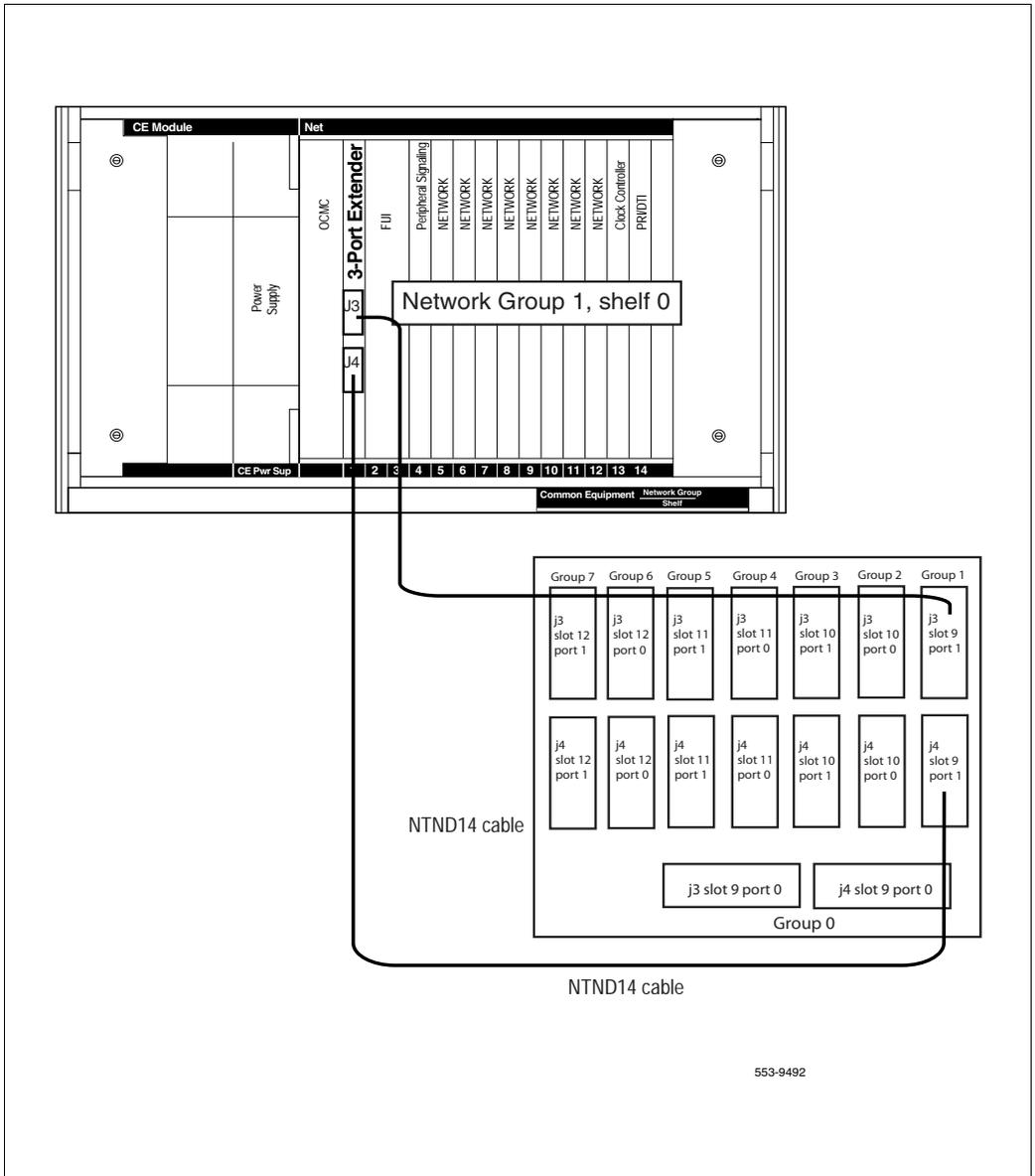
Table 85
Fanout Panel to 3PE card connectors

Group Number	Fanout Panel connector	3PE card connector
0	9-0, J3	A
0	9-0, J4	B
1	9-1, J3	J3
1	9-1, J4	J4
2	10-0, J3	J3
2	10-0, J4	J4
3	10-1, J3	J3
3	10-1, J4	J4
4	11-0, J3	J3
4	11-0, J4	J4
5	11-1, J3	J3
5	11-1, J4	J4
6	12-0, J3	J3
6	12-0, J4	J4
7	12-1, J3	J3
7	12-1, J4	J4

Note 1: Group 0 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1 (see Figure 123 on [page 825](#)).

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 123 on [page 825](#))

Figure 123
3PE Fanout Panel connections



553-9492

Add Side 0 FIJI hardware

Procedure 242

Install Side 0 FIJI cards

- 1 Unpack the FIJI cards (NTRB33).
- 2 Faceplate-disable the NTRB33 cards.
- 3 Insert and seat the FIJI cards in all Side 0 shelves.

————— **End of Procedure** —————

Procedure 243

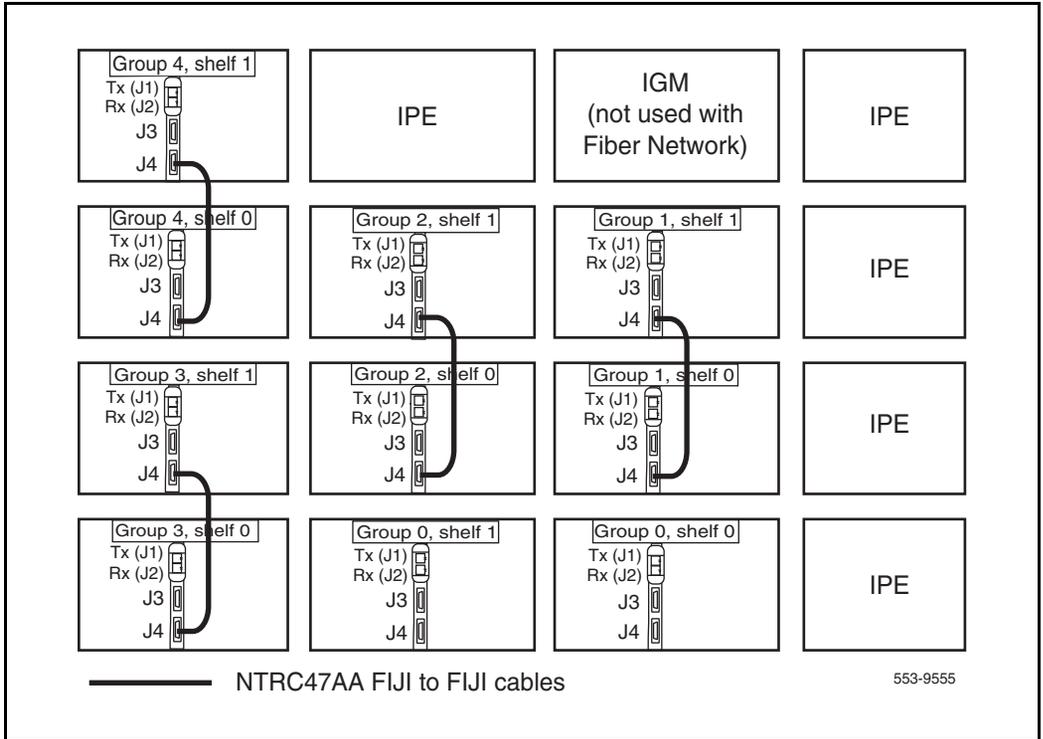
Connect the FIJI to FIJI cables

- 1 Connect P1 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 1, except group 0.
- 2 Connect P2 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 0, except group 0.

Note: The FIJI cards in Group 0 do not receive a FIJI to FIJI cable.

————— **End of Procedure** —————

Figure 3
FIJI shelf 0 to FIJI shelf 1 connections



Procedure 244

Connecting the shelf 0 FIJI Ring cables (ascending)

Create Fiber Ring 0. Connect the FIJI cards in all Network shelves 0 in **ascending** order, from Tx to Rx ports (see Figure 124 on page 829 and Figure 125 on page 831).



IMPORTANT!

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

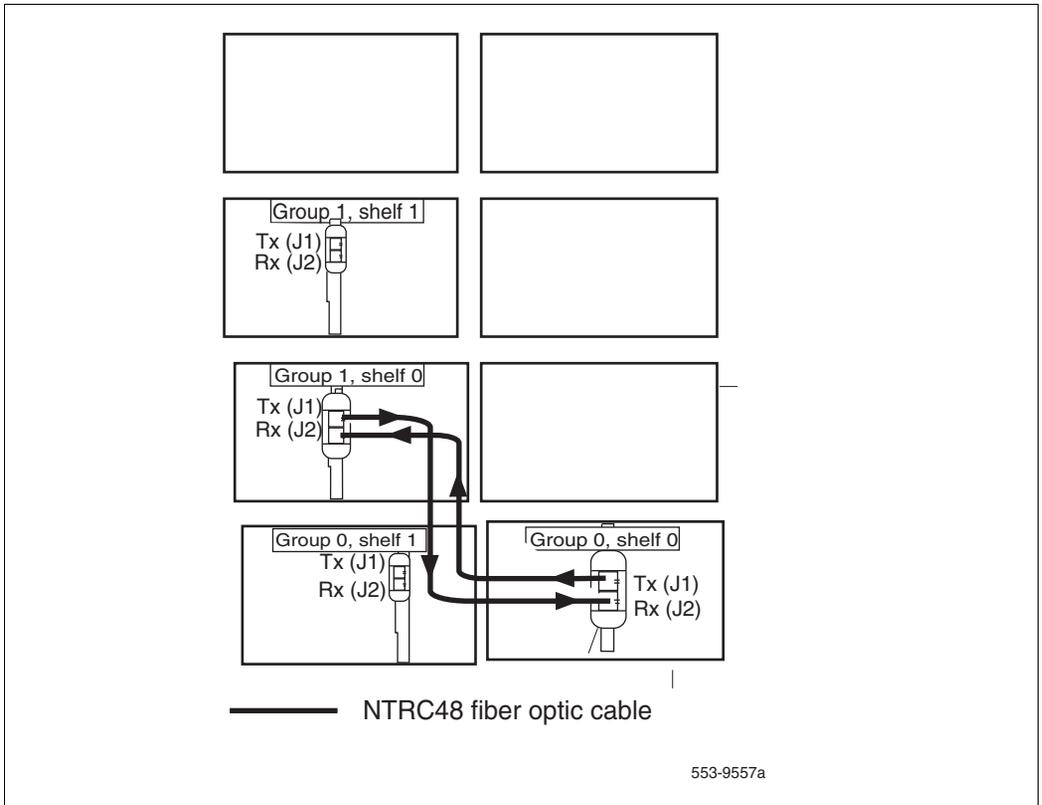
Note: When adding an additional network group, fiber cables must be changed to adhere to the rules above.

Remove the black cap from the end of each cable before it is connected.

Note: Each end of the NTRC48xx cable is labeled “Tx” or Rx” in the factory.

- 1 Start with group 0, shelf 0.
- 2 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 0** to the Rx (J2) port of the FIJI card in **Group 1, shelf 0**.
- 3 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 1, shelf 0** to the Rx (J2) port of the FIJI card in **Group 2, shelf 0**.
- 4 Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 0 of each Network group. Connect these cables in **ascending** order of Network groups.

Figure 124
Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 2 group example)



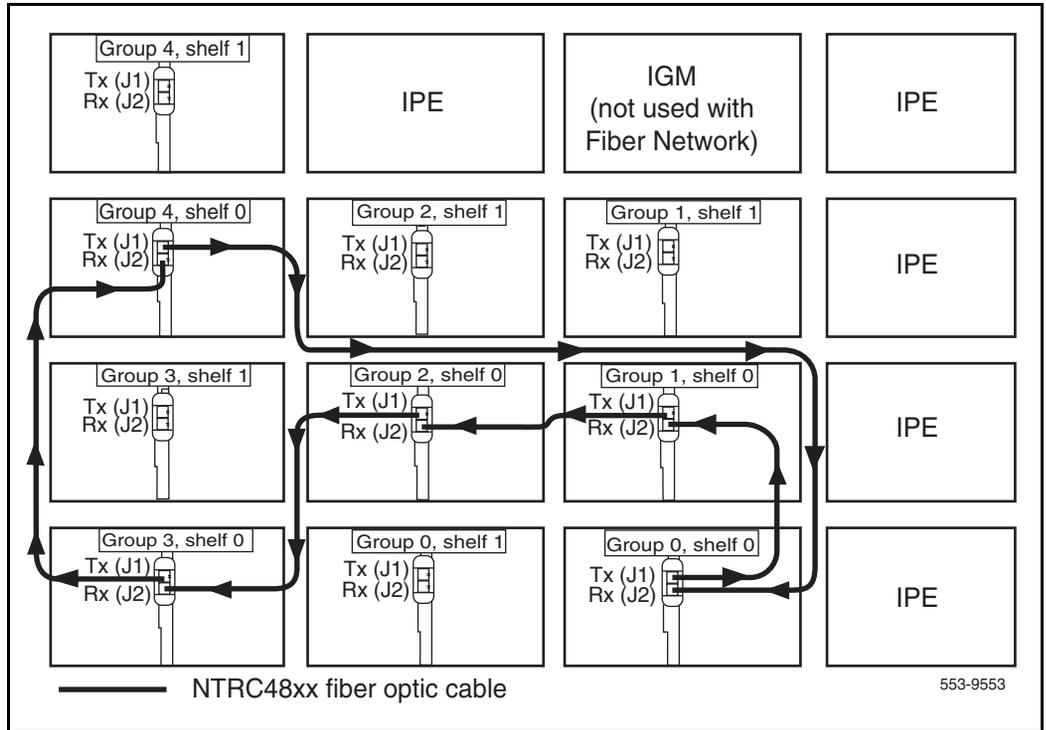
- 5 To complete the Ring, connect a final cable from the Tx (J1) port in the **highest number group** back to the Rx (J2) port in **Group 0, shelf 0**.

Table 86
FIJI Ring 0 connections

Groups X - 0 are cabled in ascending order		
Group/Shelf	FIJI Connector	Tx/Rx
0/0	P1	Tx
1/0	P2	Rx
1/0	P1	Tx
2/0	P2	Rx
2/0	P1	Tx
3/0	P2	Rx
3/0	P1	Tx
4/0	P2	Rx
4/0	P1	Tx
5/0	P2	Rx
5/0	P1	Tx
6/0	P2	Rx
6/0	P1	Tx
7/0	P2	Rx
7/0	P1	Tx
0/0	P2	Rx

End of Procedure

Figure 125
Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 5 group example)



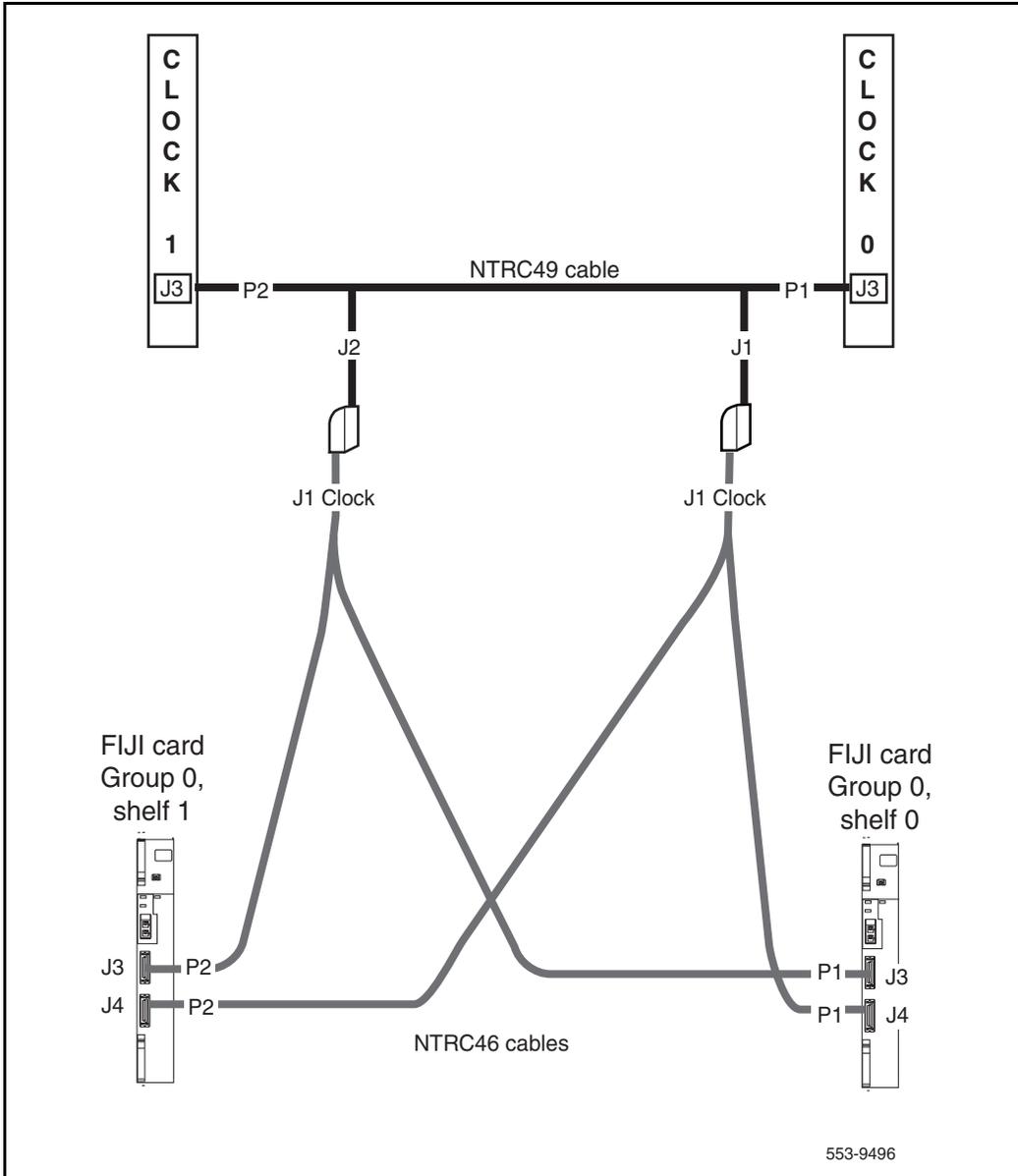
Procedure 245
Cabling the Clock Controllers to FIJI card

Connect the cables to the Clock Controllers as shown in Figure 126 on [page 832](#):

- 1 Connect the Clock 0 to FIJI cable:
 - a. Connect P1 of the NTRC46 cable from Clock 0 to **J4** of the FIJI card in group 0, **shelf 0**.
- 2 Connect the Clock 1 to FIJI cable:
 - a. Connect P1 of the NTRC46 cable from Clock 1 to **J3** of the FIJI card in group 0, **shelf 0**.

————— **End of Procedure** —————

Figure 126
Clock Controller cable configuration



Power up Core 0

Procedure 246

Preparing for power up

- 1 Confirm that a terminal is connected to the J25 I/O panel connector on Core/Net 0.

Note: A maintenance terminal is required to access the Core/Net modules during the upgrade.

- 2 Connect a terminal to the J25 port on the I/O panel in Core 0.

- 3 Check the terminal settings as follows:

- a. 9600 baud
- b. 8 data
- c. parity none
- d. 1 stop bit
- e. full duplex
- f. XOFF

Note: If only one terminal is used for both Cores, the terminal will have to be switched from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

- 4 Seat and Faceplate-enable Clock Controller 0 and ALL FIJI on Shelf 0.
- 5 Faceplate-enable all core and network cards.

End of Procedure

Power up Core cards

Procedure 247

Powering up core cards

- 1 Verify that the NTRC17BA crossover ethernet cable is connected from the faceplate of CPU 0 to the faceplate of CPU 1.
- 2 For AC-powered systems (NT8D29BA): set the MPDU circuit breaker located at the left end of the module to ON (top position).

- 3 For DC-powered systems: faceplate-enable the NT6D41CA power supply and then set the breaker for the Core 0 module in the back of the column pedestal to ON (top position).



Core/Net 1 is now active. All network cards in Core/Net 0 and Core/Net 1 are enabled.

End of Procedure

Procedure 248
Testing Core/Net 1

- 1 Check dial-tone.
- 2 Test the Fiber Rings

See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a. Check that the Fiber Rings operate correctly:

LD 39	Load program
ENL RING 0	Enable Ring 0
STAT RING 0	Check the status of Ring 0 (HALF/HALF)
STAT RING 1	Check the status of Ring 1 (HALF/HALF)

- b. Restore the Rings to Normal State:

RSET	Reset both Rings
RSTR	Restore both Rings to HALF state
ARCV ON	Turn Auto Recovery on

c. Check that the Rings operate correctly:

STAT RING 0 Check status of Ring 0 (HALF/HALF)

STAT RING 1 Check status of Ring 1 (HALF/HALF)

**** Exit program

3 Stat network cards:

LD 32 Load program

STAT x Stat the network card, where x = loop number

**** Exit program

4 Test the clocks:

a. Verify that the clock controller is assigned to the *active* Core:

LD 60 Load program

SSCK x To get the status of the clock controllers
(x is "0" or "1" for Clock 0 or Clock 1)

SWCK Switch Clock (if necessary)

**** Exit program

b. Verify that the clock controllers are switching correctly:

SWCK Switch Clock

Note: You must wait a minimum of one minute for clocks to synchronize.

SWCK Switch Clock again

**** Exit program

5 Stat D-channels:

LD 96

STAT DCH Stat all D-channels

**** Exit program

6 Stat all T1 interfaces:

LD 60

STAT Stat all DTI and PRI

**** Exit program

7 Stat network cards:

LD 32

STAT x x = loop number

**** Exit program

8 Print status of all controllers:

LD 97

REQ PRT

TYPE XPE (returns status of all controller cards)

**** Exit program

9 Make internal, external and network calls.

10 Check attendant console activity.

11 Check DID trunks.

12 Check applications (CallPilot, Symposium, Meridian Mail, and so on.)

End of Procedure

CS 1000 Release 5.0 upgrade

Upgrading the software

Procedure 249 outlines the steps involved in installing CS 1000 Release 5.0 for the CP PIV processor.

Procedure 249

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  
  
=====
```

<pre>You selected to quit. Please confirm. Please enter: <CR> -> <y> - Yes, quit. <n> - No, DON'T quit. Enter choice></pre>

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 displays the Install Menu. Select option "".

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

I N S T A L L M E N U

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

 Please enter:

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

 For Feature Expansion, use OVL143.

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

Enter Choice>

- 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 XXXXX
Option	Choice	Status	Comment
Dependency Lists	yes		
Option	Choice	Status	Comment
IPMG Software	yes		install for rel XXXXX
Option	Choice	Status	Comment
DATABASE	yes		
Option	Choice	Status	Comment
CP-BOOTROM	yes		

- 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 install Software release: XXXX on
the new system.

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

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

Please enter:

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

           <q> - Quit.

           Enter choice>
```

- 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>
    
```

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>

>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 250

Verifying the upgraded database

- 1 Print ISSP (system software issue and patches)

LD 22 Load program

REQ ISSP

******** Exit program



Core 1 is now active, clock 1 is active, FIJI 1 is half/half, CNI is disabled in Core 0. The system is in split mode.

————— **End of Procedure** —————

Making the system redundant

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

Procedure 251**Making the system redundant**

- 1 On Core 1 (the active Core), 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

- 2 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
```

- 3 Tier 1 and Tier 2 health of both Cores must be identical in order to successfully switch service from Core 1 to Core 0 CPUs.

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
    sut1 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
```



The system is now operating in full redundant mode with Core/Net 1 active.

Note: On FNF based systems after the INI:
A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, downloading up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

End of Procedure

Complete the CP PIV upgrade

LD 137

The CMDU/MMDU commands are not applicable to CP PIV. Instead, the following commands are used 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 Cores

Procedure 252

Testing Core/Net 1

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

From Core/Net 1, perform these tests:

1 Perform a redundancy sanity test:

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

2 Test the System Utility card and the cCNI cards:

LD 135	Load program
STAT SUTL	Get the status of the System Utility card
TEST SUTL	Test the System Utility card
STAT CNI c s	Get status of cCNI cards (core, slot)
TEST CNI c s	Test cCNI (core, slot)

3 Test system redundancy:

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)

4 Install the two system monitors. Test that the system monitors are working:

LD 37	Load program
ENL TTY x	Enable the XMS, where x= system XMS
STAT XSM	Check the system monitors
****	Exit program

5 Clear the display and minor alarms on both Cores:

- LD 135** Load program
- CDSP** Clear displays on the cores
- CMAJ** Clear major alarms
- CMIN ALL** Clear minor alarms

6 Test the clocks:

a. Verify that the clock controller is assigned to the *active* Core:

- LD 60** Load program
- SSCK *x*** Get status of the clock controllers (*x* is “0” or “1” for Clock 0 or Clock 1)
- SWCK** Switch the Clock (if necessary)
- ****** Exit program

b. Verify that the Clock Controllers are switching correctly:

- SWCK** Switch Clock

Note: You must wait a minimum of one minute for clocks to synchronize.
- SWCK** Switch Clock again

7 Test the Fiber Rings:

See *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

a. Check that the Fiber Rings operate correctly:

LD 39 Load program

STAT RING 0 Check the status of Ring 0 (HALF/HALF)

STAT RING 1 Check the status of Ring 1 (HALF/HALF)

b. If necessary, restore the Rings to Normal State:

RSTR Restore both Rings to HALF state

c. Check that the Rings operate correctly:

STAT RING 0 Check the status of Ring 0 (HALF/HALF)

STAT RING 1 Check the status of Ring 1 (HALF/HALF)

8 Check the status of the FIJI alarms:

STAT ALRM Query the alarm condition for all FIJI cards in
all Network Groups

******** Exit program

9 Check applications (CallPilot, Symposium, Meridian Mail, and so on.).

10 Check dial tone.

End of Procedure

Switch call processing

Procedure 253 Switching call processing

LD 135	Load program
SCPU	Switch call processing from Core/Net 1 to Core/Net 0



Core/Net 0 is now the active call processor.

Procedure 254 Testing Core/Net 0

From Core/Net 0, perform these tests:

1 Perform a redundancy sanity test:

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

2 Test the System Utility card and the cCNI cards:

LD 135	Load program
STAT SUTL	Get the status of the System Utility card
TEST SUTL	Test the System Utility card
STAT CNI c s	Get status of cCNI cards (core, slot)
TEST CNI c s	Test cCNI (core, slot)

3 Test system redundancy:

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)

4 Install the two system monitors. Test that the system monitors are working:

LD 37	Load program
ENL TTY x	Enable the XMS, where x= system XMS
STAT XSM	Check the system monitors
****	Exit program

5 Clear the display and minor alarms on both Cores:

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

6 Test the clocks:

- a. Verify that the clock controller is assigned to the *active* Core:

LD 60	Load program
SSCK <i>x</i>	Get status of the clock controllers (<i>x</i> is “0” or “1” for Clock 0 or Clock 1)
SWCK	Switch the Clock (if necessary)
****	Exit program

- b. Verify that the Clock Controllers are switching correctly:

SWCK	Switch Clock
-------------	--------------

Note: You must wait a minimum of one minute for clocks to synchronize.

SWCK	Switch Clock again
-------------	--------------------

7 Test the Fiber Rings:

See *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a. Check that the Fiber Rings operate correctly:

LD 39	Load program
STAT RING 0	Check the status of Ring 0 (HALF/HALF)
STAT RING 1	Check the status of Ring 1 (HALF/HALF)

- b. If necessary, restore the Rings to Normal State:

RSTR	Restore both Rings to HALF state
-------------	----------------------------------

- c. Check that the Rings operate correctly:

STAT RING 0	Check the status of Ring 0 (HALF/HALF)
STAT RING 1	Check the status of Ring 1 (HALF/HALF)

8 Check the status of the FIJI alarms:

STAT ALRM Query the alarm condition for all FIJI cards in all Network Groups

**** Exit program

9 Check applications (CallPilot, Symposium, Meridian Mail, and so on.).

10 Check dial tone.

End of Procedure

Switch call processing

Procedure 255

Switching call processing

LD 135 Load program

SCPU Switch call processing from CoreNet 0 to CoreNet 1



Core/Net 1 is now the active call processor.

Perform a customer backup data dump (upgraded release)

Procedure 256

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.



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.

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

 **** Exit program

The Meridian 1 Option 61C upgrade to Meridian 1 Option 81C CP PIV with FNF is complete.

Option 61C CP PII upgrade to Option 81C CP PIV with FNF

This section provides instructions for upgrading a source Meridian 1 Option 61C CP PII to a target platform of Meridian 1 Option 81C CP PIV with FNF.

Prepare for upgrade

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



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).

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

Each 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 87:

Table 87
Prepare for upgrade steps (Part 1 of 2)

Procedure Step	Page
Plan upgrade	872
Upgrade Checklists	873
Prepare	873
Identifying the proper procedure	874
Connect a terminal	874

Table 87
Prepare for upgrade steps (Part 2 of 2)

Procedure Step	Page
Print site data	875
Perform a template audit	878
Back up the database (data dump)	879
Transferring the database from floppy disk to CF (customer database media converter tool)	883

Plan upgrade

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.
- Review the current release product bulletin related specifically to the software being upgraded.
- 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.

Note: For information on adding new network shelves, see *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

- Ensure sufficient power for new columns/modules or applications.
- 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.

- Determine if software can be converted on site or must be sent to Nortel.
- 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 “Upgrade checklists” on [page 979](#). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).
- Verify proper cable lengths 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, Meridian Mail, TM 3.1, 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.

Identifying the proper procedure

Each procedure has been written in a “source- to-target” format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

Connect a terminal

Procedure 257 **Connecting a terminal**

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2 The settings for the terminal are:
 - a. 9600 baud
 - b. 8 data
 - c. parity none
 - d. 1 stop bit
 - e. full duplex
 - f. XOFF

- 3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

End of Procedure

Print site data

Print site data to preserve a record of the system configuration (see Table 88 on [page 875](#)). 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 88
Print site data (Part 1 of 4)

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

Table 88
Print site data (Part 2 of 4)

Site data	Print command	
*Customer data block for all customers	LD 21 REQ TYPE CUST	LD 21 PRT CDB <cr>
Route data block for all customers	LD 21 REQ TYPE CUST ROUT ACOD	PRT RDB Customer number <cr> <cr>
*Configuration Record	LD 22 REQ TYPE	PRT CFN
*Software packages	LD 22 REQ TYPE	PRT PKG
*Software issue and tape ID	LD 22 REQ REQ	ISS TID
* Peripheral software versions	LD 22 REQ TYPE	PRT PSWV
ACD data block for all customers	LD 23 REQ TYPE CUST ACDN	PRT ACD Customer Number ACD DN (or <CR>)

Table 88
Print site data (Part 3 of 4)

Site data	Print command	
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 TYPE LOOP APPL PH	PRT MISP loop number (0-158) <cr> <cr>
DTI/PRI data block for all customers	LD 73 REQ TYPE	PRT DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)

Table 88
Print site data (Part 4 of 4)

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

Perform a template audit

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

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



CAUTION — Service Interruption

Loss of Data

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

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

```
TEMPLATE AUDIT
STARTING PBX TEMPLATE SCAN
TEMPLATE 0001 USER COUNT LOW      CHECKSUM OK
TEMPLATE 0002 USER COUNT HIGH     CHECKSUM OK
TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN
TEMPLATE 0001 USER COUNT OK       CHECKSUM OK
•
•
TEMPLATE 0120 USER COUNT OK       CHECKSUM OK
TEMPLATE AUDIT COMPLETE
```

Back up the database (data dump)

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

Procedure 258 **Performing a data dump**

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

LD 43 Load program

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

EDD Begin the data dump



CAUTION — Service Interruption

Loss of Data

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

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

**** Exit program

- 5 Remove and label the floppy disk.



IMPORTANT!

Preserve database backup information for a minimum of 5 days.

End of Procedure

Making the RMD bootable



CAUTION — Data Loss

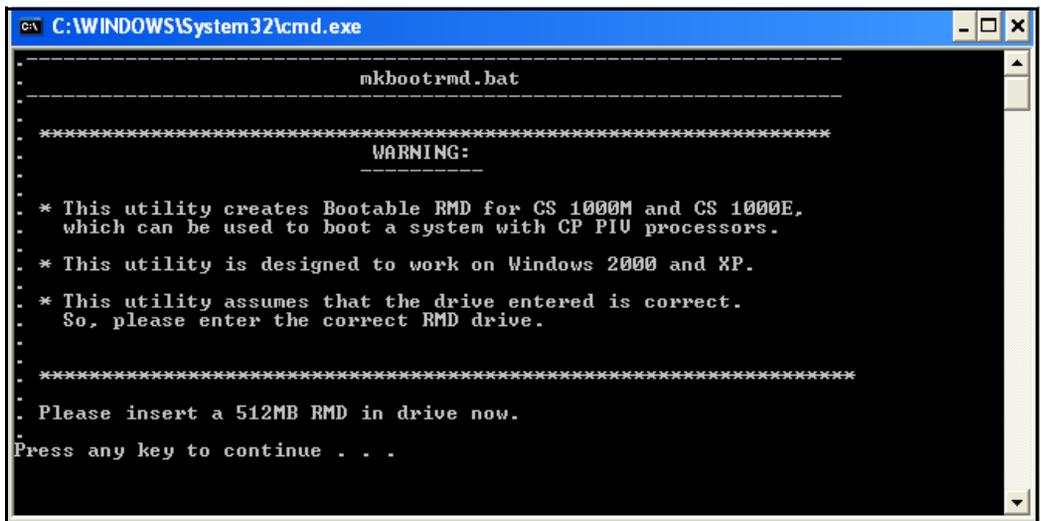
The PC utility used in the following procedure (mkbootrmd.exe) does not validate whether the drive letter entered is a valid RMD CF card. You must enter the correct RMD drive letter when prompted or risk formatting the incorrect drive.

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 206 on [page 719](#).

Procedure 259
Making the RMD bootable

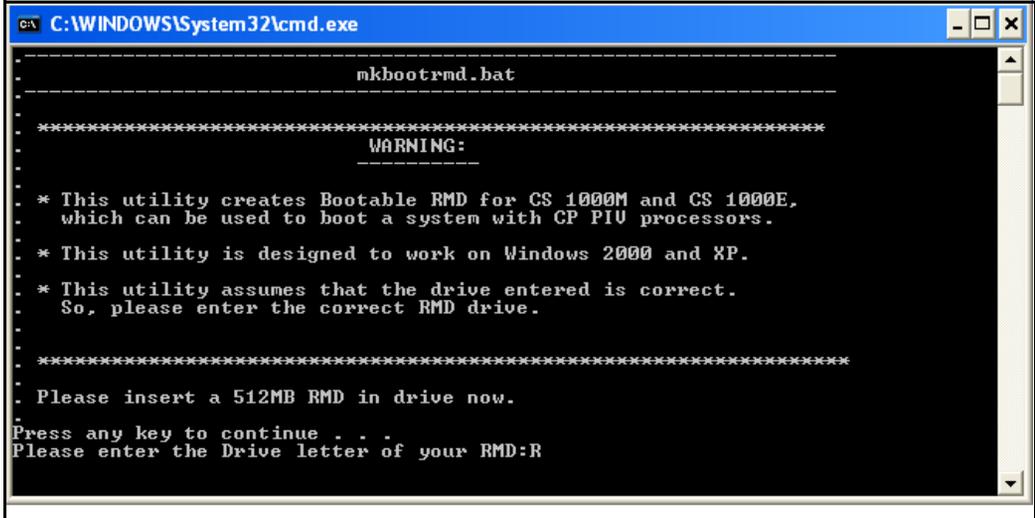
- 1 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the utilities folder.
- 3 Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 90).

Figure 127
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 PIU 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 . . .
```

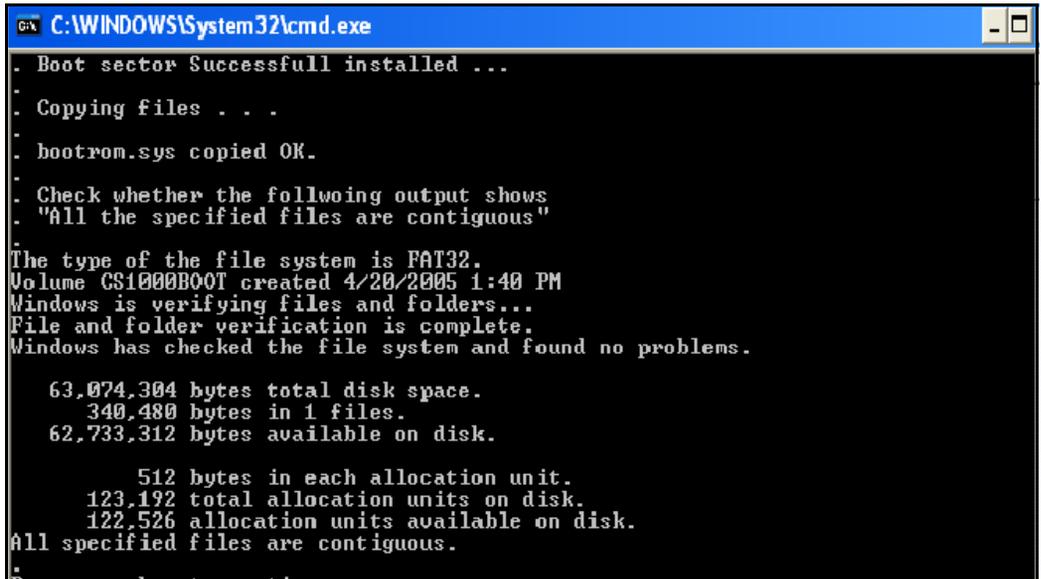
- 4 Enter the correct drive letter of the RMD (see Figure 128).

Figure 128
mkbootrmd.bat



- 5 The boot sector files (bootrom.sys and nvr.am.sys) are successfully copied making the CF card bootable (see Figure 129).

Figure 129
Boot sector successfully installed



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

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

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

End of Procedure

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



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).

The floppy disk that contains the backed up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MByte floppy disk to CF card, which is restored during the CS 1000

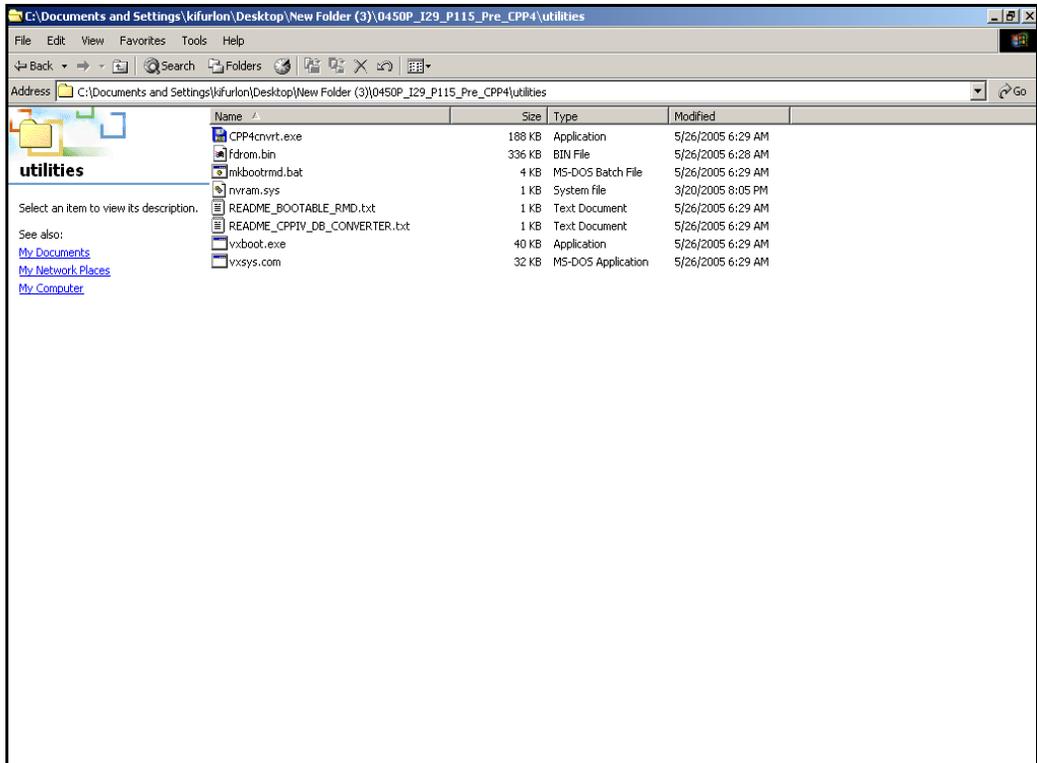
Release 4.5 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

Procedure 260
Transferring the customer database from floppy disk to CF

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 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the Utilities folder. See Figure 130.

Figure 130
Utilities folder



- 3 Insert the floppy disk containing the backed up customer database from Procedure 129 on [page 481](#).
- 4 Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
- 5 Start the Database Media Converter utility by double clicking the CPP4cnvrt.exe file. The first screen (Figure 131) prompts you to select the correct drive letter for the floppy disk drive.

Figure 131
Select the floppy disk drive



- 6 The utility then prompts you to insert the the floppy disk (diskette 1) and click OK (see Figure 132 on [page 886](#)).

Figure 132
Insert diskette 1



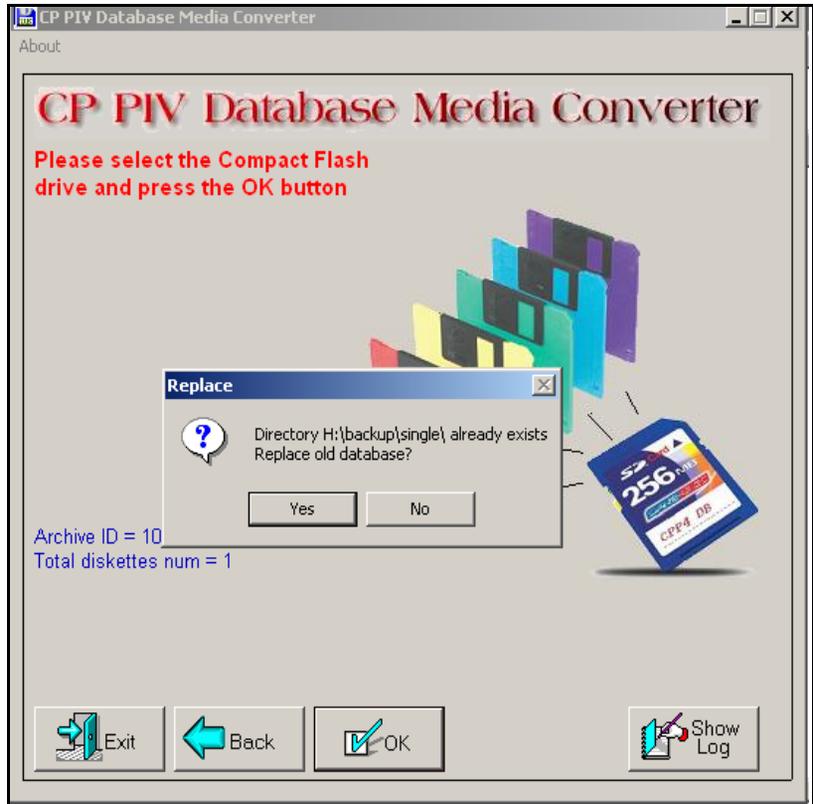
- 7 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 133 on [page 887](#)).

Figure 133
Select the CF drive



- 8** At this point, 2 options are available:
- If the CF card already contains a previously backed-up database, a dialog box appears (see Figure 134 on [page 888](#)). Click yes to replace old database.
 - If the CF card is blank, the database is backed up to the CF card.

Figure 134
Replace database on CF drive



- 9 The utility completes the transfer to CF and prompts you to copy another or EXIT.

Figure 135
Copy another or exit



End of Procedure

Perform upgrade

Review upgrade requirements

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

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



WARNING

Service Interruption

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



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).

Check required software

The following software packages are required to upgrade a system to Meridian 1 Option 81C with CP PIV:

- Compact Flash Software Install Kit, containing the following items:
 - One CF (512 MByte) card containing:
 - Install Software files
 - CS 1000 Release 4.5 software
 - Dep. Lists (PEPs)
 - Key code File

- One blank CF card for database backup
- One Nortel CS 1000 Release 4.5 Documentation CD
- FIBN Fiber Network Package 365



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 Downloads web site and installed as part of the upgrade process.

Check required hardware

Meridian 1 Option 81C CP PIV hardware is configured at the factory according to customer requirements. Table 89 lists the hardware required for the upgrade.

Table 89
Hardware requirements for Meridian 1 Option 81C CP PIV upgrade

Order number	Description	Quantity per system
NT4N39	Control Processor Pentium IV	2
N0026096	MMDU replacement faceplate	2

Figure 136 on [page 892](#) shows the CP PIV processor card side view.
Figure 137 on [page 893](#) shows the CP PIV processor card front view.

Figure 136
CP PIV call processor card (side)

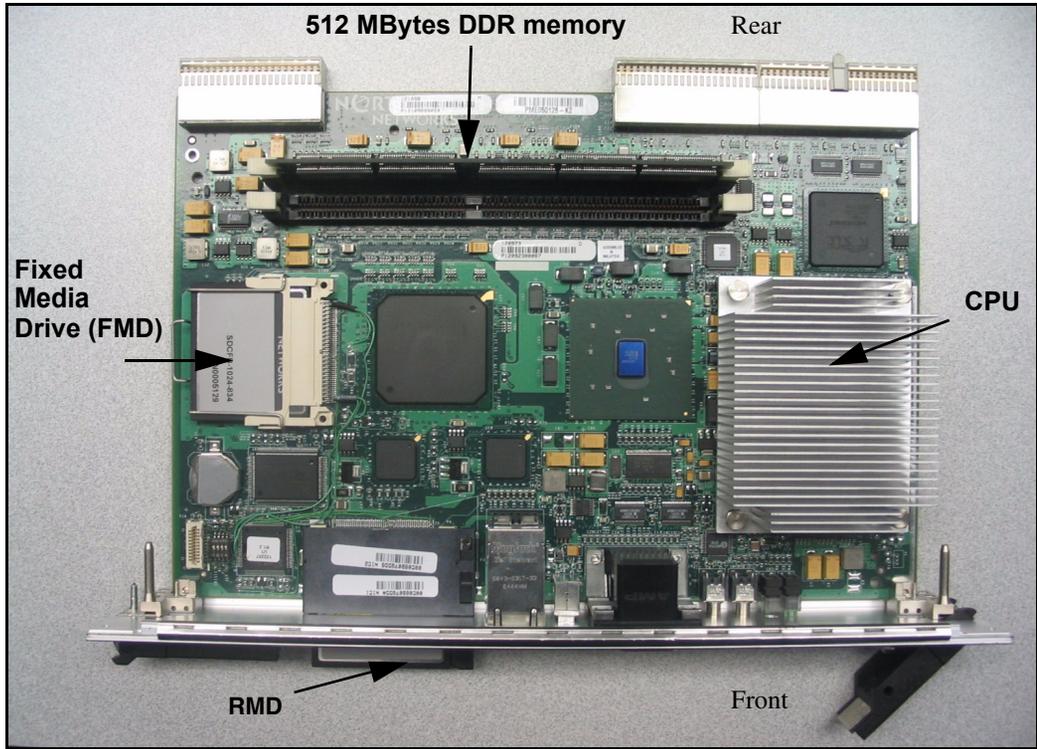


Figure 137
CP PIV call processor card (front)

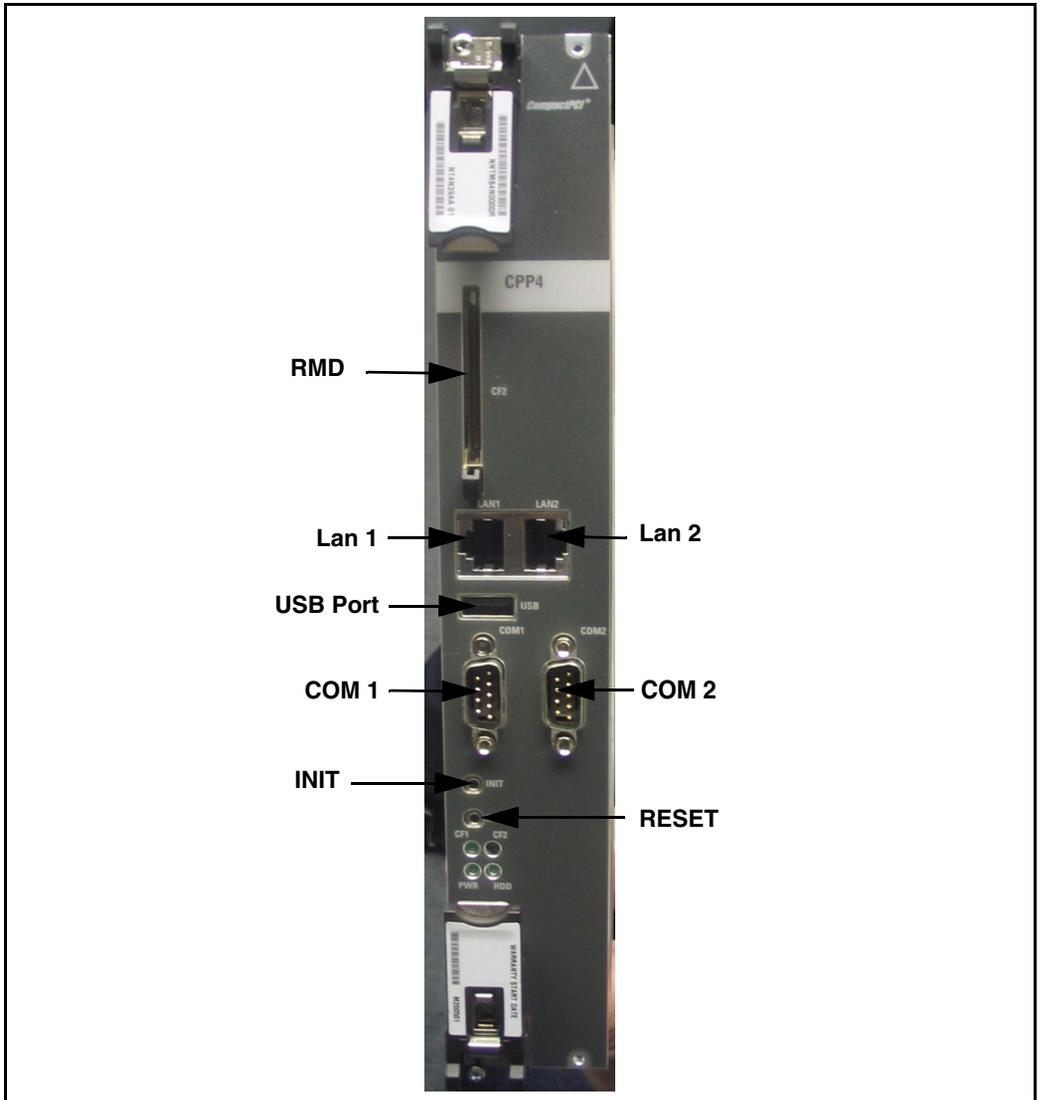
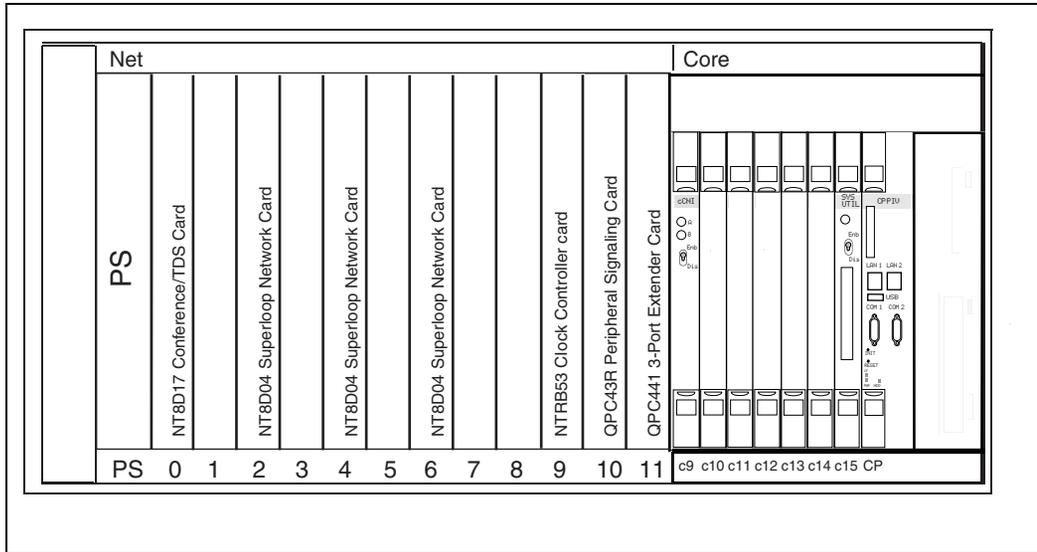


Figure 138
CP PIV NT4N41 Core/Net Module



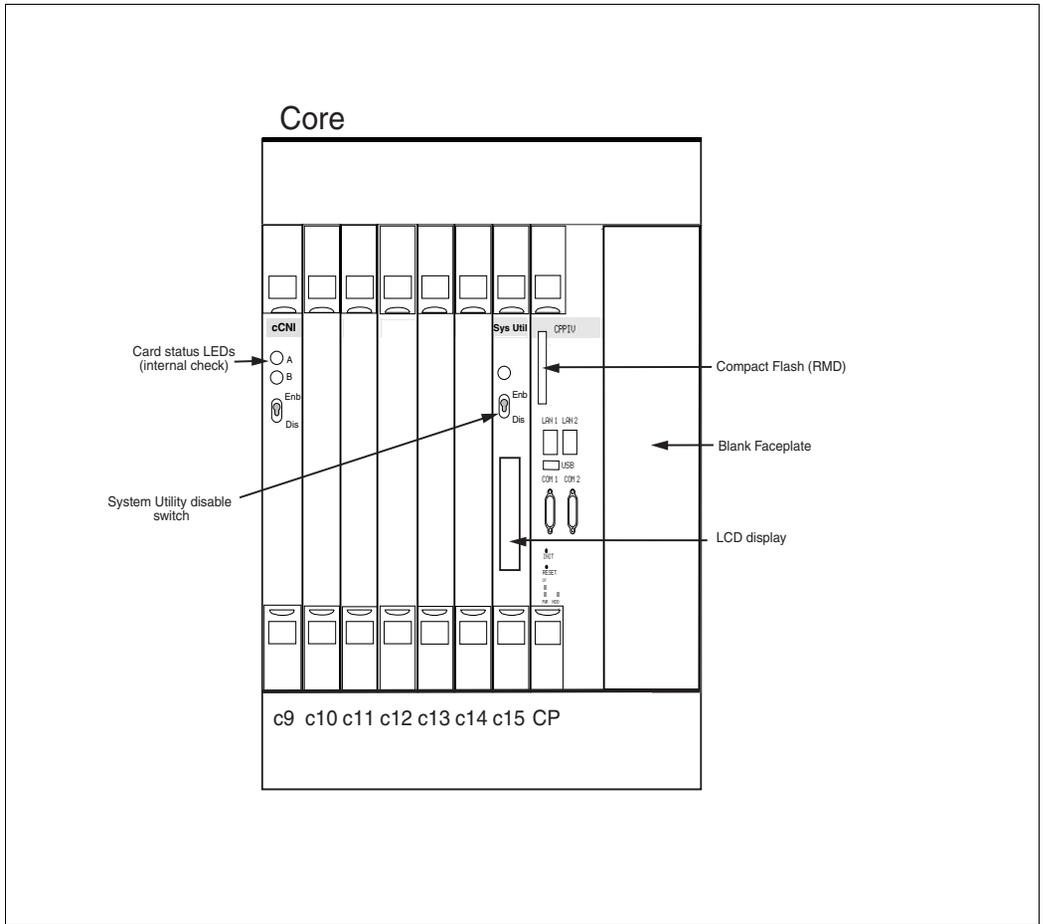
Verify CP PIV hardware

Verifying CP PIV card location

The NT4N39 CP PIV card is located in the Call Processor slot (see Figure 139 on [page 895](#)).

The N0026096 blank faceplate is located in the extreme right-hand slot next to the CP PIV card.

Figure 139
CP PIV Card location



Remove equipment from Core 1

Procedure 261

Checking that Core 0 is active

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

- 1 Verify that Core 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 Core 0 (if necessary)

******** Exit program

End of Procedure

Procedure 262

Checking that Clock Controller 0 is active

- 1 Check the status of the Clock Controllers:

LD 60 Load program

SSCK 0 Get the status of Clock Controller 0

SSCK 1 Get the status of Clock Controller 1

- 2 If Clock Controller 1 is active, switch to Clock Controller 0.

SWCK Switch to Clock Controller 0 (if necessary)

******** Exit program

End of Procedure

Procedure 263
Splitting the Cores

- 1 In Core/Net 0, enter the SPLIT command from LD 135.

LD 135 Load program

SPLIT Split the Cores

******** Exit program

- 2 Hardware disable all CNI cards in Core 1.



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

End of Procedure

Remove Core 1 CP PII card and MMDU

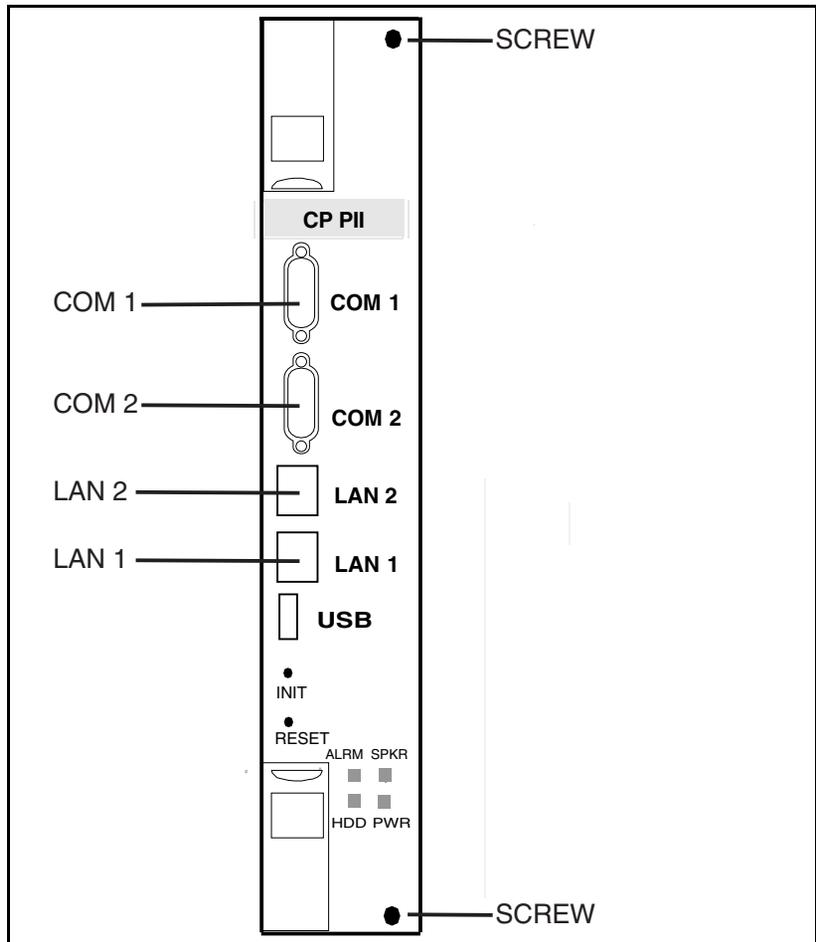
Procedure 264

Removing the Core 1 CP PII processor and MMDU

- 1 Disconnect and label the LAN1 and LAN 2 cables from the Core 1 CP PII card faceplate. See Figure 140.

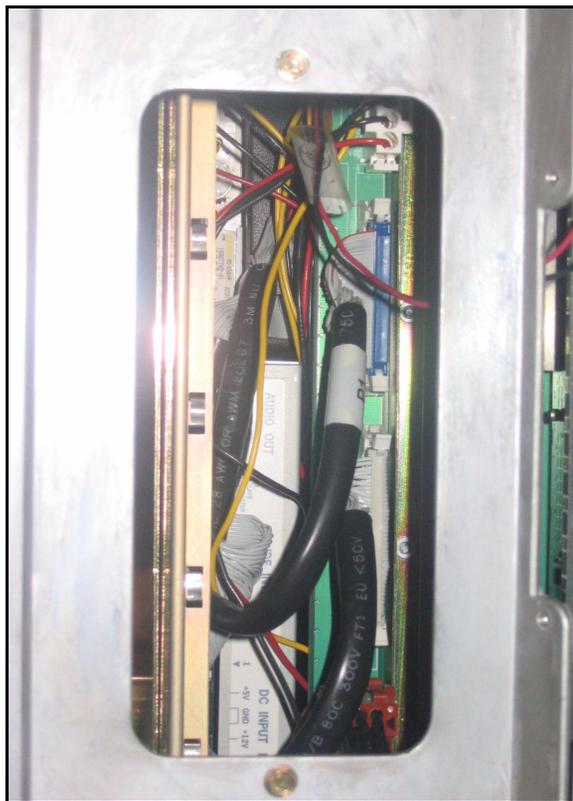
Figure 140

CP PII faceplate connections



- 2 Disconnect and label the COM 1 and COM 2 cables from the Core 1 CP PII card faceplate. See Figure 141.
- 3 Unscrew and unlatch the Core 1 CP PII card. See Figure 140 on [page 898](#).
- 4 Pull the Core 1 CP PII card from its slot.
- 5 Remove the rear access plate on the left side of the Core 1 module. See Figure 141.

Figure 141
NT4N46 Core/Net module



- 6 From the rear access point of the Core 1 shelf (add picture of the 40 shelf here), remove the MMDU power cable from the backplane.

- 7 From the rear access point of the Core 1 shelf (, remove the two IDE cables from the backplane. See Figure 141 on [page 899](#).
- 8 Unscrew the MMDU from the front of Core 1.
- 9 Slowly pull the MMDU from its slot. Ensure the IDE and power cables do not catch on other equipment as you remove the MMDU.
- 10 Retain the MMDU (and database backup) in a safe and secure location until the successful completion of this upgrade.



IMPORTANT!

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

End of Procedure

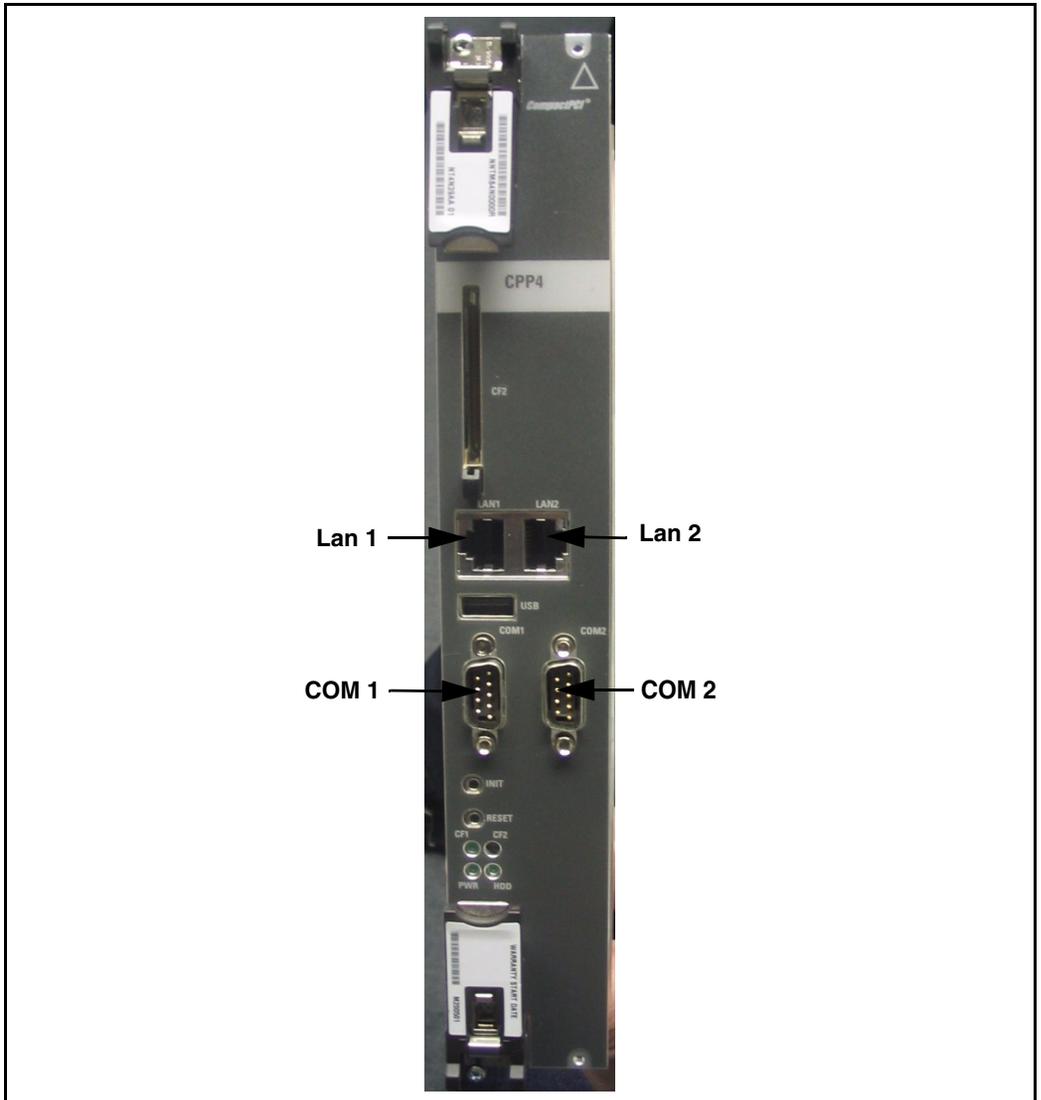
Install Core 1 CP PIV card and blank faceplate

Procedure 265

Installing the Core 1 CP PIV processor and blank faceplate

- 1 Attach the blank faceplate to the empty MMDU slot using the supplied screws.
- 2 Insert the CP PIV card into the empty CP slot in Core 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 142 on [page 901](#).

Figure 142
CP PIV faceplate connections



- 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 Cores are upgraded.

————— **End of Procedure** —————

Add Side 1 FIJI hardware

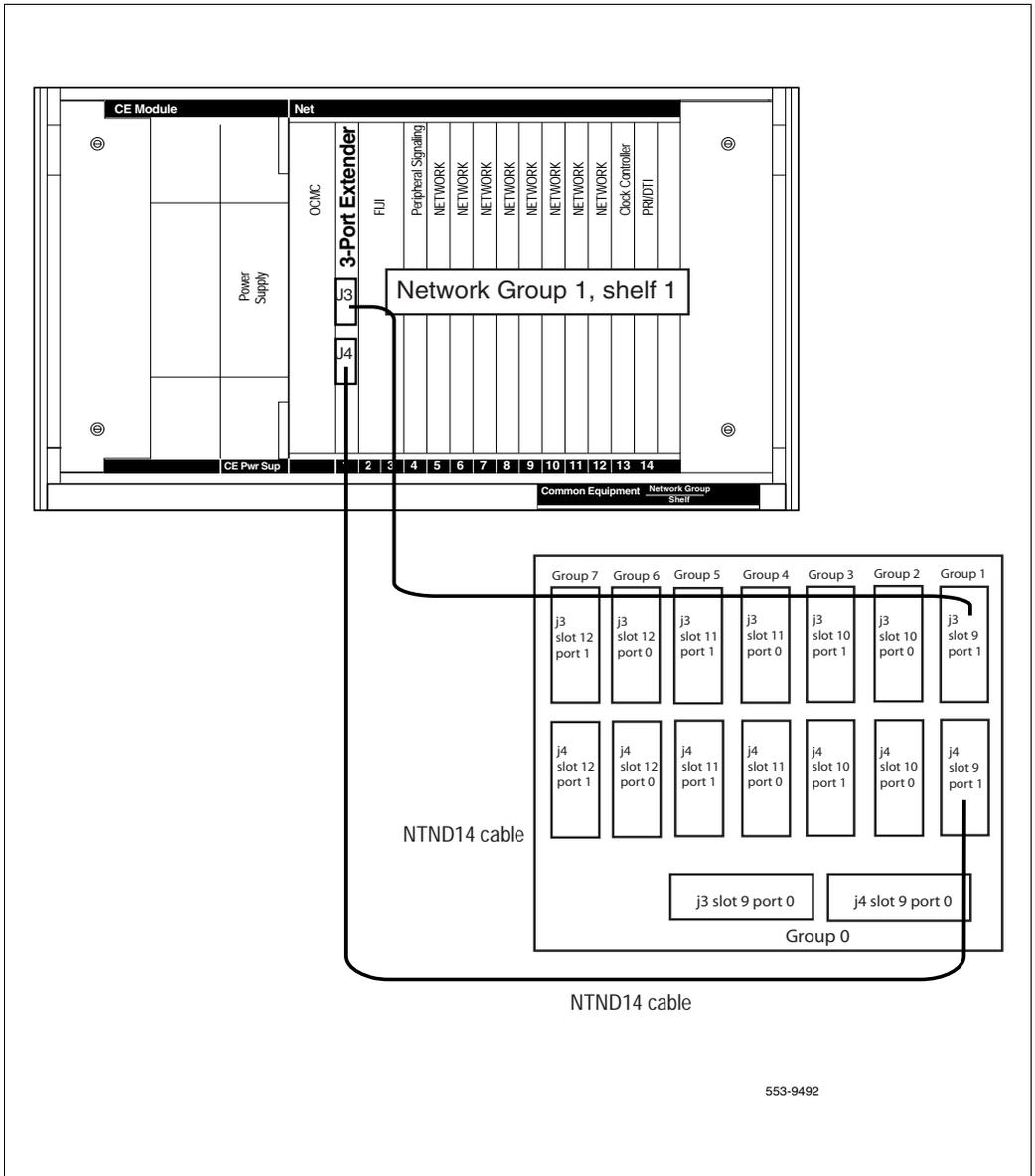
Procedure 266 Add Side 1 FIJI hardware

- 1 Faceplate-disable the FIJI cards.
- 2 Insert the FIJI cards in Side 1. **DO NOT seat the FIJI cards.**

Note: FIJI cards are installed in slots 2 and 3 of the Network modules, and slots 8 and 9 of the Core/Net modules.

————— **End of Procedure** —————

Figure 143
3PE Fanout Panel connections



553-9492

Procedure 267
Connecting the shelf 1 FIJI Ring cables (descending)



IMPORTANT!

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

Note: When adding an additional network group, fiber cables must be changed to adhere to the rules above.

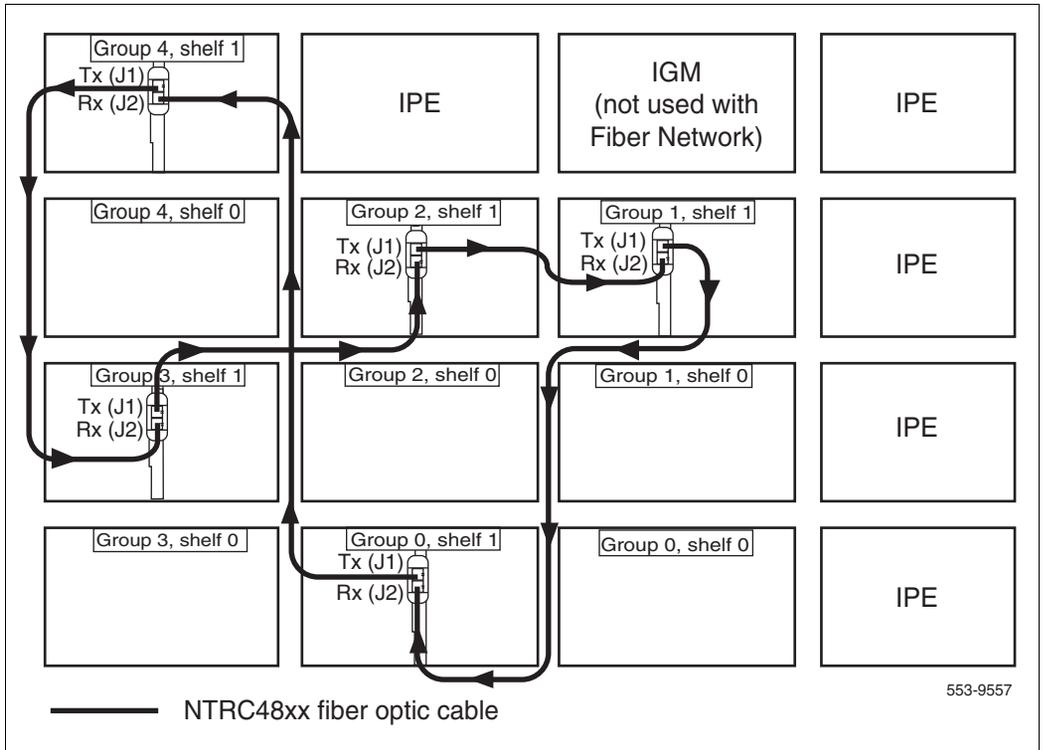
Create Fiber Ring 1. Connect the FIJI cards in all Network shelves 1 in **descending** order, from Tx to Rx (Figure 144 on [page 905](#).)

Remove the black cap from the end of each cable before it is connected.

Note: Each end of the NTRC48xx cable is labeled "Tx" or Rx" in the factory.

- 1 Start with Network group 0, shelf 1.
- 2 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 1** to the Rx (J2) port of the FIJI card in the **highest Network group, shelf 1**.
- 3 Connect a NTRC48xx cable from the Tx (J1) port of the FIJI card from the Tx (J1) port in the **highest Network group, shelf 1** to the Rx (J2) port in the **second highest Network group, shelf 1**.
- 4 Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 1 of each Network group. Connect these cables in **descending** order of Network groups.

Figure 144
Shelf 1 *descending* fiber-optic Ring (Meridian 1 Option 81C 5 group example)



- 5 To complete the Ring, connect a final cable from Tx in **Group 1, shelf 1** to Rx in Group 0, shelf 1.

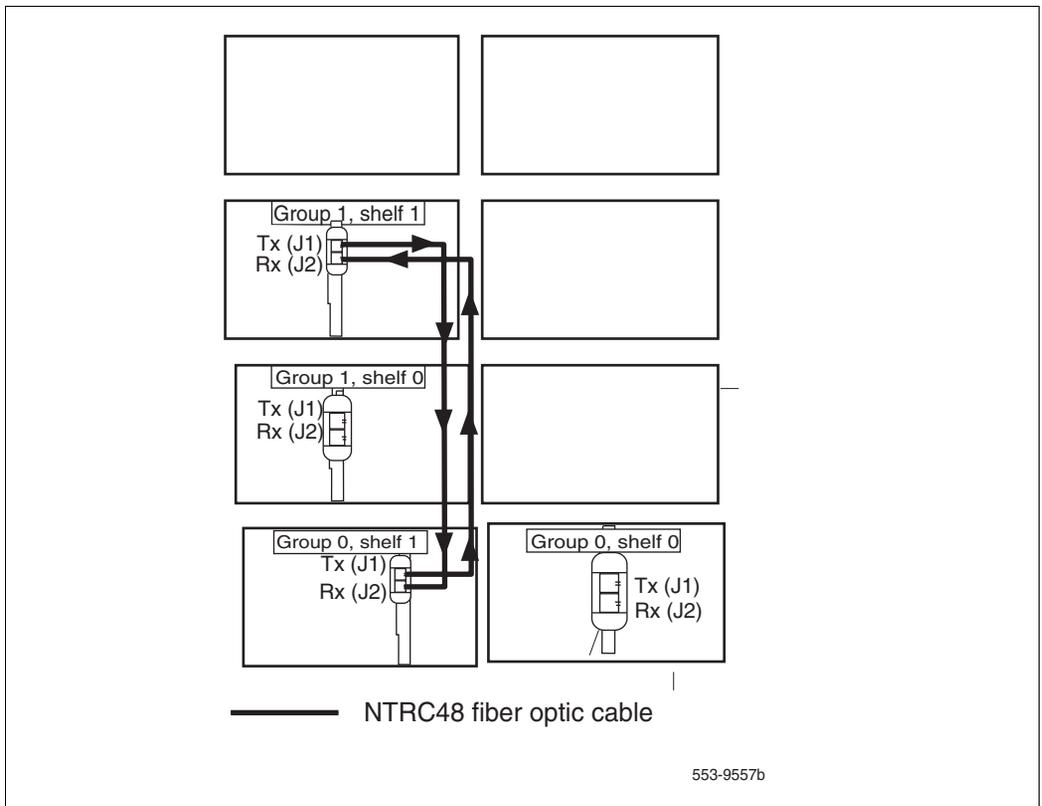
Note: Connect the Side 1 FIJI Ring cables only.

Table 90
FIJI Ring 1 connections

Groups 0 - X are cabled in descending order		
Group/Shelf	FIJI Connector	Tx/Rx
0/1	P1	Tx
7/1	P2	Rx
7/1	P1	Tx
6/1	P2	Rx
6/1	P1	Tx
5/1	P2	Rx
5/1	P1	Tx
4/1	P2	Rx
4/1	P1	Tx
3/1	P2	Rx
3/1	P1	Tx
2/1	P2	Rx
2/1	P1	Tx
1/1	P2	Rx
1/1	P1	Tx
0/1	P2	Rx

End of Procedure

Figure 145
Shelf 1 descending fiber-optic Ring (Meridian 1 Option 81 2 group example)



Procedure 268

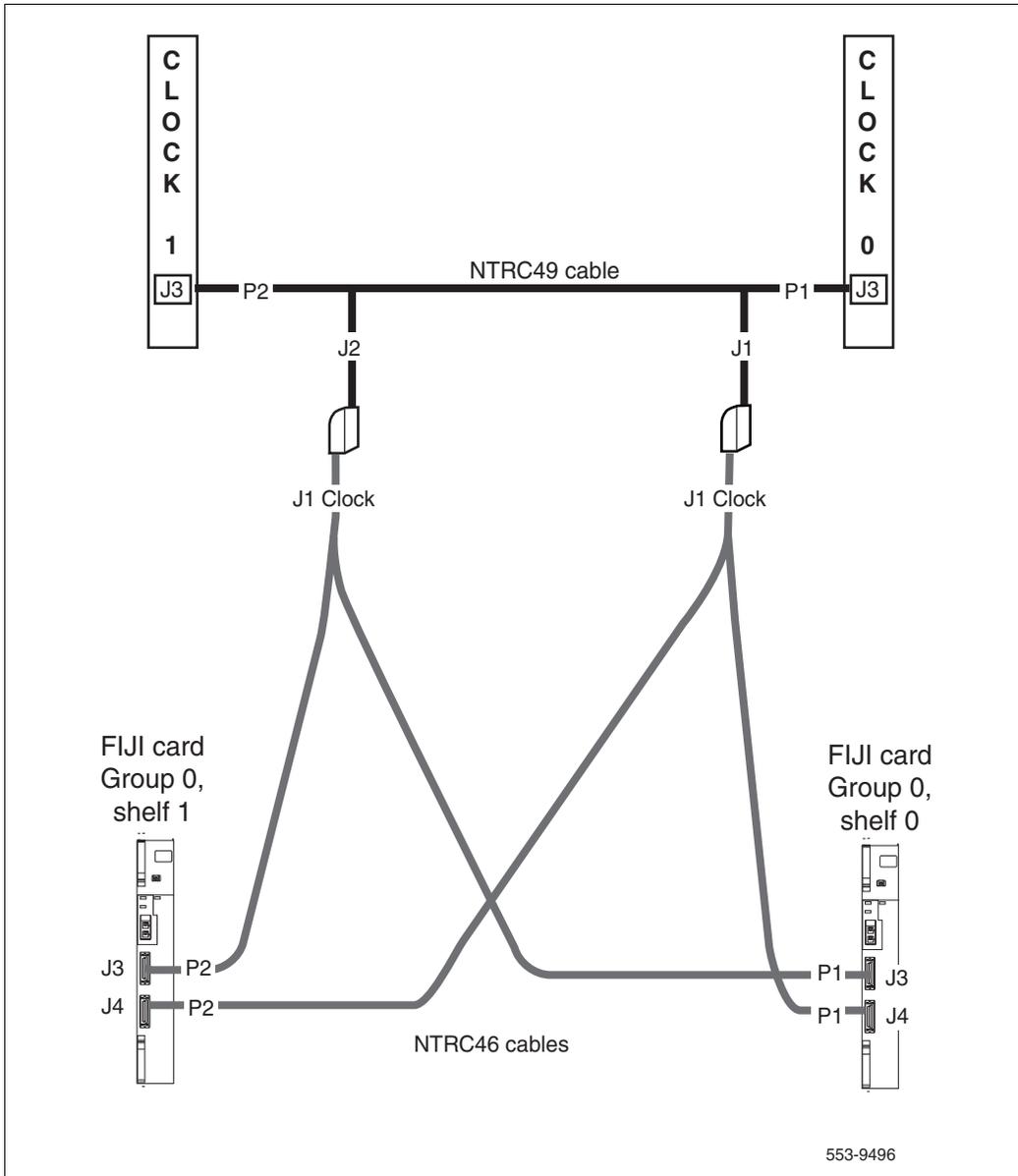
Cable the Clock Controller 1 to FIJI hardware

Connect the cables to the Clock Controller 1 as shown in Figure 146 on [page 908](#).

- 1 Connect P2 of the NTRC49 cable to port J3 of Clock Controller 1.
- 2 Connect P2 of the NTRC46 cable from Clock 1 to J3 of the FIJI card in group 0, shelf 1.

————— End of Procedure —————

Figure 146
Clock Controller cable configuration



CS 1000 Release 4.5 upgrade

Upgrading the software

Procedure 269 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

Procedure 269

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  
  
=====
```

<pre>You selected to quit. Please confirm. Please enter: <CR> -> <y> - Yes, quit. <n> - No, DON'T quit. Enter choice></pre>

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 displays the Install Menu. Select option "".

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

I N S T A L L M E N U

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

 Please enter:

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

 For Feature Expansion, use OVL143.

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

Enter Choice> ****

- 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 XXXXX
Option	Choice	Status	Comment
Dependency Lists	yes		
Option	Choice	Status	Comment
IPMG Software	yes		install for rel XXXXX
Option	Choice	Status	Comment
DATABASE	yes		
Option	Choice	Status	Comment
CP-BOOTROM	yes		

- 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 install Software release: XXXX on
the new system.
This will create all necessary directories and
pre-allocate files on the hard disk.
You may continue with software install or quit
now and leave your software unchanged.
Please enter:
           <CR> -> <a> - Continue with new system
install.
           <q> - Quit.
           Enter choice>
```

- 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>
    
```

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>

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

At this point the system reloads and initializes.

End of Procedure

Verify the upgraded database

Procedure 270

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

Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 875](#). If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

Access LD 22 and print Target peripheral software version.

LD 22	Load program
REQ	PRT
TYPE	PSWV
ISSP	Print System, DepList, and Patch information
SLT	Print System Limits
TID	Print the Tape ID
****	Exit program

Reconfigure I/O ports and call registers

Procedure 271

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 1000 and 20000 (respectively)). If changes are required, reconfigure the values in LD 17:

LD 17 Load program

CHG

CFN

PARM YES

500B 1000 Use 1000 as a minimum value

NCR 20000 Use 20000 as a minimum value

******** Exit program

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

LD 22 Load program

REQ PRT Set the print Option

TYPE CFN Print the configuration

******** Exit program

End of Procedure



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

Switch call processing to Core/Net 1



CAUTION — Service Interruption

Service Interruption

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

Procedure 272

Switching call processing

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

LD 135

CUTOVR Transfer call processing from active Core/Net to standby Core/Net

**** Exit program

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

End of Procedure

Test Core/Net 1

Procedure 273

Testing Core/Net 1

- 1 Check dial-tone.
- 2 Stat D-channels:

LD 96

STAT DCH Stat all D-channels

**** Exit program

3 Stat all T1 interfaces:

LD 60

STAT Stat all DTI and PRI

**** Exit program

4 Stat network cards:

LD 32

STAT x x = loop number

**** Exit program

5 Print status of all controllers:

LD 97

REQ PRT

TYPE XPE (returns status of all controller cards)

**** Exit program

6 Make internal, external and network calls.

7 Check attendant console activity.

8 Check DID trunks.

9 Check applications.

Note: On FNF based systems after the INI:

A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring; downloading up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

During INI, FIJI error messages (from Shelf 0) appear on the screen. FIJI card on shelf 1 resets. Upon INI completion, RING 1 is full, FIJI Ring 0 (in Core/Net 0) is disabled, AUTO recovery is on and Clock Controller 1 is active.

End of Procedure



Core 1 is now active with ring 1 drives full. Clock Controller 1 is active. Call processing should be active on Core/Net 1.

End of Procedure

Remove equipment from Core 0

Procedure 274

Checking that Core 1 is active

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

- 1 Verify that Core 0 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 Core 1 (if necessary)

******** Exit program

End of Procedure

Procedure 275

Checking that Clock Controller 1 is active

- 1 Check the status of the Clock Controllers:

LD 60 Load program

SSCK 0 Get the status of Clock Controller 0

SSCK 1 Get the status of Clock Controller 1

- 2 If Clock Controller 0 is active, switch to Clock Controller 1.

SWCK Switch to Clock Controller 1 (if necessary)

******** Exit program

————— **End of Procedure** —————

Procedure 276

Hardware disable CNI cards

- 1 Hardware disable all CNI cards in Core 0.

————— **End of Procedure** —————

Remove Core 0 CP PII card and MMDU

Procedure 277

Removing the Core 0 CP PII processor and MMDU

- 1 Disconnect and label the LAN1 and LAN 2 cables from the Core 0 CP PII card faceplate. See Figure 147 on [page 935](#).
- 2 Disconnect and label the COM 1 and COM 2 cables from the Core 0 CP PII card faceplate. See Figure 147 on [page 935](#).
- 3 Unscrew and unlatch the Core 0 CP PII card. See Figure 147 on [page 935](#).
- 4 Pull the Core 0 CP PII card from its slot.
- 5 Remove the rear access plate on the left side of the Core 0 module. See Figure 147 on [page 935](#).

Figure 147
CP PII faceplate connections

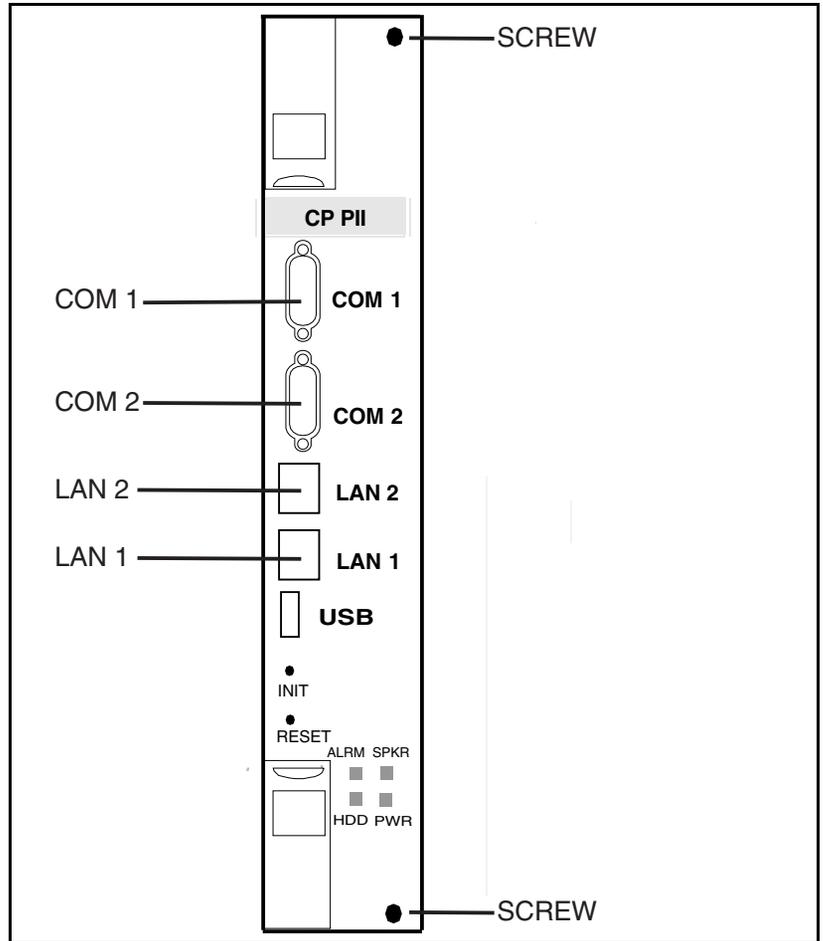


Figure 148
NT4N46 Core/Net module



- 6** From the rear access point of the Core 0 shelf, remove the MMDU power cable from the backplane.
- 7** From the rear access point of the Core 0 shelf, remove the two IDE cables from the backplane.
- 8** Unscrew the MMDU from the front of Core 0.
- 9** Slowly pull the MMDU from its slot. Ensure the IDE and power cables do not catch on other equipment as you remove the MMDU.

- 10 Retain the MMDU (and database backup) in a safe and secure location until the successful completion of this upgrade.



IMPORTANT!

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

End of Procedure

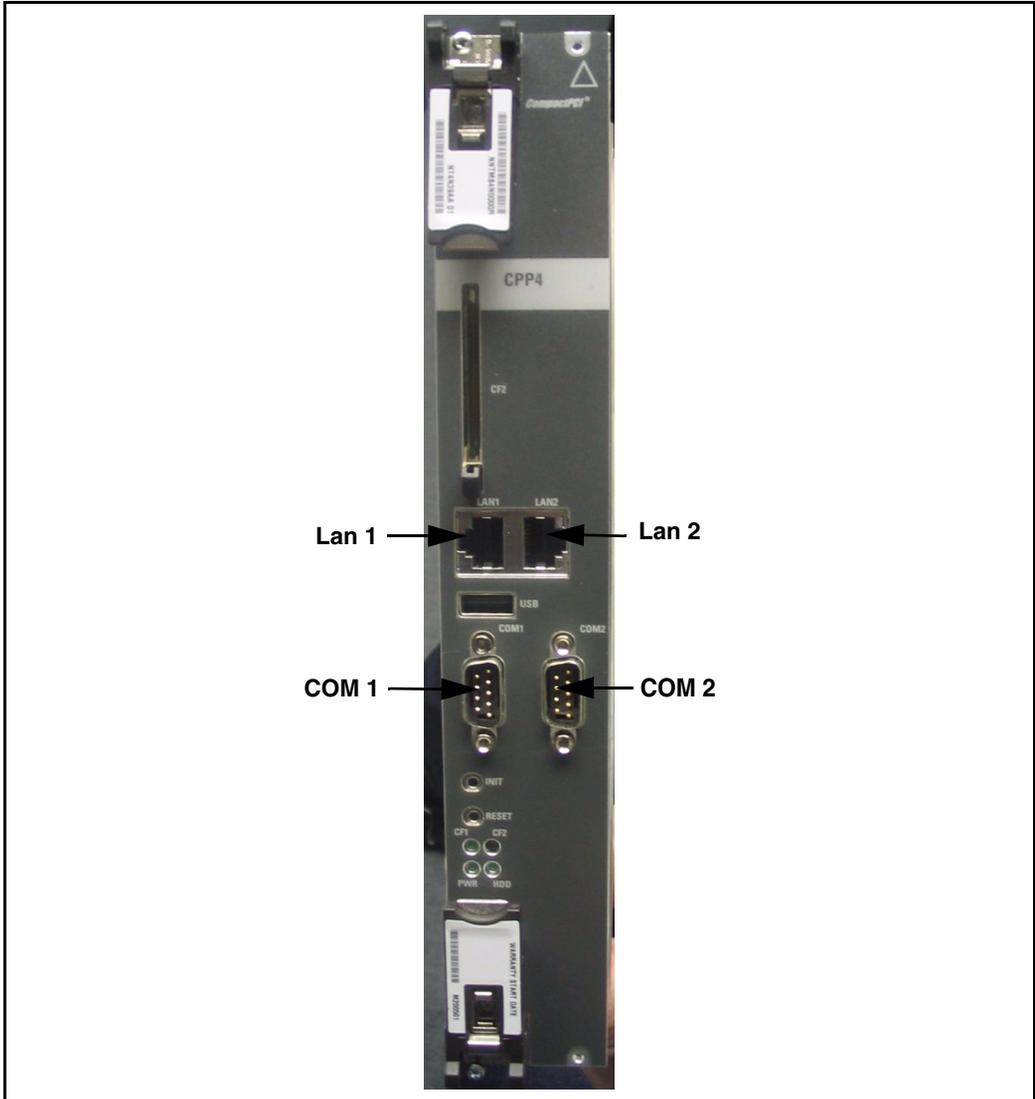
Install Core 0 CP PIV card and blank faceplate

Procedure 278

Installing the Core 0 CP PIV Processor and blank faceplate

- 1 Attach the blank faceplate to the empty MMDU slot using the supplied screws.
- 2 Insert the CP PIV card into the empty CP slot in Core 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 149 on [page 938](#).

Figure 149
CP PIV faceplate connections



- 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 Cores are upgraded.

End of Procedure

Add Side 0 FIJI hardware

Procedure 279

Install Side 0 FIJI cards

- 1 Unpack and install FIJI cards (NTRB33).
- 4 Faceplate-disable the NTRB33 cards.
- 5 Insert and the FIJI cards in Side 0.
- 6 Do not seat the FIJI cards at this point.

End of Procedure

Procedure 280

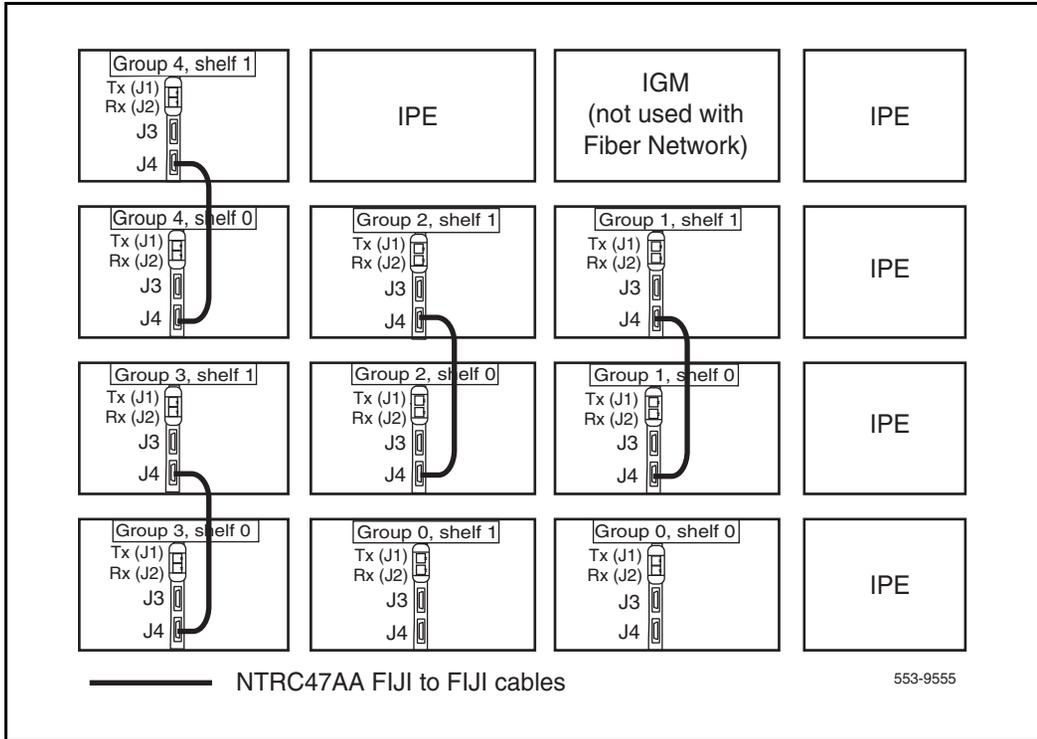
Connect the FIJI to FIJI cables

- 1 Connect P2 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 0, except group 0.
- 2 Connect P1 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 1, except group 0.

Note: The FIJI cards in Group 0 do not receive a FIJI to FIJI cable.

End of Procedure

Figure 4
FIJI shelf 0 to FIJI shelf 1 connections



Procedure 281**Connecting the shelf 0 FIJI Ring cables (ascending)**

Create Fiber Ring 0. Connect the FIJI cards in all Network shelves 0 in **ascending** order, from Tx to Rx ports (see Figure 150 on [page 942](#) and Figure 150 on [page 942](#)).

**IMPORTANT!**

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

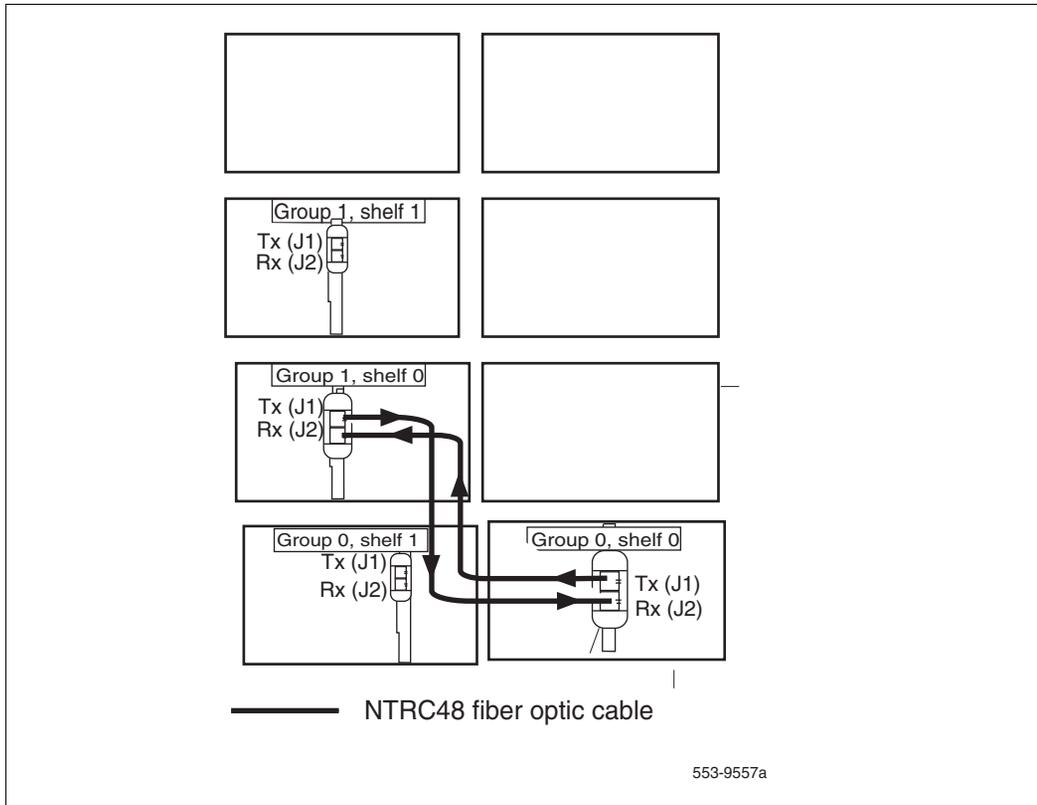
Note: When adding an additional network group, fiber cables must be changed to adhere to the rules above.

Remove the black cap from the end of each cable before it is connected.

Note: Each end of the NTRC48xx cable is labeled “Tx” or Rx” in the factory.

- 1 Start with group 0, shelf 0.
- 2 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 0** to the Rx (J2) port of the FIJI card in **Group 1, shelf 0**.
- 3 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 1, shelf 0** to the Rx (J2) port of the FIJI card in **Group 2, shelf 0**.
- 4 Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 0 of each Network group. Connect these cables in **ascending** order of Network groups.

Figure 150
Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 2 group example)



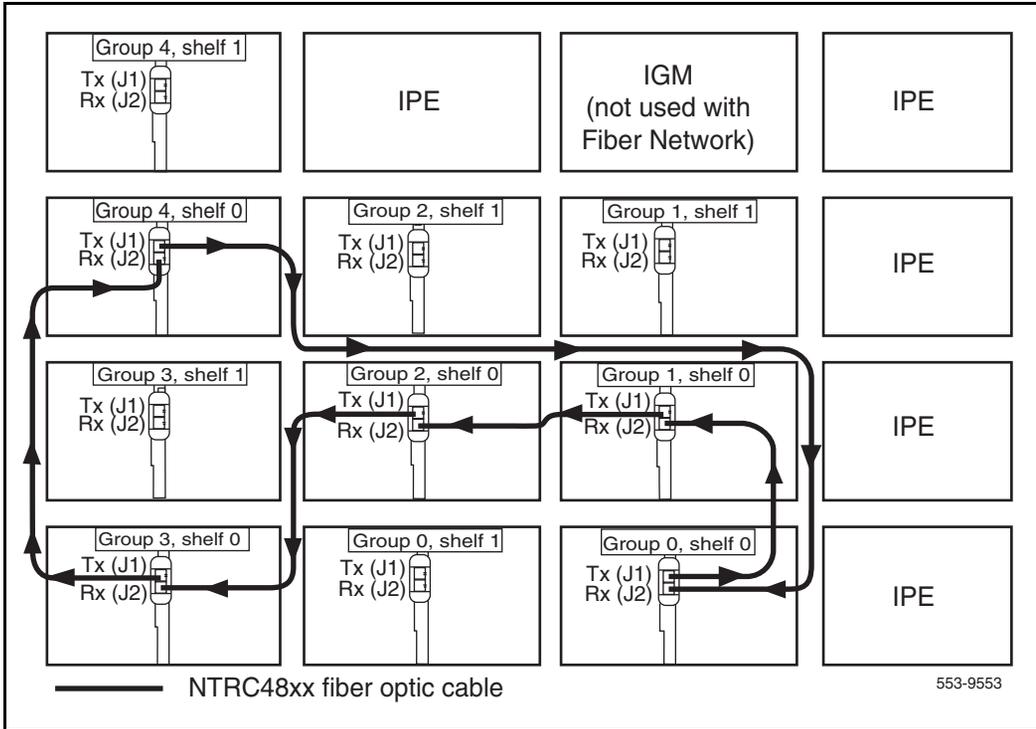
- 5 To complete the Ring, connect a final cable from the Tx (J1) port in the **highest number group** back to the Rx (J2) port in **Group 0, shelf 0**.

Table 91
FIJI Ring 0 connections

Groups X - 0 are cabled in ascending order		
Group/Shelf	FIJI Connector	Tx/Rx
0/0	P1	Tx
1/0	P2	Rx
1/0	P1	Tx
2/0	P2	Rx
2/0	P1	Tx
3/0	P2	Rx
3/0	P1	Tx
4/0	P2	Rx
4/0	P1	Tx
5/0	P2	Rx
5/0	P1	Tx
6/0	P2	Rx
6/0	P1	Tx
7/0	P2	Rx
7/0	P1	Tx
0/0	P2	Rx

End of Procedure

Figure 151
Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 5 group example)



Procedure 282
Cabling the Clock Controllers to FIJI card

Connect the cables to the Clock Controllers as shown in Figure 126 on [page 832](#):

- 1 Connect the Clock 0 to FIJI cable:
 - a. Connect P1 of the NTRC46 cable from Clock 0 to **J4** of the FIJI card in group 0, **shelf 0**.
- 2 Connect a Clock 1 to FIJI cable:
 - a. Connect P1 of the NTRC46 cable from Clock 1 to **J3** of the FIJI card in group 0, **shelf 0**.

————— **End of Procedure** —————

CS 1000 Release 4.5 upgrade

Upgrading the software

Procedure 283 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

Procedure 283

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  
  
=====
```

<pre>You selected to quit. Please confirm. Please enter: <CR> -> <y> - Yes, quit. <n> - No, DON'T quit. Enter choice></pre>

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 displays the Install Menu. Select option "".

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

I N S T A L L M E N U

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

 Please enter:

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

 For Feature Expansion, use OVL143.

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

Enter Choice> ****

- 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 XXXXX	
Option	Choice	Status	Comment	
Dependency Lists	yes			
Option	Choice	Status	Comment	
IPMG Software	yes		install for rel XXXXX	
Option	Choice	Status	Comment	
DATABASE	yes			
Option	Choice	Status	Comment	
CP-BOOTROM	yes			

- 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 install Software release: XXXX on
the new system.

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

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

Please enter:
           <CR> -> <a> - Continue with new system
install.
           <q> - Quit.
           Enter choice>
```

- 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>
    
```

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>

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

At this point the system reloads and initializes.

End of Procedure

Verify the upgraded database

Procedure 284

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



Core 1 is now active, clock 1 is active, FIJI 1 is active (if equipped), CNI is disabled in Core 0.

End of Procedure

Making the system redundant

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

Procedure 285

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 Cores must be identical in order to successfully switch service from Core 1 to Core 0 CPUs.

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
    sut1 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
```



The system will now operate in full redundant mode with Core/Net 1 active.

Note: On FNF based systems after the INI:
A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, downloading up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

End of Procedure

Complete the CP PIV upgrade

LD 137

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

- STAT FMD
display text: **Status of Fixed Media Device (FMD)**
command parameter: none
- STAT RMD
display text: **Status of Removable Media Device(RMD)**
command parameter: none

Testing the Cores

Procedure 286

Testing Core/Net 1

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

From Core/Net 1, perform these tests:

- 1 Perform a redundancy sanity test:

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

- 2 Test the System Utility card and the cCNI cards:

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

STAT CNI c s Get status of cCNI cards (core, slot)

TEST CNI c s Test cCNI (core, slot)

3 Test system redundancy:

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)

4 Install the two system monitors. Test that the system monitors are working:

LD 37 Load program

ENL TTY x Enable the XMS, where x= system XMS

STAT XSM Check the system monitors

******** Exit program

5 Clear the display and minor alarms on both Cores:

LD 135 Load program

CDSP Clear displays on the cores

CMAJ Clear major alarms

CMIN ALL Clear minor alarms

6 Test the clocks:

- a. Verify that the clock controller is assigned to the *active* Core:

LD 60	Load program
SSCK <i>x</i>	Get status of the clock controllers (<i>x</i> is “0” or “1” for Clock 0 or Clock 1)
SWCK	Switch the Clock (if necessary)
****	Exit program

- b. Verify that the Clock Controllers are switching correctly:

SWCK	Switch Clock
-------------	--------------

Note: You must wait a minimum of one minute for clocks to synchronize.

SWCK	Switch Clock again
-------------	--------------------

7 Test the Fiber Rings:

See *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a. Check that the Fiber Rings operate correctly:

LD 39	Load program
STAT RING 0	Check the status of Ring 0 (HALF/HALF)
STAT RING 1	Check the status of Ring 1 (HALF/HALF)

- b. If necessary, restore the Rings to Normal State:

RSTR	Restore both Rings to HALF state
-------------	----------------------------------

- c. Check that the Rings operate correctly:

STAT RING 0	Check the status of Ring 0 (HALF/HALF)
STAT RING 1	Check the status of Ring 1 (HALF/HALF)

- 8 Check the status of the FIJI alarms:

STAT ALRM Query the alarm condition for all FIJI cards in all Network Groups

**** Exit program

- 9 Check applications (CallPilot, Symposium, Meridian Mail, and so on.).
10 Check dial tone.

End of Procedure

Switch call processing

Procedure 287

Switching call processing

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

LD 135

CUTOVR Transfer call processing from active Core/Net to standby Core/Net

**** Exit program

- 2 After Core/Net 0 initializes. log in to Core/Net 0 and verify that the cutover was successful and that all hardware is operational. Perform acceptance testing as required.



Core/Net 0 is now the active call processor.

End of Procedure

Procedure 288
Testing Core/Net 0

From active Core/Net 0, perform these tests on Core/Net 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 Test the System Utility card and the cCNI cards:

LD 135	Load program
STAT SUTL	Get the status of the System Utility card
TEST SUTL	Test the System Utility card
STAT CNI c s	Get status of cCNI cards (core, slot)
TEST CNI c s	Test cCNI (core, slot)

3 Test system redundancy and media devices:

LD 137	Load program
TEST RDUN	Test redundancy
DATA RDUN	Test database integrity
STAT FMD	Status of Fixed Media Device (FMD)
STAT RMD	Status of Removable Media Device (RMD)
****	Exit the program

4 Test that the system monitors are working:

LD 37	Load program
STAT XSM	Check the system monitors
****	Exit the program

5 Clear the display and minor alarms on both Cores:

LD 135 Load program

CDSP Clear the displays on the cores

CMAJ Clear major alarms

CMIN ALL Clear minor alarms

6 Test the clocks:

a. Verify that the clock controller is assigned to the *active* Core.

LD 60 Load 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

b. Verify that the Clock Controllers are switching correctly.

SWCK Switch the Clock

Note: You must wait a minimum of one minute for clocks to synchronize.

SWCK Switch the Clock again

7 Check dial tone.

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

End of Procedure

Switch call processing

Procedure 289

Switching call processing

- 1 Enter LD 135 on Core/Net 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.



Core/Net 1 is now the active call processor.

End of Procedure

Perform a customer backup data dump (upgraded release)

Procedure 290

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.



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.

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

******** Exit program

The Meridian 1 Option 61C CP PII upgrade to Meridian 1 Option 81C CP PIV with FNF is complete.

Appendix A: Upgrade checklists

Contents

This section contains information on the following topics:

Introduction	979
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Pre-upgrade checklists	981
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Introduction

The following section provides Large System 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 92
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 93
Upgrade details

Current Software - Generic	
Target Software - Generic	
Hardware being added	
Feature Upgrade	
License Upgrade	

Pre-upgrade checklists

Software Upgrade

Software audit

Table 94
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 95
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		

Conversion Required

**Table 96
Conversion Procedures**

Conversion Procedures
Upgrades between different machine types require some type of conversion.
If the disk media is changing the database must be physically transferred
between storage devices. Please select source and target media.

**Table 97
Typical Storage Media Changes Between machine Types (Part 1 of 2)**

Typical Storage Media Changes Between machine Types		
Source	Target	Procedure Required
Omega	IODUC	Direct cable transfer

Table 97
Typical Storage Media Changes Between machine Types (Part 2 of 2)

Omega	MMDU	Nortel Internal
CMDU	IODUC	4M - 2M media transfer
IODUC	MMDU	Disk to new Drive both use 2M Floppy Drives
MMDU	MMDU	Disk to new Drive

Hardware Upgrade

Hardware audit

Table 98
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 99
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 96 STAT DCH
LD 48 STAT AML
LD 32 STAT
LD 60 STAT

Table 99
Pre-conversion steps (Part 2 of 2)

LD 30 LDIS (Verify what is disabled if any)
Get Software Information from LD 22
ISSP - Patches in service - Future Reference if required
TID/SLT - License Parameters - To compare with converted database
LD 21 - PRT CFN
LD 97 - PRT SUPL/XPEC
Run a Template Audit
LD 1 - Auto Run
Perform a Datadump
Backup at least two copies of the current database, retain the copies.
Print History File or System Event Log
LD 22 - Print AHST - Capture Systems Events to compare with new software if required
LD 117 - PRT SEL 500 - Same as above

Post-conversion checks

Table 100
Post-conversion checks

Post Conversion Checks
Perform these checks after a successful INI.
Test for dial tone
Stat D Channels for proper operation
Ensure that all XPEC's are in service via visual inspection
Ensure that all AUX applications are working
LD 30 LDIS (Verify that output is the same prior to upgrade)

Quick reference

IGS Cabling Chart - MultiGroup PBX - Opt 81/81C/CP (5 Groups Maximum)

Table 101
IGS cabling chart (Part 1 of 2)

Net Group	Net Shelf	IGS Connector	IGS Net	Slot	Net	DIGS	Slot Connector	Intergroup connector	I G S	Clock
0	0	0	3	8	2	9	BOTTOM	J1	0	
0	0	1	2	9	2	9	TOP	J6	2	0
0	1	1	2	9	2	9	TOP	J17	3	1
0	1	0	3	8	2	9	BOTTOM	J22	1	
1	0	0	3	8	2	9	BOTTOM	J2	4	

Table 101
IGS cabling chart (Part 2 of 2)

1	0	1	2	9	2	9	TOP	J7	6	0
1	1	1	2	9	2	9	TOP	J16	7	1
1	1	0	3	8	2	9	BOTTOM	J21	5	
2	0	0	3	8	2	9	BOTTOM	J3	8	
2	0	1	2	9	2	9	TOP	J8	1	0
									0	
2	1	1	2	9	2	9	TOP	J15	1	1
									1	
2	1	0	3	8	2	9	BOTTOM	J20	9	
3	0	0	3	8	2	9	BOTTOM	J4	1	
									2	
3	0	1	2	9	2	9	TOP	J9	1	0
									4	
3	1	1	2	9	2	9	TOP	J14	1	1
									5	
3	1	0	3	8	2	9	BOTTOM	J19	1	
									3	
4	0	0	3	8	2	9	BOTTOM	J5	1	
									6	
4	0	1	2	9	2	9	TOP	J10	1	0
									8	
4	1	1	2	9	2	9	TOP	J14	1	1
									9	
4	1	0	3	8	2	9	BOTTOM	J18	1	
									7	

Note: A DIGS Card is located in the card slot position for IGS 1 in all network shelves. The IGS 1 slot detects the clock signals from the active clock controller and distributes the clock to the entire group. Three out of four IGS cards can be disabled at any given time via LD 39, the IGS 1 that is associated with the active clock cannot be disabled via software, e.g. if clock 1 is active then IGS's 3,7,11,15 and 19 can never be disabled as they are providing clock for their respective network groups.

Group/Loop/PS/FIJI/3PE Switch Settings

Table 102
Switch settings (Part 1 of 2)

Group	Shelf	P S	Loops	FIJI*	3PE NT8D35 Net**	3PE NT5D21 Core Net**
0	0	0	0-16	0 0	off on on on on on on on	off on on off on on on on
0	1	1	16-31	0 1	off on on on on on on off	off on on off on on on off
1	0	2	32-47	1 0	off on on on on on off on	off on on off on on off on
1	1	3	48-63	1 1	off on on on on on off off	off on on off on on off off
2	0	4	64-79	2 0	off on on on on off on on	off on on off on off on on
2	1	5	80-95	2 1	off on on on on off on off	off on on off on off on off
3	0	6	96-111	3 0	off on on on on off off on	off on on off on off off on
3	1	7	112-12 7	3 1	off on on on on off off off	off on on off on off off off
4	0	8	128-14 3	4 0	off on on on off on on on	off on on off off on on on
4	1	9	144-15 9	4 1	off on on on off on on off	off on on off off on on off
5	0	1 0	160-17 5	5 0	off on on on off on off on	off on on off off on off on
5	1	1 1	176-19 1	5 1	off on on on off on off off	off on on off off on off off
6	0	1 2	192-20 7	6 0	off on on on off off on on	off on on off off off on on
6	1	1 3	208-23 3	6 1	off on on on off off on off	off on on off off off on off

Table 102
Switch settings (Part 2 of 2)

7	0	1 4	224-23 9	7 0	off on on on off off off on	off on on off off off off on
7	1	1 5	240-25 5	7 1	off on on on off off off off	off on on off off off off off

Software generic by machine type

Table 103
Software generic by machine type

System Type	Generic	System Type	Generic	Processors
ST	1011	Option 61	1111	CP1 - NT6D66 - 68030
STE	1511	Option 61 CP1	1811	CP2 - NT9D19 - 68040
NT	1111	Option 61 CP2	2311	CP3 - NT5D10 - 68060
XT	1211	Option 61 CP3	2511	CP4 - NT5D03 - 68060E
RT	1311	Option 61 CP4	2911	CPP - INTEL PII
Option 11	1411	Option 71	1211	CNI'S
Option 11	1411	Option 81 CP1	1611	Opt 81 - 8,9,10
Option 11C	2111	Option 81 CP2	1911	Opt 81C - 12,13,14
Compact	X27	Option 81 CP3	2611	CPP - c9,c10,c11,c12
Option 21	1011	Option 81 CP4	3011	Key Packages
Option21E	1511	Option 81C CP1	1611	Opt 81 - PKG 298
Option 51	1111	Option 81C CP2	1911	Opt 81C - PKG 299
Option 51 CP1	1711	Option 81C CP3	2611	CPP - PKG 299,368
Option 51 CP2	2211	Option 81C CP4	3011	FIJI - PKG 365
Option 51 CP3	2411	Option CP PII	3311	
Option 51 CP4	2811			

Appendix B: Technical Assistance service

Contents

This section contains information on the following topics:

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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 104 on [page 992](#) lists the centers that provide this service.

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 for assistance.

If you purchased a Nortel service program, contact one of the following Nortel Technical Solutions Centers.

Table 104
Customer Technical Services (Part 1 of 2)

Location	Contact
Nortel Global Enterprise Technical Support (GETS) PO Box 833858 2370 Performance Drive Richardson, TX 75083 USA	North America Telephone: 1 800 4NORTEL
Nortel Corp. P.O. Box 4000 250 Sydney Street Belleville, Ontario K8N 5B7 Canada	North America Telephone: 1 800 4NORTEL
Nortel Service Center - EMEA	EMEA Telephone: 00 800 8008 9009 or +44 (0)870 907 9009 E-mail: emeahelp@nortel.com
Nortel 1500 Concord Terrace Sunrise, Florida 33323 USA	Brazil Telephone: 5519 3705 7600 E-mail: entcts@nortel.com English Caribbean Telephone: 1 800 4NORTEL Spanish Caribbean Telephone: 1 954 858 7777 Latin America Telephone: 5255 5480 2170

Table 104
Customer Technical Services (Part 2 of 2)

Location	Contact
Network Technical Support (NTS)	<p>Asia Pacific Telephone: +61 28 870 8800</p> <p>Australia Telephone: 1800NORTEL (1800 667835) or +61 2 8870 8800 E-mail: asia_support@nortel.com</p> <p>People's Republic of China Telephone: 800 810 5000 E-mail: chinatsc@nortel.com</p> <p>Japan Telephone: 010 6510 7770 E-mail: supportj@nortel.com</p> <p>Hong Kong Telephone: 800 96 4199 E-mail: chinatsc@nortel.com</p> <p>Taiwan Telephone: 0800 810 500 E-mail: chinatsc@nortel.com</p> <p>Indonesia Telephone: 0018 036 1004</p> <p>Malaysia Telephone: 1 800 805 380</p> <p>New Zealand Telephone: 0 800 449 716</p> <p>Philippines Telephone: 1 800 1611 0063 or 632 917 4420</p> <p>Singapore Telephone: 800 616 2004</p> <p>South Korea Telephone: 0079 8611 2001</p> <p>Thailand: Telephone: 001 800 611 3007</p>

Services available

Services available through the Technical Assistance Centers include:

- diagnosing and resolving software problems not covered by support documentation
- diagnosing and resolving hardware problems not covered by support documentation
- assisting in diagnosing and resolving problems caused by local conditions

There are several classes of service available. Emergency requests (Class E1 and E2) receive an immediate response. Service for emergency requests is continuous until normal system operation is restored. Non-emergency

requests (Class S1, S2, and NS) are serviced during normal working hours. Tables 105 and 106 describe the service classifications.

Table 105
Technical service emergency classifications

Class	Degree of failure	Symptoms
E1	Major failure causing system degradation or outage	<p>System out-of-service with complete loss of call-processing capability.</p> <p>Loss of total attendant console capability.</p> <p>Loss of incoming or outgoing call capability.</p> <p>Loss of auxiliary Call Detail Reporting (CDR) in resale application.</p> <p>Call processing degraded for reasons such as trunk group out-of-service:</p> <ul style="list-style-type: none"> • 10% or more lines out-of-service • frequent initializations (seven per day or more) • inability to recover from initialization or SYSLOAD • consistently slow dial tone (eight seconds or more delay)
E2	Major failure causing potential system degradation or outage	<p>Standby CPU out-of-service.</p> <p>Frequent initializations (one per day or more).</p> <p>Disk drive failure.</p> <p>Two sets of disks inoperative.</p>

Table 106
Technical services non-emergency classifications

Class	Degree of failure	Symptoms
S1	Failure that affects service	<p>Software or hardware trouble directly and continuously affecting user's service or customer's ability to collect revenue.</p> <p>Problem that will seriously affect service at in-service or cut-over date.</p>
S2	Intermittent failure that affects service	<p>Software or hardware faults that only intermittently affect service.</p> <p>System-related documentation errors that directly result in or lead to impaired service.</p>
NS	Failure that does not affect service	<p>Documentation errors.</p> <p>Software inconsistencies that do not affect service.</p> <p>Hardware diagnostic failures (not defined above) that cannot be corrected by resident skills.</p> <p>Test equipment failures for which a backup or manual alternative can be used.</p> <p>Any questions concerning products.</p>

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 107 before you call for service.

Table 107
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 105 and 106)	_____
Description of assistance required	_____

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Nortel Communication Server 1000

Communication Server 1000M and Meridian 1

Large System Upgrade Procedures
(Book 1 of 3)

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