
Nortel Communication Server 1000

Nortel Communication Server 1000 Release 5.0

Communication Server 1000M and Meridian 1

81C IGS to CS 1000M MG CP PII FNF Upgrade

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May 2007

Standard 01.01. This document is up-issued for Communication Server 1000 Release 5.0. This document contains information previously contained in the following legacy document, now retired: *Communication Server 1000M and Meridian 1 Large System Upgrades* (553-3021-258).

May 2006

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Standard 2.00. This document is up-issued for Communication Server 1000 Release 4.0.

October 2003

Standard 1.00. This document is a new NTP for Succession 3.0. It was created to support a restructuring of the Documentation Library. This document contains information previously contained in the following legacy document, now retired: *Upgraded Systems Installation: Upgrade to Options 51C, 61C, 81C* (553-3001-258).

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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 5.0, click one of the links below.

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

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.

System information

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 5.0 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 5.0 software. For more information on legacy products and releases, click the **Technical Documentation** link under **Support** on the Nortel home page:

www.nortel.com/

Applicable systems

This document applies to 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 5.0 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

Signaling Server configuration

Meridian 1 Large Systems can be configured to run one or more Signaling Servers. The following Signaling Servers are supported in a Large System configuration for CS 1000 release 5.0:

- CP PM Signaling Server
- Commercial Off the Shelf (COTS) Signaling Server
- Intel ISP1100 Signaling Server

For detailed Signaling Server configuration information see Appendix :
“Installing a Signaling Server” on [page 175](#).

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 *CS 1000M and Meridian 1 Large System Upgrades Overview* (NN43021-458) before performing any operations.

It contains information vital to the conversion process.

NTPs

The following NTPs are referenced in this document:

- *Product Compatibility* (NN43001-256)
- *Converging the Data Network with VoIP* (NN43001-260)
- *Circuit Card: Description and Installation* (NN43001-311)
- *Signaling Server: Installation and Commissioning* (NN43001-312)
- *IP Peer Networking: Installation and Commissioning* (NN43001-313)
- *Features and Services* (NN43001-106)
- *Software Input/Output: Administration* (NN43001-611)
- *Element Manager: System Administration* (NN43001-632)
- *IP Trunk: Description, Installation, and Operation* (NN43001-563)
- *IP Line: Description, Installation, and Operation* (NN43100-500)
- *ISDN Basic Rate Interface: Features* (NN43001-580)
- *Software Input/Output: Maintenance* (NN43001-711)
- *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (NN43021-220)
- *Communication Server 1000M and Meridian 1: Large System Installation and Commissioning* (NN43021-310)

- *Communication Server 1000M and Meridian 1: Large System Maintenance* (NN43021-700)
- *Communication Server 1000M and Meridian 1 Large System Upgrade NTPs* (NN43021-458 – NN43021-475)

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 275](#).

Preparing and planning for the upgrade

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This section contains information on the following topics:

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Introduction

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 2:

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

Procedure Step	Page
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Table 2
Prepare for upgrade steps (Part 2 of 2)

Procedure Step	Page
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Planning

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 Commissioning* (NN43021-310).

- 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 263](#). Engineers may print this section for reference during the upgrade.

Preparing

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* (NN43021-220)).
- 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 1 **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

Printing site data

Print site data to preserve a record of the system configuration (see Table 3 on [page 26](#)). 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 3
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 3
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 3
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 3
Print site data (Part 4 of 4)

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

Performing a template audit

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

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



CAUTION — 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

Backing 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 2 **Performing a data dump**

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

LD 43 Load program

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

EDD Begin the data dump



CAUTION

Loss of Data

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

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

**** Exit program

End of Procedure

Procedure 3

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

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 MB floppy.

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

Procedure 4

Converting the 4 MB database media to 2 MB 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

Identifying 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 “Configuring IP addresses” on [page 102](#).

Checking requirements for CNI to 3PE cables (NTND14)



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.

Performing the upgrade

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This section contains information on the following topics:

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Introduction

The target upgrade to Meridian 1 Option 81C CP PII with FNF must meet the requirements of Product Bulletins P2002-1658-NA, PAA-2003-0199-NA, and 2000-047 rev1. Highlights include:

- PB requires NTRB53AA Clock Controller
- NT5D12AC, AD, and AG (1.54MB) support

- NT5D97AB, AD (2.0MB) support
- Both NTRC46 cables must be the same length



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.



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.

**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.

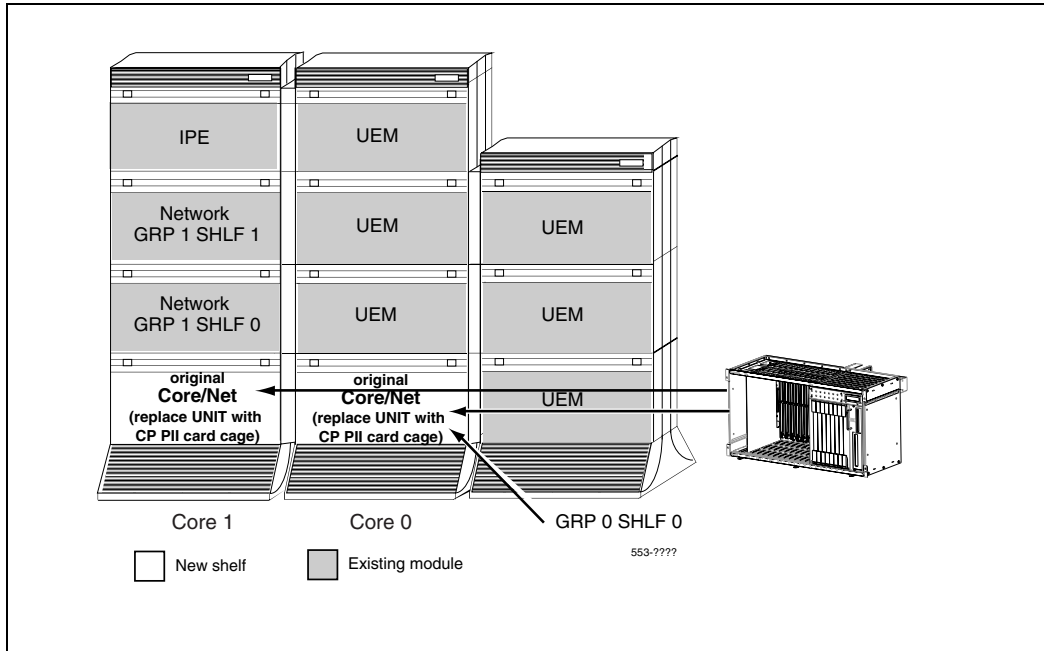
Meridian Mail Cables

Each shelf containing a Meridian Mail node must be assigned to the same network group and have the same length of cables between the ENET cards and the Meridian Mail Node. Failure to comply may result in intermittent static.

Note: CallPilot's architecture does not have this limitation.

Figure 1 on [page 38](#) shows an upgrade from a Meridian 1 Option 81C/IGS to a Meridian 1 Option 81C with CP PII and Fiber Network Fabric.

Figure 1
Meridian 1 Option 81C/IGS to Meridian 1 Option 81C CP PII with FNF

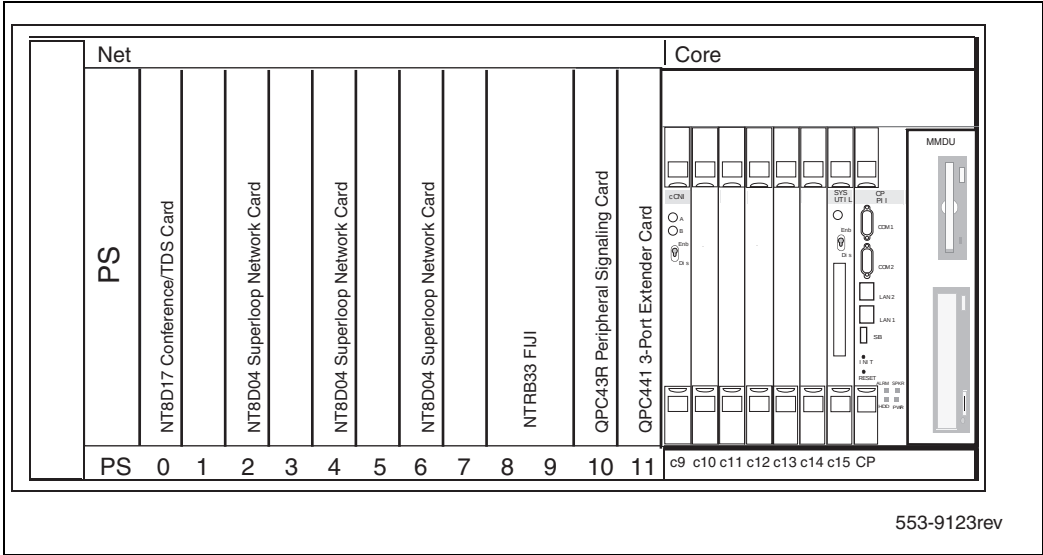


This upgrade takes a Meridian 1 Option 81C/IGS to a Meridian 1 Option 81C CP PII with FNF.

To upgrade a Meridian 1 Option 81C/IGS system to a Meridian 1 Option 81C CP PII with Fiber Network Fabric:

- Two card cages in the existing Core/Net modules are replaced with two NT4N40 CP PII card cage.
- New CP PII cards are located in the Core/Net modules or card cage.
- Existing network cards are relocated to the CP PII card cages.
- Clock Controller cards must be NTRB53AA.
- NTRB33 Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.

Figure 2
CP PII Core/Net Module



Reviewing upgrade requirements

Upgrading to CS 1000M

The upgrade to CS 1000M (installing a Signaling Server) occurs after completing the procedures in this section. See Appendix : “Installing a Signaling Server” on [page 175](#).

This section describes the **minimum** equipment required for CP PII with FNF. Additional equipment can also be installed during the upgrade. Verify that *all* equipment has been received.

Check equipment received

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 81C with CP PII:

- CORENET Core Network Module Package 299
- FIBN Fiber Network Package 365
- CS 1000 Release 5.0
- CPP_CNI CP Pentium Backplane for Intel Machine Package 368
- Software Install Kit

Check vintage requirements for existing hardware

Check the list below to make sure that existing hardware meets the minimum vintage requirements for CP PII.

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53 Clock Controller cards must be minimum vintage A.
- NTRB33 Fiber Junctor Interface (FIJI) Card minimum vintage AC.
- NT5D12AC, AD, and AG (1.54 MB)

- NT5D97AB, AD (2.0 MB)

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.

If any of the equipment listed does not meet the requirements, replace the equipment before you begin the upgrade.



CAUTION

Service Interruption

Equipment that does not meet the minimum vintage requirements will cause system malfunctions and loss of call processing.

Check required hardware

Table 4 below describes the *minimum* equipment required to upgrade a system to CP PII. Table 5 on [page 43](#) and Table 6 on [page 44](#) list the DC and AC power equipment requirements. Additional equipment for increased Network capacity is ordered separately.

Table 4

Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 1 of 3)

Order number	Description	Quantity per system
NT4N64AA	CP PII Call Processor Card (256mb Memory)	2
NT4N43CA	CP PII Multi-Media Disk Unit	2
NT4N40AA	CP PII Core/Network Card Cage AC/DC	2
NT4N65AB	CP PII Core Network Interface Card (2 ports)	2
NT4N48	CP PII System Utility Card	2
NT4N88AA	CP PII to I/O Panel DTE Cable (48 in.)	2

Table 4
Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 2 of 3)

Order number	Description	Quantity per system
NT4N88BA	CP PII to I/O Panel DCE Cable (48 in.)	2
NT4N90BA	CP PII to I/O Panel Ethernet Cable (48 in.)	2
*NT8D01BC	Controller - Four Card	1
*NT8D04BA	Superloop Network Card	
*NT8D17FA	Conference/TDS Card	
*NT8D22AC	System Monitor	
*NT8D41BA	Quad SDI Paddle Board	1
*NT8D46AD	System Monitor to SDI Cable (60 in.)	1
*NT8D46AL	System Monitor Serial Link Cable (7 ft.)	1
*NT8D46AS	System Monitor InterCPU Cable (30 in.)	1
*NT8D80BZ	CPU Interface Cable (5 ft.)	
*NT8D84AA	SDI Paddleboard to I/O Cable (18 in.)	
*NT8D90AF	SDI Multi-Port Extension Cable (10 ft.)	
*NT8D91AD	Network to Controller Cable (6 ft.)	
*NT8D99AD	CPU to Network Cable (6 ft.)	2
NTRB33	Fiber Junctor Interface (FIJI) Card	Determined by system configuration
NTRC17BA	CP PII Ethernet to Ethernet Cable (8.5 ft.)	2
NTRC46BB	Clock - FIJI Cable (1.7M - 2.4M (5.5 ft. - 8 ft.))	2
NTRC47AA	FIJI - FIJI Sync Cable	Determined by system configuration

Table 4
Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 3 of 3)

Order number	Description	Quantity per system
NTRC48XX	FIJI Fiber Ring Cable (2M (6 ft.))	Determined by system configuration
NTRC49AA	Clock - Clock Sync Cable	1
NTRE39AA	Optical Cable Management Card (OCMC)	Determined by system configuration
NTRE40AA	Dual Ethernet Adapter (RJ-45) for I/O Panel	2
*P0745716	Rear I/O Panel	2
P0605337	CP PII Card Slot Filler Panel	Determined by system configuration
Note: *Customer supplied from existing system.		

Check required power equipment

Table 5 below lists the equipment required for DC-powered systems. Table 6 on [page 44](#) lists the equipment required for AC-powered systems.

Table 5
DC power requirements for Meridian 1 Option 81C CP PII with FNF upgrades

Order number	Description	Quantity per system
NT6D41CA	Core/Network Power Supply DC	2
NT4N97BA	CP PII Upgrade Kit DC (Misc. Card Cage Components)	2

Table 6
AC power requirements for Meridian 1 Option 81C CP PII with FNF upgrades

Order number	Description	Quantity per system
NT8D29BA	Core/Network Power Supply AC	2
NT4N97AA	CP PII Upgrade Kit AC (Misc. Card Cage Components)	2

Check required tools

For a list of required tools, see Table 7.

Table 7
List of recommended tools

- Digital Multimeter (DMM)
- Pliers, needle-nose
- 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

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.

If the source platform is a Meridian 1 Option 51C, 61C, 81, or 81C equipped with IOP/CMDU cards, the database must be converted with the Database Transfer utility.

If the source platform is a Meridian 1 Option 51C, 61C, 81, or 81C equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

Note: All of the above listed system types can be converted by Nortel in the software conversion lab. Please check the current price manual for the requirements of this service.

Upgrading Core 1

Procedure 5

Checking main Core card installation

The main Core cards, including the MMDU (with the cables for power and data), are installed in the factory as shown in Figure 3 on [page 48](#):

- 1 NT4N65AB CP PII Core Network Interface (cCNI) cards:
Each system contains 1-4 NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9-c12. If not already installed, install a P0605337 CP PII Card Slot Filler Panel to cover slots which do not contain cCNIs.

Note: In the NT4N40 Core/Net card cage, port 0 on the NT4N65 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 PII 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 8 below.

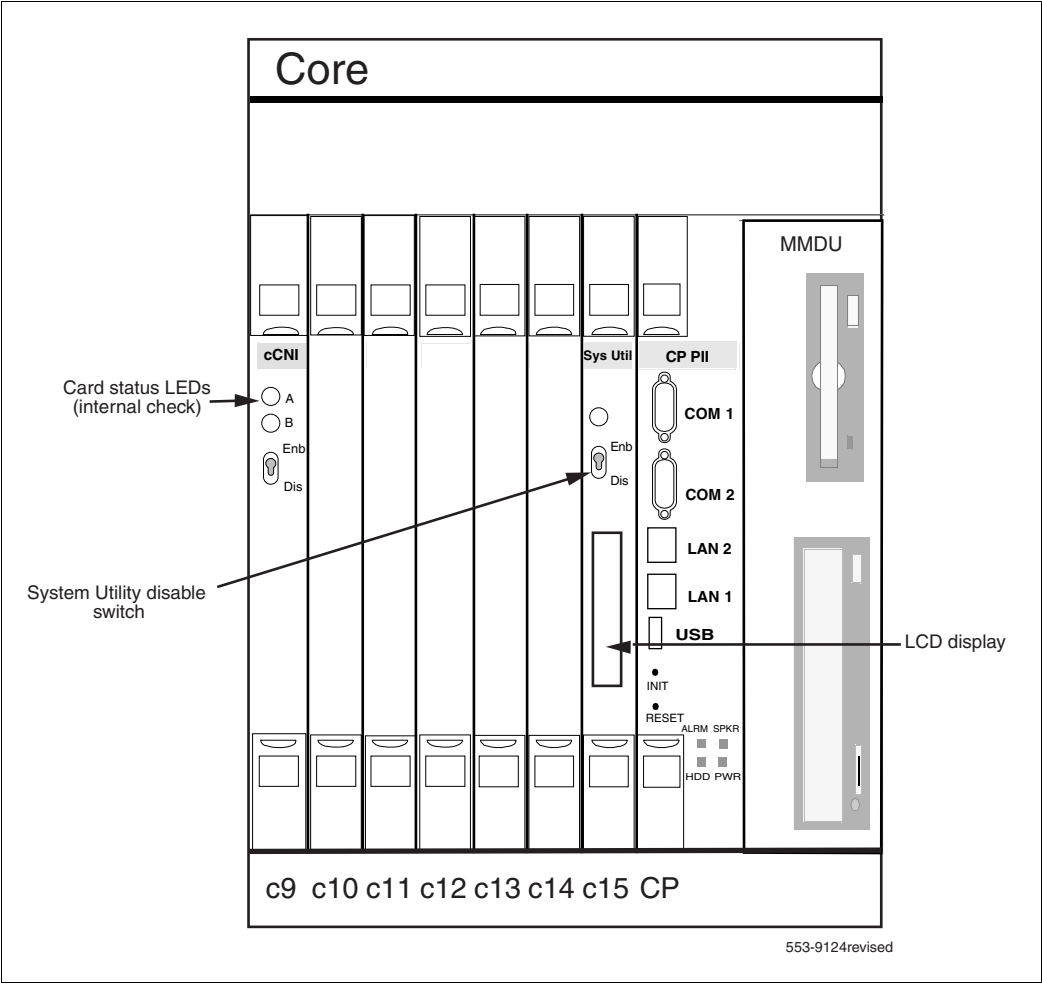
Table 8**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 4 NT4N64AA CP PII is located in the Call Processor slot.
- 5 The NT4N43CA Multi-Media Disk Unit (MMDU) is located in the extreme right-hand slot next to the CP PII card. The MMDU contains the hard drive, floppy drive and CD-ROM drive.

End of Procedure

Figure 3
Core card placement in the NT4N41 Core/Net Module (front)



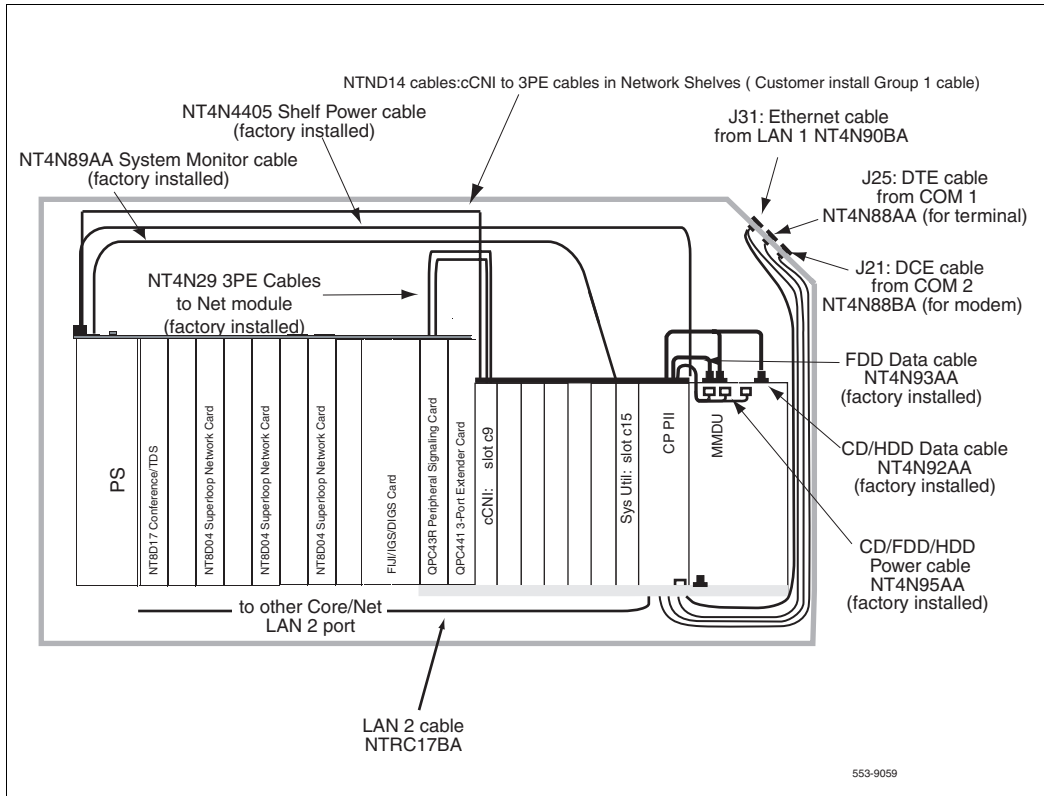
Check factory-installed cables

Table 9 below lists factory-installed cables. See Figure 4 on [page 50](#).

Table 9
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 4
Core/Net cable connections



Disable Core 1

Procedure 6

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 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 7

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 the program

- 3 Faceplate disable Clock Controller 1.

End of Procedure

Disable IGS

Procedure 8 Disable IGS

1 Disable the IGS/DIGS cards located in each network group shelf 1:

LD 39

Load program

DIS IGS X

X = IGS cards located in each network group shelf 1

Exit program

Note: To determine the number of the IGS/DIGS card, refer to Table 10 below.

Table 10
Shelf 1 IGS/DIGS card locations

Network Group 0	Shelf 1	IGS/DIGS 1 & 3
Network Group 1	Shelf 1	IGS/DIGS 5& 7
Network Group 2	Shelf 1	IGS/DIGS 9 & 11
Network Group 3	Shelf 1	IGS/DIGS 13 & 15
Network Group 4	Shelf 1	IGS/DIGS 17 & 19
Note: The DIGS card should be located in slot 9 of the network shelf.		

End of Procedure

Procedure 9
Moving Clock Controller 1**CAUTION**

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 QPC Clock Controller, replace it with an NTRB53 Clock Controller (to be installed in the same Network Shelf and slot) and verify settings according to Table 11 on [page 54](#).

If the system has an NTRB53 Clock Controller, skip this procedure.

- 1** Label and disconnect the Clock Controller 1.
- 2** Disconnect the cable from the Clock Controller 1 faceplate card.
- 3** If primary and secondary clock reference cables are connected to the Clock Controller 1 faceplate, disconnect them last.
- 4** Remove QPC Clock Controller 1 from the Network Module.
- 5** Set the Clock Controller 1 switch settings according to and Table 11 on [page 54](#).
- 6** Place NTRB53 Clock Controller in the same Network Shelf and slot. DO NOT seat the Clock Controller 1 and DO NOT faceplate enable the card.

7 Re-connect all reference cables.

Note: The Clock Controllers (0 and 1) must be located in Group1 (in a 2 group system only). If in the future the Meridian 1 Option 81C CP PII is upgraded to more than 2 Network groups, Nortel recommends that Clock Controller 0 and 1 be located in different Network groups.

Table 11
Clock Controller switch settings for NTRB53

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
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.						

End of Procedure

Procedure 10 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 all NT6D65 CNI cards to DIS.

- 3 In Core 1, set the NORM/MAINT switch on the Call Processor card to MAINT.



The system is now in split mode, with call processing on Core 0 with Clock Controller 0 active and IGS in Shelf 0 is active.

End of Procedure

Software disable Network cards in Core/Net 1 from Core/Net 0



CAUTION

Service Interruption

At this point, the upgrade interrupts service.

Procedure 11

Software disabling cards in network slots 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 Disable the XNET, where sl = the superloop number of the XNET card

**** Exit program

- b. In Core/Net 1 only, disable ENET.

LD 32 Load program

DISL X Disable the ENET, where 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 Disable each port, where 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 Disable DTI card, where x = the loop number of the DTI port

**** Exit program

e. In Core/Net 1 only, disable PRI cards.

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 Disable MSDL card, where 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 Disable XCT card, where 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 Disable QPC43 card. Table 12 lists Peripheral Signaling Card numbers

******** Exit the program

Table 12
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 Core/Net 1 only, faceplate disable the 3PE, Per Sig and all network cards.

- 4 Faceplate disable all IGS/DIGS cards in each network shelf 1.

End of Procedure



CAUTION

Service Interruption

The system can shut down if the system monitors are not removed. Remove the monitors and keep the cooling fans ON.

Procedure 12

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 program

DIS TTY # Disable 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.



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.

End of Procedure

Power down Core/Net 1



CAUTION

Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

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 13

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 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 PII 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 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 PII card cage.



CAUTION

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 PII 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 not to drop the nut or lock washer into the pedestal. See Figure 5 below for DC power connectors See Figure 6 on [page 62](#) for AC power connectors..
- 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.
- 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.
 - For AC systems, relocate power harness NT8D40.
 - For DC systems, relocate power harness NT7D11.

Figure 5
DC power connectors on the Core module backplane

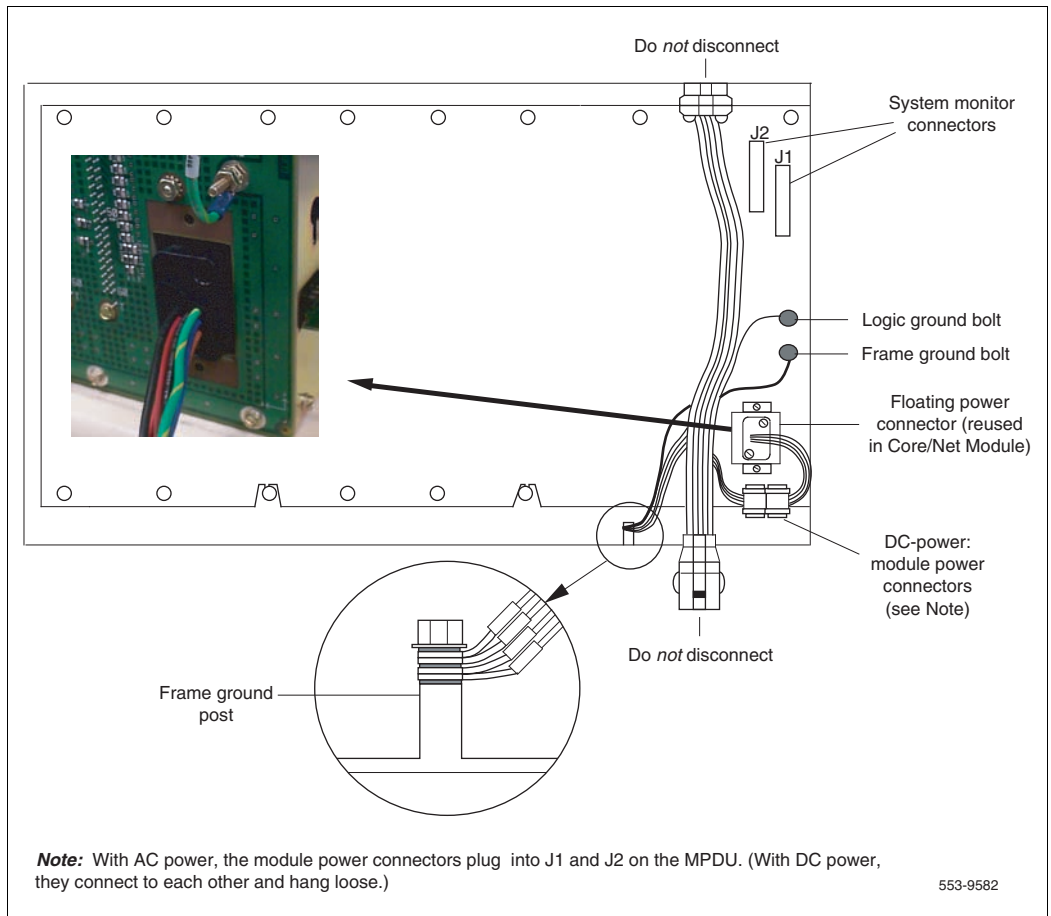
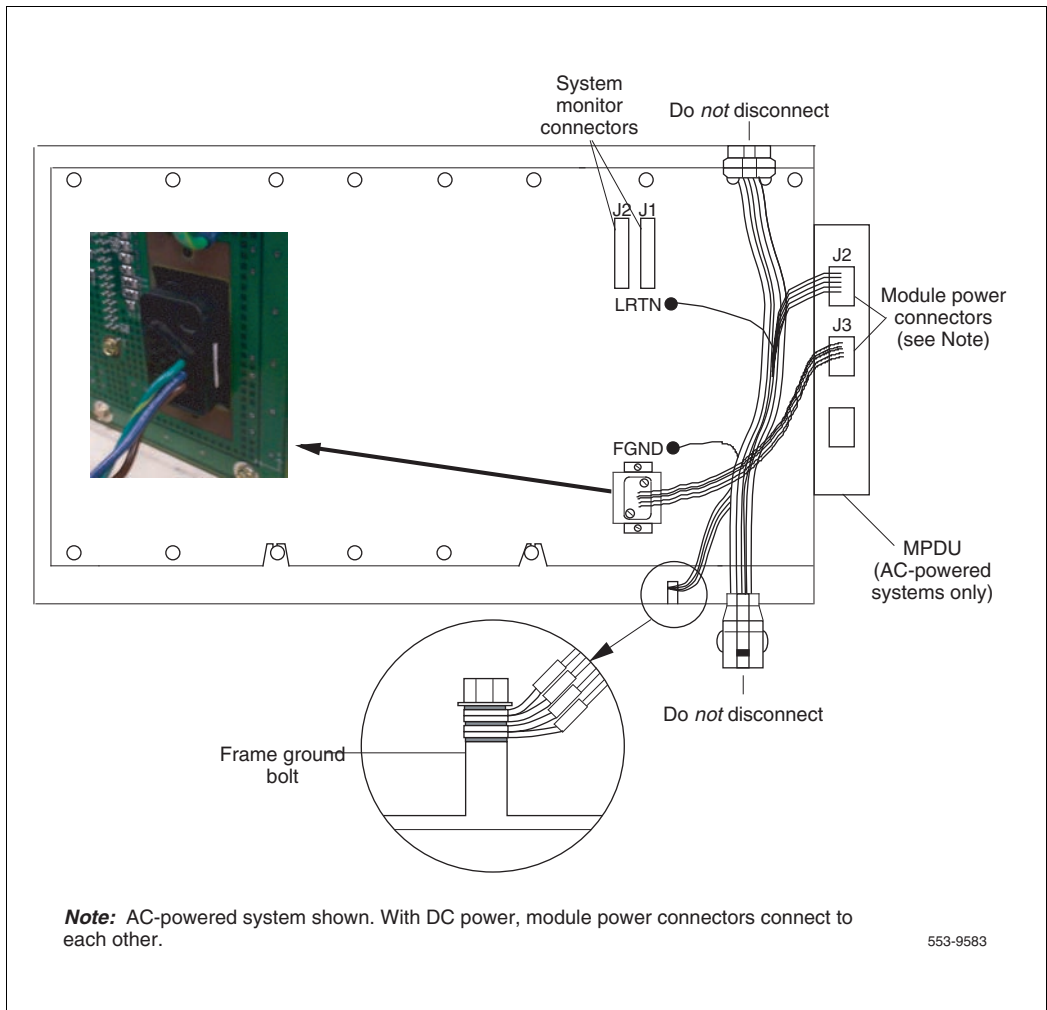


Figure 6
AC power connectors on the Core module backplane



- 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 will not be able to install the card cage in the module correctly.

**CAUTION**

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

End of Procedure

Install the CP PII card cage in Core 1

Procedure 14

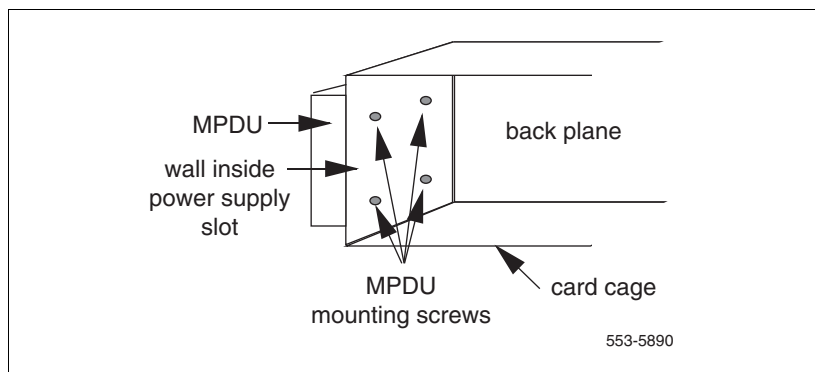
Installing the CP PII card cage in Core 1

- 1 Check that the card cage is configured as Core 1. See Table 8 on [page 47](#) for instructions.
- 2 For AC-powered systems only, attach the MPDU, part of the CP PII 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 7 below.

Note: Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

Figure 7

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 PII card cage.
- 4 Slide the CP PII 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).

**CAUTION****Damage to Equipment**

Check for and remove any debris (such as screws) that may have fallen into the base of the UEM module.

- 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 PII faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
 - b. Route cable NT4N88BA from COM2 on the CP PII 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 15

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 16

Relocating Network cards to CP PII Core/Net 1

- 1 Remove all remaining network cards from the Meridian 1 Option 81C Core/Net 1 except for the IGS/DIGS cards.
- 2 Connect the tagged cables to the relocated cards.
- 3 When you move the 3PE card, check the switch settings and jumpers. See Table 13 on [page 67](#).
 - 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 13 below shows the 3PE settings for cards installed in CP PII Core/Net Modules.

Table 13
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 PII)		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** —————

Procedure 17
Installing the Security Device

The Security Device fits into the System Utility card (see Figure 8 on [page 69](#)). 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

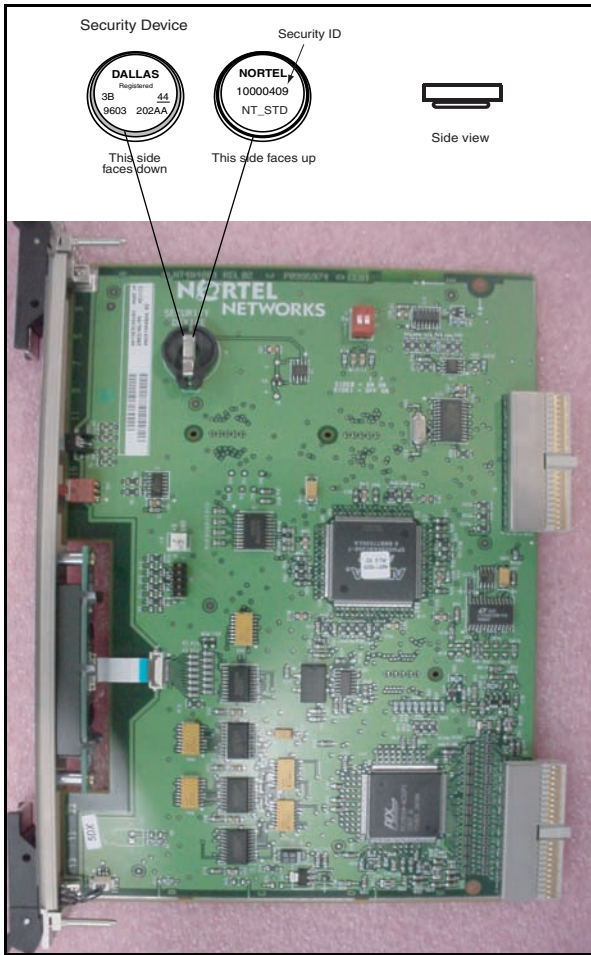
If the original system did not have an IODU/C, use the Security Device provided with the CP PII Software kit.

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 8
Security Device

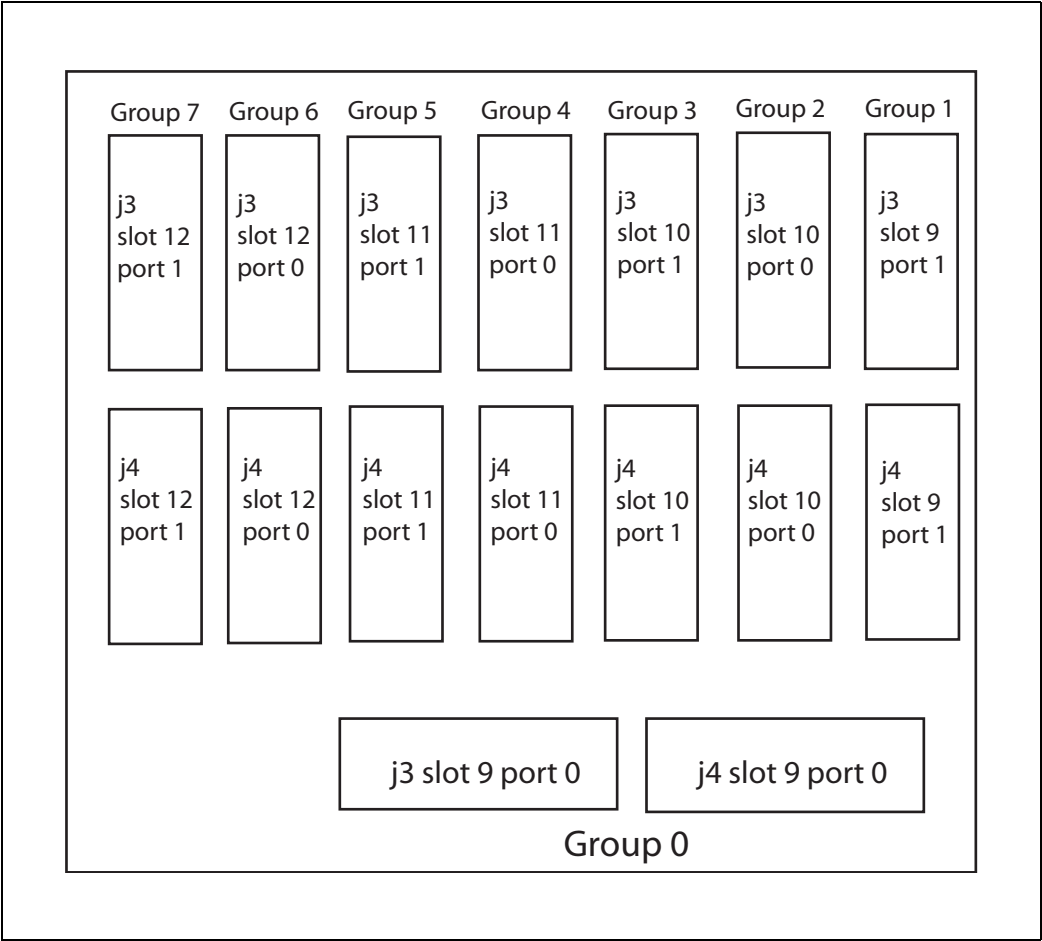


Cable Core 1

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 9
Connectors for CNI-3PE cables to the Fanout panel



In Core 1, route and connect the cCNI to 3PE (NTND14) cables

The existing NTND14 cables may be reused if they meet the requirements of the Important box on [page 71](#). 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 group shelf 1. See Table 14 on [page 73](#) and Figure 10 on [page 75](#).

**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.

When upgrading to CP PII, it is important to know whether Network group 0 will be in the Core/Net module or not. In many installations, Group 0 will be established in a standard Network shelf, and should occupy a higher Network group in the Core/Net.

If Network group 0 will be in the Core/Net, the factory configuration of the new Core/Net modules is correct, and no further action is required.

If Network Group 0 will not be in the Core/Net module, some re-configuration of the processor module is required to allow for concurrent or future use of the Network portion of the Core/Net for a higher Network group.

The NT4N40 shelf is factory-installed with NT4N29 cables and is configured as group 0. If the network portion of the Core/Net shelf is used as a higher

network group, use the extraction tool to disconnect the NT4N29 cables from the Core backplane. Once the cables are disconnected, connect them to the

appropriate group. For correct connector replacement, see Figure 14 on [page 113](#).



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 14
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 9 on [page 70](#).

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1. See Figure 10 on [page 75](#).

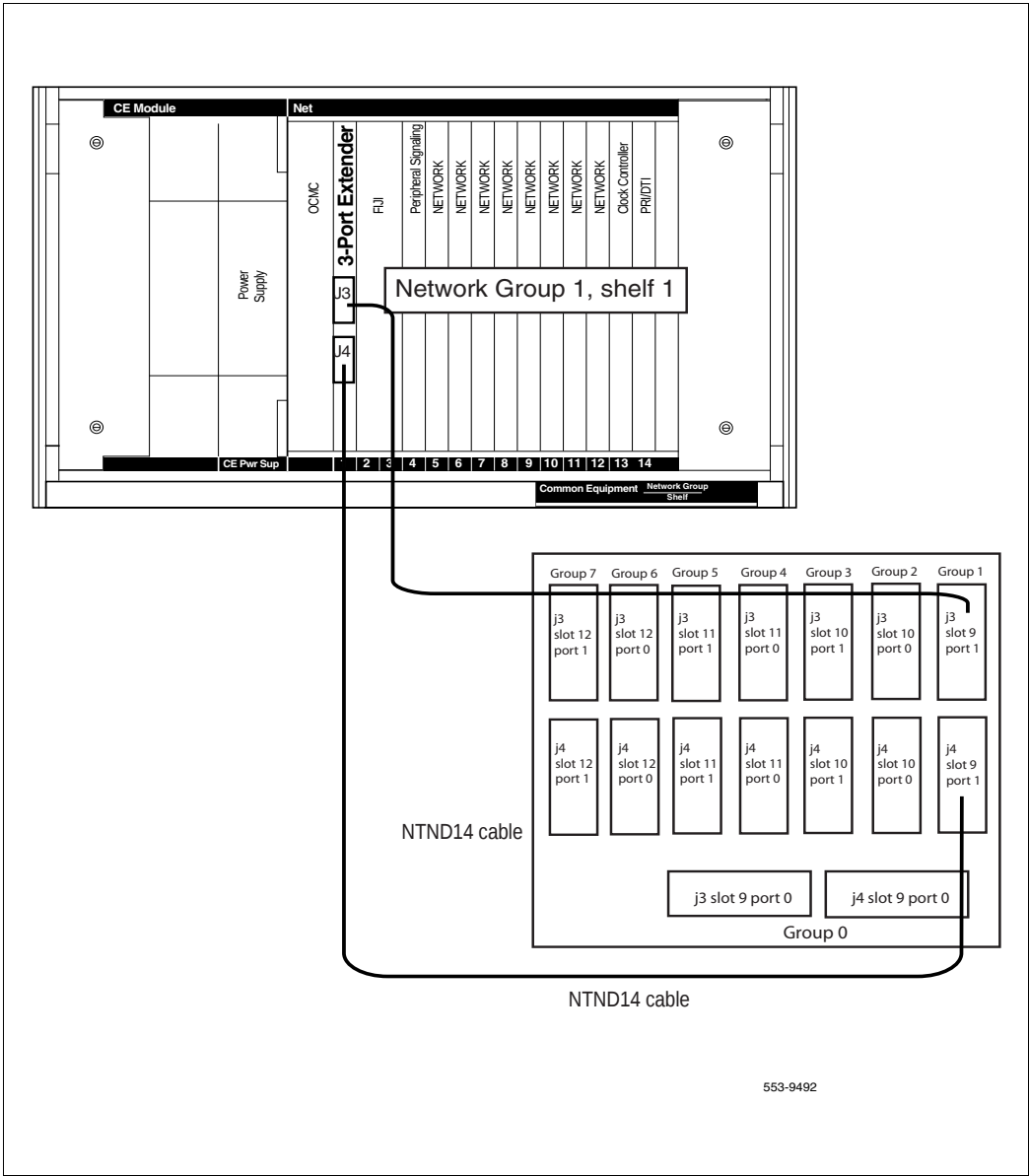
End of Procedure

Procedure 18
Adding Side 1 FIJI hardware

Follow the procedures below in sequence:

- 1** Tag and disconnect the IGS/DIGS cables.
- 2** Remove the IGS/DIGs cards from Side 1.

Figure 10
3PE Fanout Panel connections



- 3 Faceplate disable the FIJI cards and set all jumpers to “open” or unused.



CAUTION — Service Interruption

If FIJI card jumpers j6 and j7 are not set to “open” or unused, numerous FIJI issues and ring failures may occur.

- 4 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 19

Connecting the shelf 1 FIJI Ring cables (descending)



IMPORTANT!

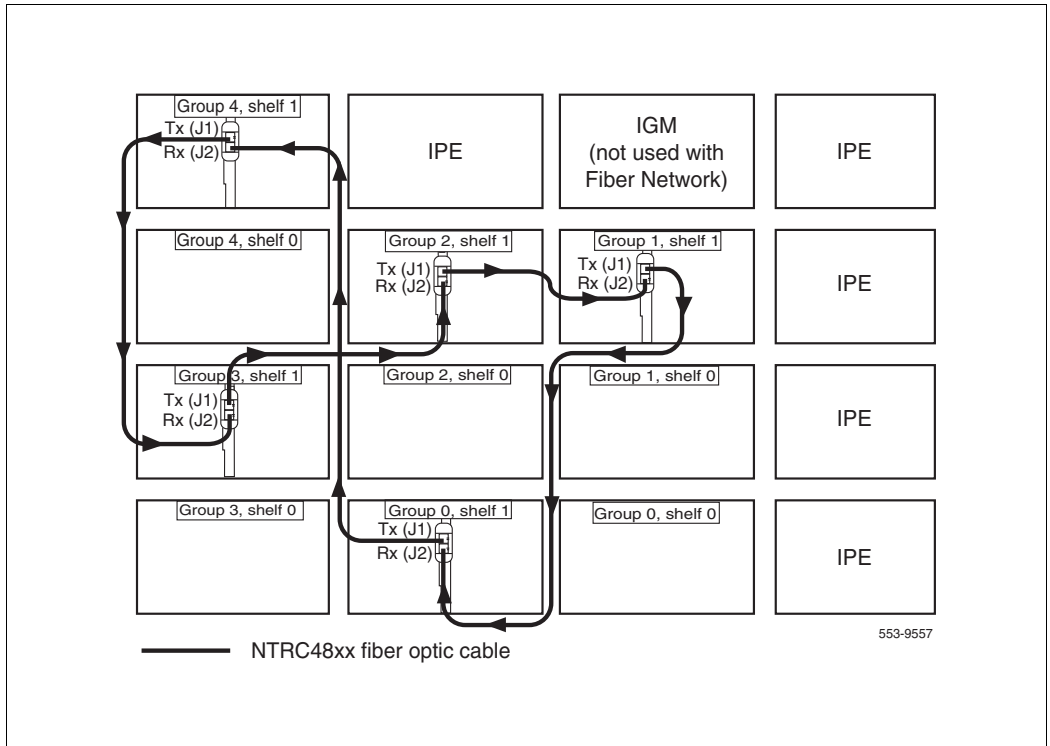
The shortest Fiber Cable must always be used.

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 (see Figure 11 on [page 77](#) and Table 15 on [page 79](#)).

Figure 11**Shelf 1 descending fiber optic Ring (Meridian 1 Option 81C 5 group example)**

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.

- 5 To complete the Ring, connect a final cable from Tx in **Group 1, shelf 1** to Rx in Group 0, shelf 1.

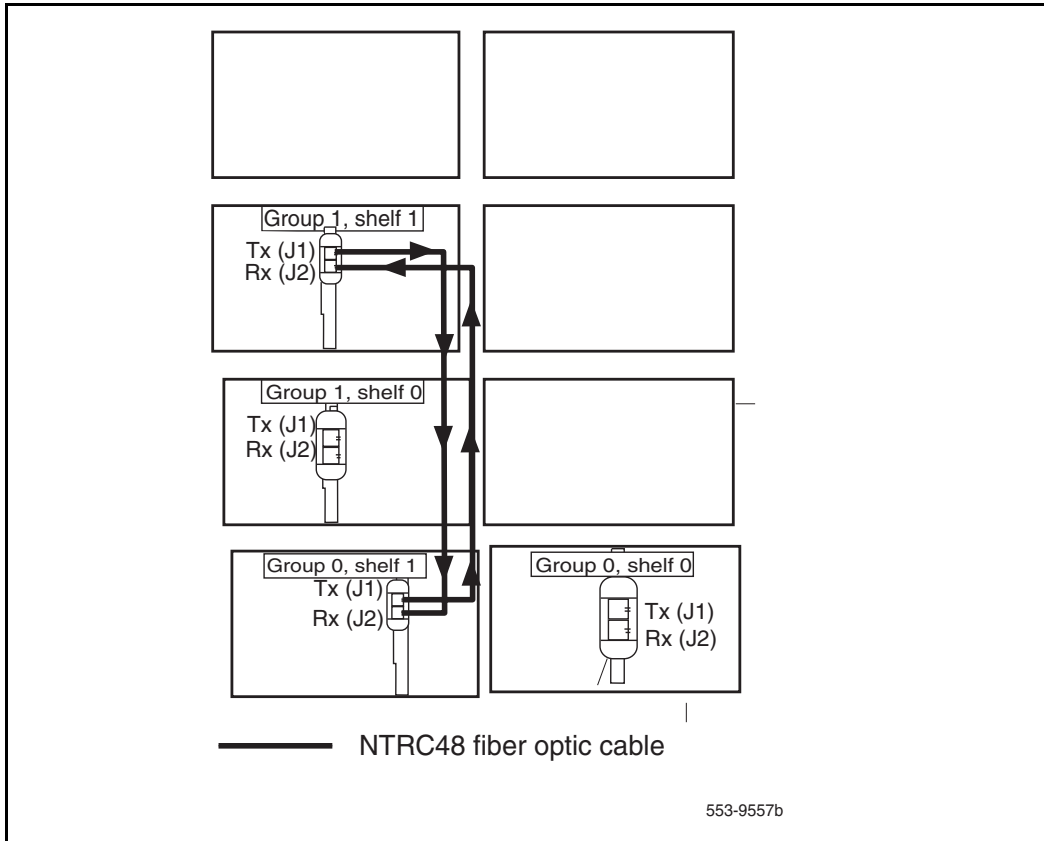
Note: Connect the Side 1 FIJI Ring cables only.

Table 15
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 12
Shelf 1 descending fiber optic Ring (Meridian 1 Option 81C 2 group example)



Cable the Clock Controller 1 to FIJI

Procedure 20

Cable the Clock Controller 1 to FIJI hardware

Connect the cables to the Clock Controller 1 as shown in Figure 13 on [page 81](#).

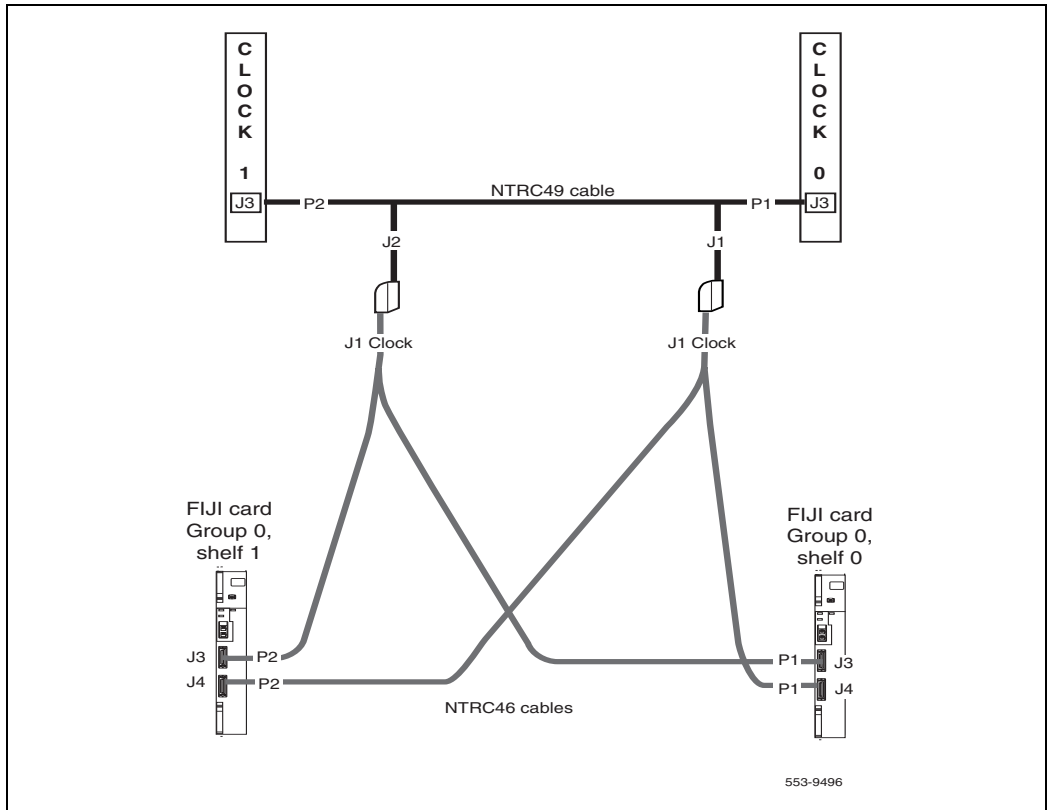
- 1 Connect J2 of the NTRC49 cable to J1 of the NTRC46 cable.
- 2 Connect P2 of the NTRC49 cable to port J3 of Clock Controller 1.

- 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.

Figure 13
Clock Controller cable configuration



Power up Core 1

Procedure 21

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 22

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 23

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

Install software and customer database on Core 1

Procedure 24

Installing the software and converting the database

- 1 Check that a terminal is connected to J25 on Core/Net 1.
- 2 In Core/Net 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.

- 3 Place the CP PII 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.

- 4 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!
```

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
    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.

- 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 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/sl1/direct.rec to /u/direct.rec

        >Updating /u/direct.rec

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> n

Note: To choose yes and install the Dependency Lists, proceed to
step 10, otherwise proceed to step 11.
```

10 Choosing Yes for the Dependency Lists installation.

```

Do you want to install Dependency Lists?

Please enter:

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

        <n> - No, Continue without Dependency Lists
installation

Enter choice>

The default choice is YES as shown in the prompt.

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

Are you sure?

Please enter:

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

        <y> - Yes, Go to the next menu

Enter choice>

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

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

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

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

```

```
Please enter:

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

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

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

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

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

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

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

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

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

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

 INSTALLATION STATUS SUMMARY

Option	Choice	Status	Comment
SW:CD to disk	yes	ok	install rel 400
Dependency Lists	yes	ok	core Version 1 Terminals Version 2
Database	no		
CP-BOOTROM	yes	ok	

 INSTALLATION STATUS SUMMARY

Option	Choice	Status	Comment
SW: CD to disk	yes	ok	from 300 to 400
Dependency Lists	yes	ok	None Available
SW: disk to ROM	yes	ok	from x210300 to x2103400
Database	no		
CP-BOOTROM	yes	ok	from x210300 to x210400
IOP-ROM	yes	ok	from 02.00 to 02.00

Note: Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. The DepList version can be seen by issuing ISSP command in LD 22 or view the listing of patches in LD 143 by issuing the MDP ISSP command. If there are NO DepLists available on the installation CD the summary should appear as shown below: (IT IS RECOMMENDED TO CHOOSE YES TO INSTALL ANY MANDATORY DEPLIST PATCHES AVAILABLE WITH THE SOFTWARE MEDIA, THEN DOWNLOAD THE CURRENT DEPLISTS FROM THE ENTERPRISE SOLUTIONS PATCH LIBRARY TO OBTAIN

ALL OF THE RECOMMENDED PATCHES)

Installation of DepList on an SSC system through software installation

The DepList should be installed during the software installation if it is present in the PC Card/Pre-Programmed daughter board.

Do you wish to install Dependency Lists? (y/n/[a]bort) :

The installation continues as below:

```
INSTALLING NEW SOFTWARE AND FILES:
Erasing flash ROM
Installing new flash ROM software modules:
Programming: auxres
Programming: diskos
Programming: sllres
Programming: ovlres
Programming: loadware
Programming: remupg
Calculating CRC-32 on flash ROM program store
Installing new directory record
Installing new files
Installing Dependency Lists
Building system loadware
Done.
```

Note: Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. This can be seen by issuing the ISSP command in LD 22.

If the response to the above query is "NO", the user is prompted to confirm the selection.

For example:

```
Do you wish to install Dependency Lists? (y/n/[a]bort) : n
```

```
Are you sure? (y/n/[a]bort) : y
```

11 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 |
=====+=====+=====+=====
| 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: XXXXX.

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  
XXXXXX
```

- 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.
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:
Month Day Hour:Min:Sec:Year

      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.

```

                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
```

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.

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 INI.

End of Procedure

Configuring IP addresses

Procedure 25 Configuring the IP addresses

Two unique IP address are required for the CP PII 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 103](#). 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 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 <i>NAME 2</i>	Assign the “name 2” address to the <i>inactive</i> Core.
---	--

CHG MASK <i>XXX.XXX.XXX.XXX</i>	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
---------------	--------------

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 “Printing site data” on [page 26](#). 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 26
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 27

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 20,000 and 1000 respectively). If changes are required, reconfigure the values in LD 17:

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

3 Perform a data dump to save the customer database to the hard drive and floppy:

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

LD 43 Load program

- b.** When "EDD000" appears on the terminal, enter:

EDD Begin data dump

- c.** When "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" appear on the terminal, enter

******** Exit program



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.

End of Procedure

Procedure 28
Rebooting Core 1



CAUTION

Service Interruption

The INI may take up to 15 minutes to complete.



CAUTION

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 Faceplate disable all IGS/DIGS cards in shelf 0 and unseat the card.
- 6 Seat and faceplate enable Clock Controller 1.
- 7 Seat and faceplate enable all FIJI cards in shelf 1.
- 8 Press the 'RESET' button on the CP PII card faceplate to initialize the system.
- 9 Wait for "DONE" and then "INI" messages to display before you continue.



CAUTION

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.

Upgrading Core 0

Note: At this point, the active side Core/Net 1 registers all Network cards in Core/Net 0 as disabled.

Procedure 29

Faceplate disabling cards in core and network slots of Core/Net 0:

- 1 In Core/Net 0 only, faceplate disable the 3PE, Per Sig and all network cards.
- 2 Faceplate disable all IGS/DIGS cards in each network shelf 0.

End of Procedure

Table 16

Shelf 0 IGS/DIGS card locations (Part 1 of 2)

Network Group 0	Shelf 0	IGS/DIGS 0 & 2
Network Group 1	Shelf 0	IGS/DIGS 4 & 6
Network Group 2	Shelf 0	IGS/DIGS 8 & 10
Network Group 3	Shelf 0	IGS/DIGS 12 & 14

Table 16
Shelf 0 IGS/DIGS card locations (Part 2 of 2)

Network Group 4	Shelf 0	IGS/DIGS 18 & 20
Note: The DIGS card should be located in slot 9 of the network shelf.		

Procedure 30
Moving Clock Controller 0



CAUTION

Clock controller cards must be NTRB53 Clock Controller cards.



CAUTION

Service Interruption

Move only Clock Controller 0 at this point in the upgrade.

If the system has a QPC Clock Controller, replace it with an NTRB53 Clock Controller (to be installed in the same Network Shelf and slot) and verify settings according to Table 17 on [page 111](#).

If the system has an NTRB53 Clock Controller, skip this procedure.

- 1 Label and disconnect the Clock Controller 0.
- 2 Disconnect the 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 Remove QPC Clock Controller 0 from the Network Module
- 5 Set the Clock Controller 0 switch settings according to and Table 17 on [page 111](#).
- 6 Place NTRB53 Clock Controller in the same Network Shelf and slot. DO NOT seat the Clock Controller 0 and DO NOT faceplate enable the card.

7 Re-connect all reference cables.

Note: The Clock Controllers (0 and 1) must be located in Group 1 (in a 2 group system only). If in the future the Meridian 1 Option 81C CP PII is upgraded to more than two Network groups, Nortel recommends that Clock Controller 0 and 1 be located in different Network groups.

Table 17
Clock Controller switch settings for NTRB53

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
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.						

————— **End of Procedure** —————

Procedure 31
Cabling the Clock Controllers

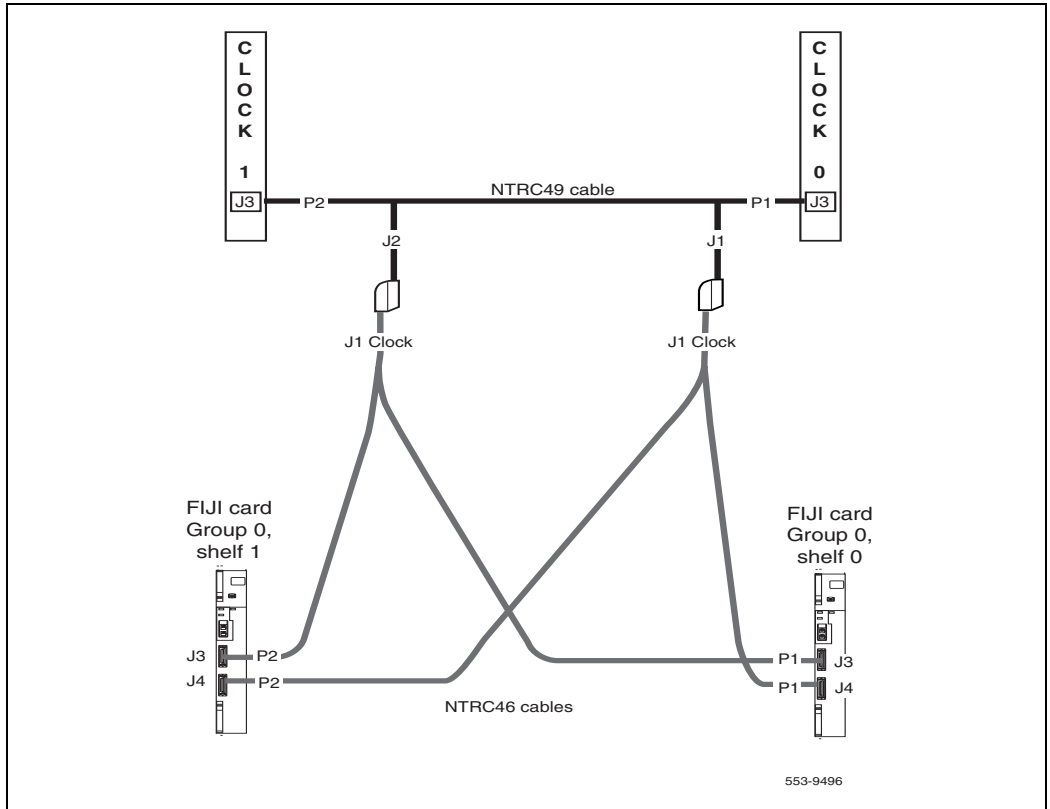
Note: Earlier in the upgrade, you checked that Clock Controller 1 is installed in Network 1 shelf 1, slot 13; and Clock Controller 0 has been moved to Network group 1 shelf 0, slot 13.

Note: Connect the cables to the Clock Controllers as shown in Figure 14 on [page 113](#):

- 1 Connect the Clock to Clock cable:
 - a. Connect J1 of the NTRC49 cable to port J3 of Clock Controller 0.
 - b. Connect J2 of the NTRC49 cable to port J3 of Clock Controller 1.
- 2 Connect a Clock 0 to FIJI cable:
 - a. Connect J2 of the NTRC46 cable from Clock 0 to J4 of the FIJI card in Group 0, shelf 1.

End of Procedure

Figure 14
Clock Controller cable configuration



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).

Procedure 32

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 PII 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 Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage that secure the card cage to the module casting. Keep the screws for use with the CP PII card cage.

**CAUTION**

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. Save the screws for use with the CP PII 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 not to drop the nut or lock washer into the pedestal. See Figure 15 on [page 116](#) for DC power connectors. See Figure 16 on [page 117](#) for AC power connectors.
- 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 15
DC power connectors on the Core module backplane

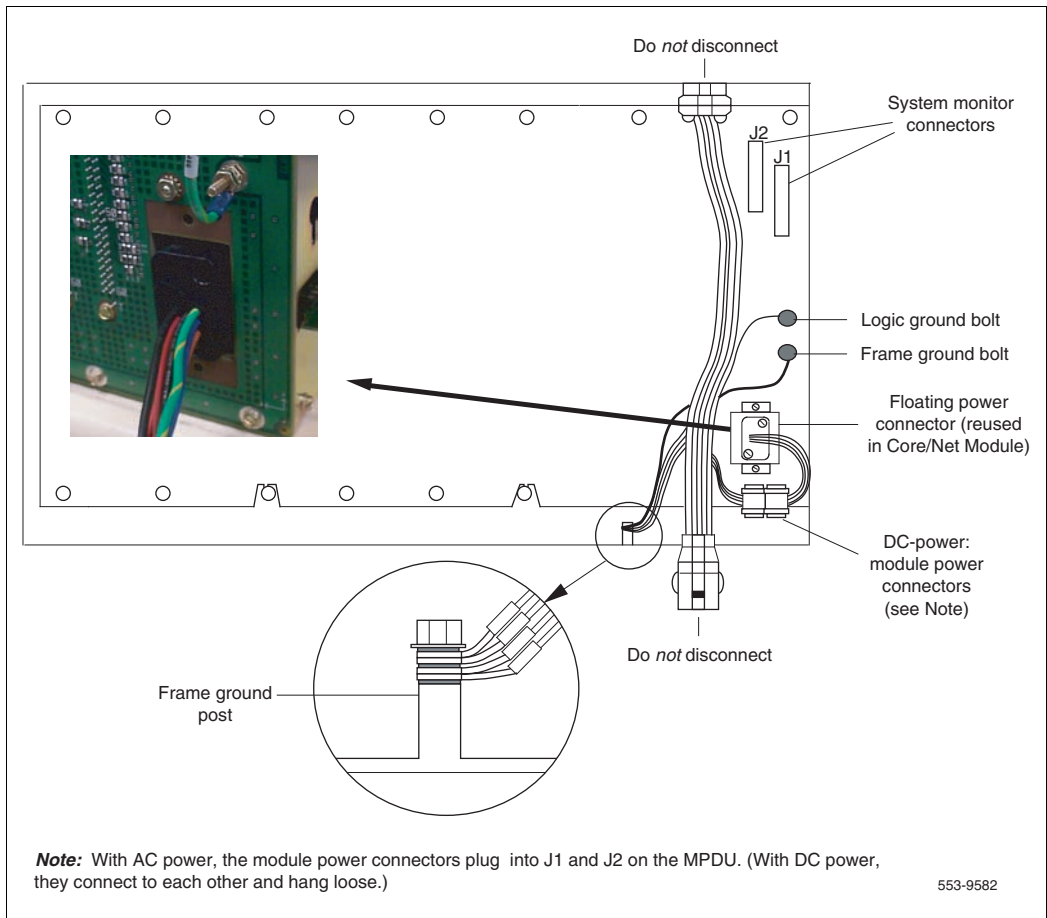
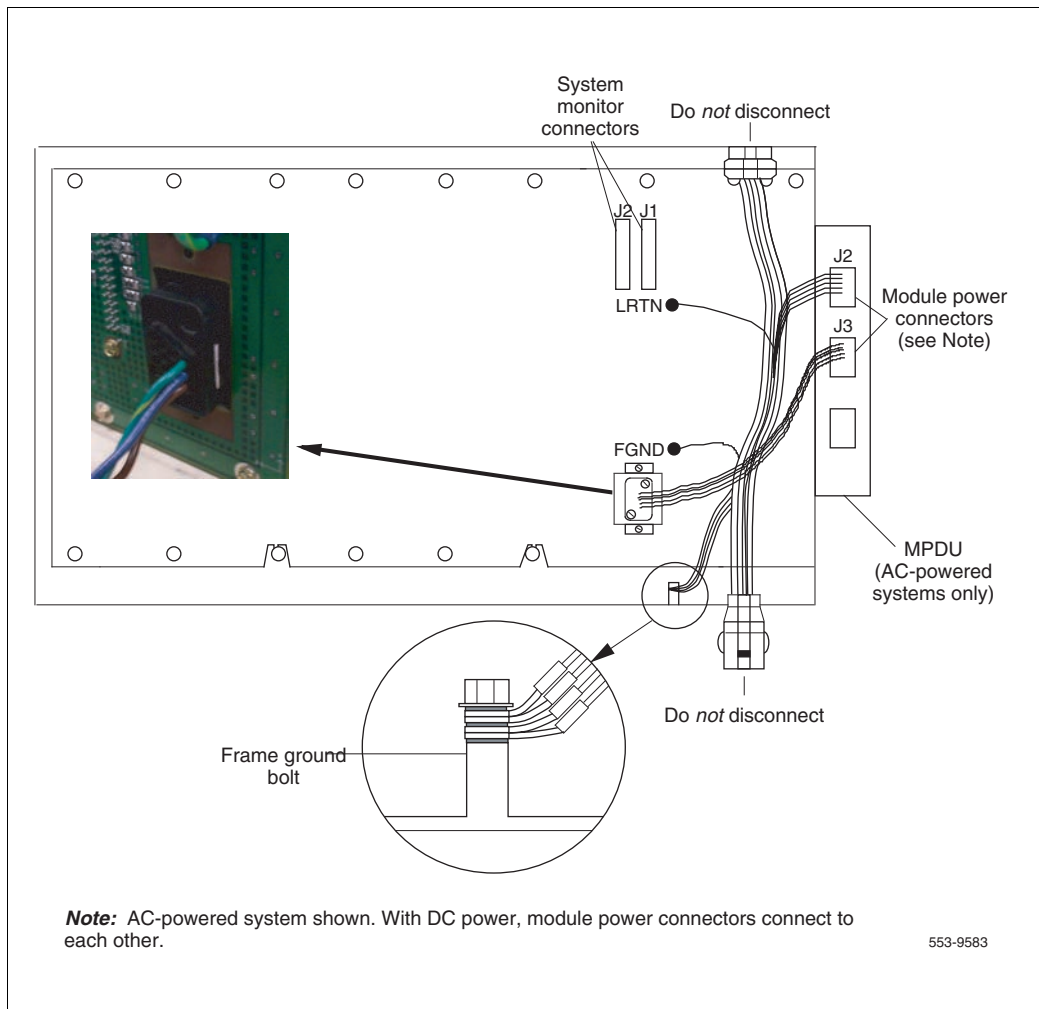


Figure 16
AC power connectors on the Core module backplane



- 17 Remove the power harness and reserve it for reinstallation as part of installing 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.
- 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 fell into the base of the UEM module.

End of Procedure

Upgrade Core 0 hardware

Check that the main Core cards (front side) are installed

Procedure 33

Checking main Core card installation

The main Core cards including the MMDU (with the cables for power and data), are installed in the factory as shown in Figure 17 on [page 120](#).

- 1 NT4N65AB CP PII Core Network Interface (cCNI) cards:
Each system contains 1-4 NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9-c12. If not already installed, install a P0605337 CP PII Card Slot Filler Panel to cover slots which do not contain cCNIs.

Note: In the NT4N40 Core/Net card cage, port 0 on the NT4N65 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 PII 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 18 below.

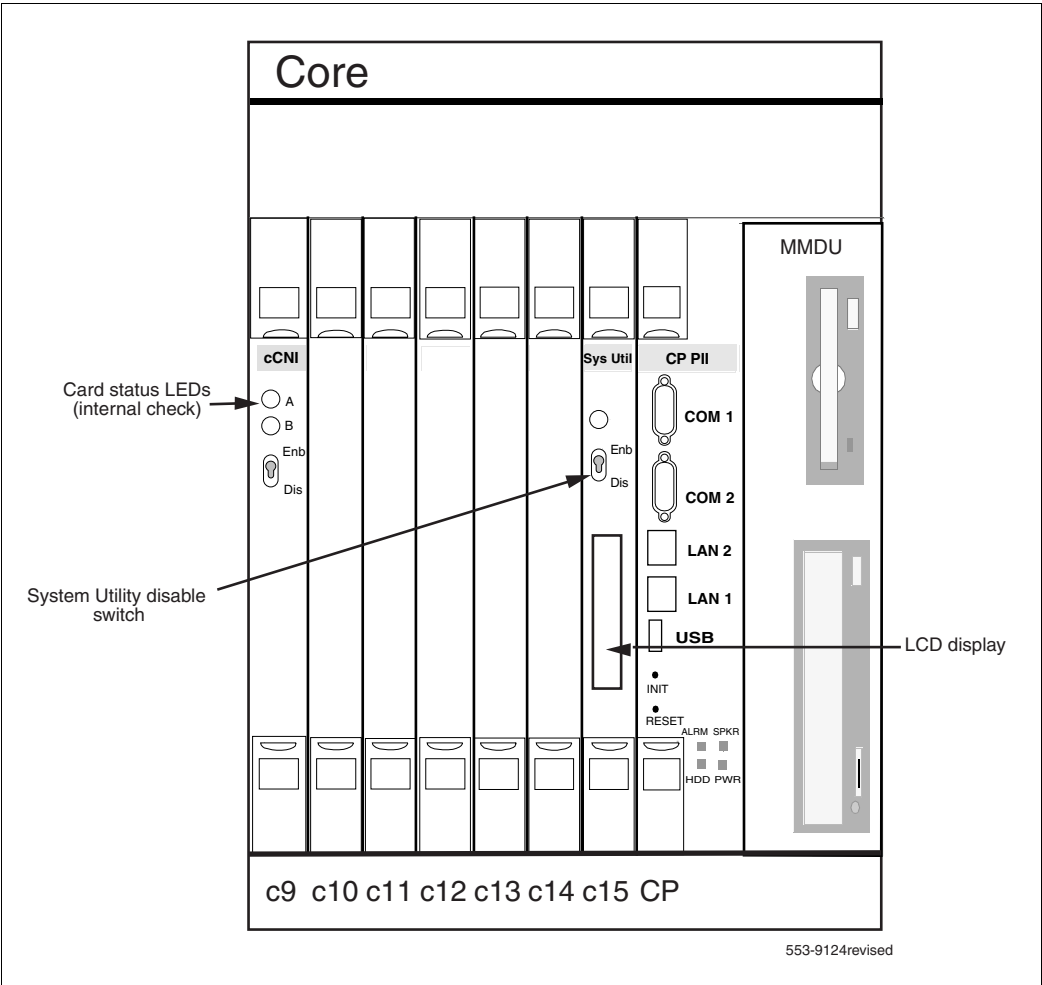
Table 18
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 4 NT4N64AA CP PII is located in the Call Processor slot.

- 5
- The NT4N43CA Multi-Media Disk Unit (MMDU) is located in the extreme right-hand slot next to the CP PII card. The MMDU contains the hard drive, floppy drive and CD-ROM drive.

Figure 17
Core card placement in the NT4N41 Core/Net Module (front)



End of Procedure

Check factory-installed cables

Table 19 below lists factory-installed cables. See Figure 18 on [page 122](#).

Table 19
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

Install the Security Device

Procedure 34 **Installing the Security Device**

The Security Device fits into the System Utility card (see Figure 19 on [page 123](#)).

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 PII 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.

Figure 18
Core/Net cable connections

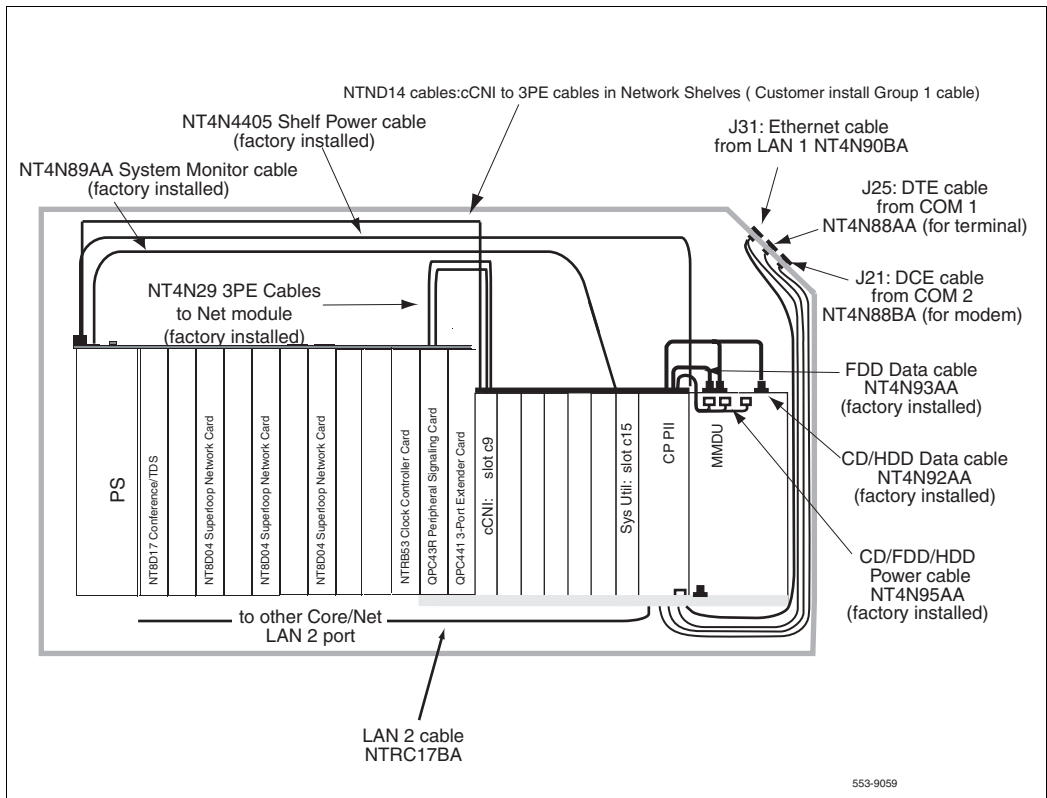
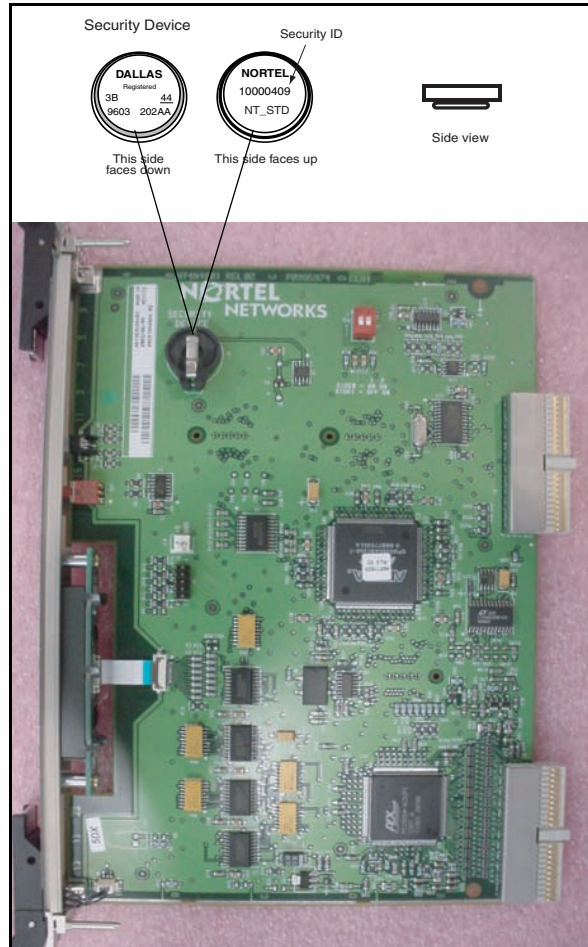


Figure 19
Security Device



Install the CP PII card cage in Core 0

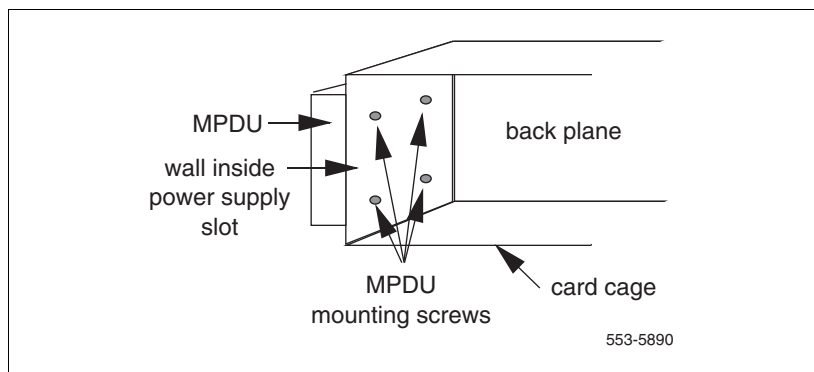
Procedure 35

Installing the CP PII card cage in Core 0

- 1 Check that the card cage is configured as Core 0. See Table 18 on [page 119](#) for instructions.
 - 2 For AC-powered systems only, install the new MPDU (part of the CP PII 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 20.
- 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 20

Location of the screws for the MPDU



- 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).

**CAUTION****Damage to Equipment**

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

- 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 pedestal to connector J1 on the backplane.
 - ii. Connect the ribbon cable that goes up the column to J2 on the backplane.
 - d. Attach the green ground wire to the frame ground bolt on the module. (an 11/32" socket wrench is used to attach the wire.) 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" or 2/8" 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 36 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 37**Relocating Network cards to CP PII Core/Net 0**

- 1** Remove all remaining network cards from the Meridian 1 Option 81C Core/Net 0 **except for the IGS/DIGS cards.**
- 2** When you move the 3PE card, check the switch settings and jumpers. See Table 20 on [page 128](#).
 - 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 20 below shows the 3PE settings for cards installed in CP PII Core/Net Modules.
- 3** Reinstall each removed card in the same network slot in the CP PII Core/Net 0.

- 4 Connect the tagged cables to the relocated cards.

Table 20
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 PII)		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 PII faceplate to J25 on the I/O panel with cable NT4N88AA.
- 2 Connect COM2 on the CP PII 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 TM. The options for the LAN 1 connections are shown in Figure 21 on page 130.

Procedure 38**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 PII 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 21
Options for LAN 1 connection

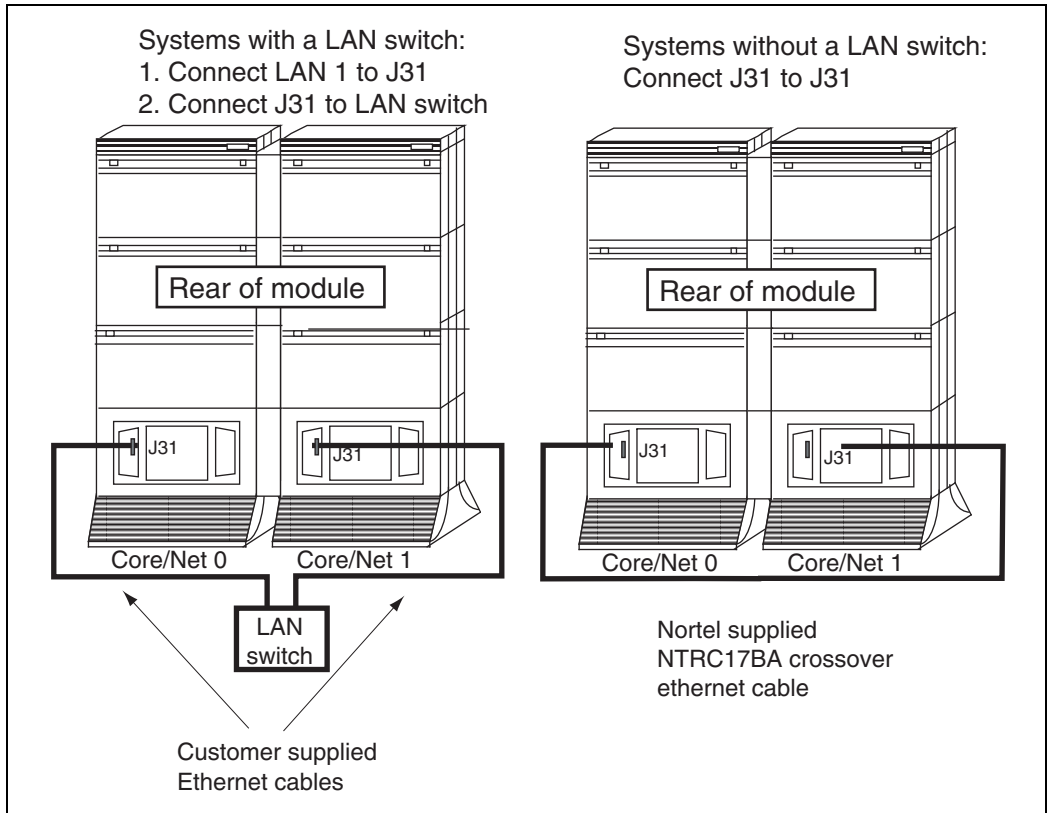
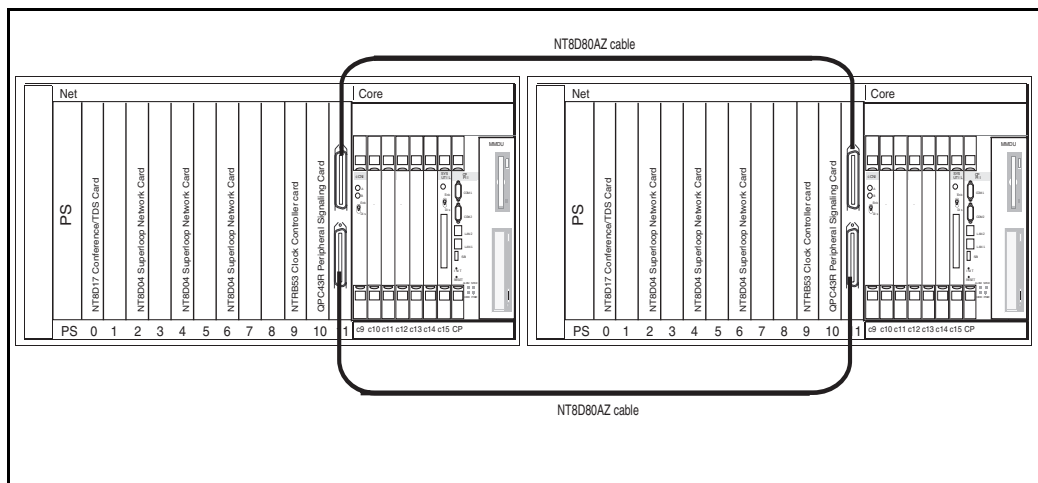


Figure 22
3PE card connections



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 39

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 23 on [page 132](#)).

- 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 22 on [page 131](#)).
- 4 If the system has XSDI cards, reinstall the cards and attach the cables.

End of Procedure

Figure 23
Fanout Panel connections on the CP PII Core/Net backplane

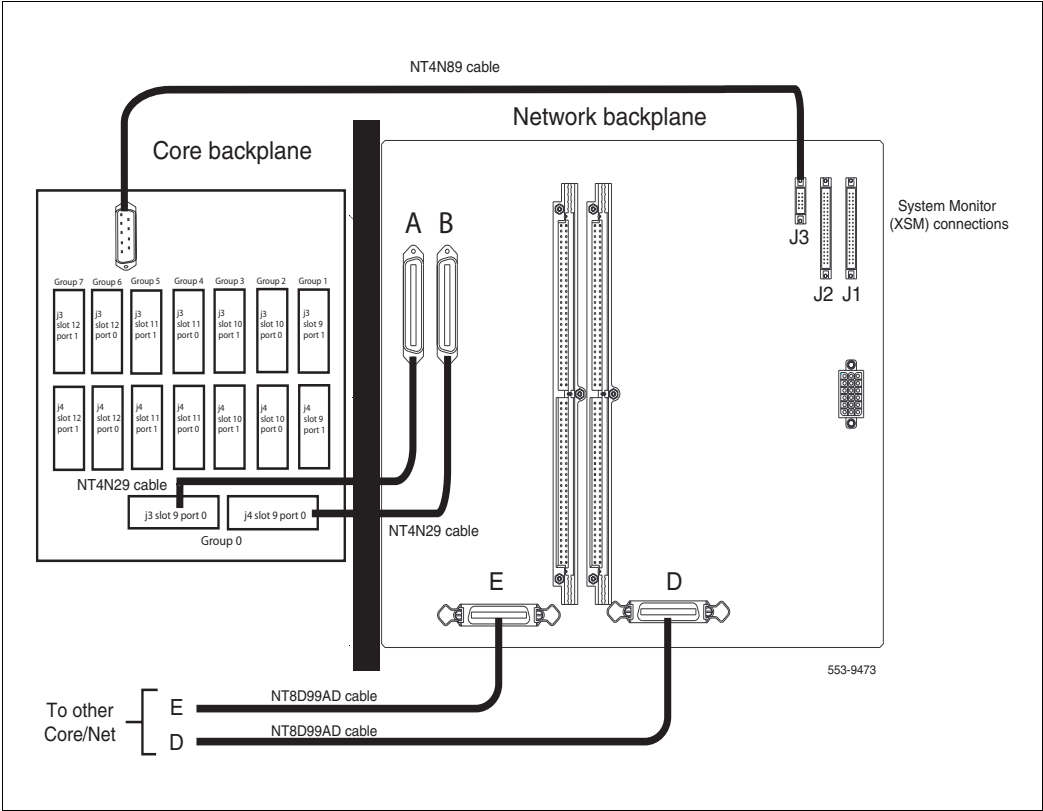
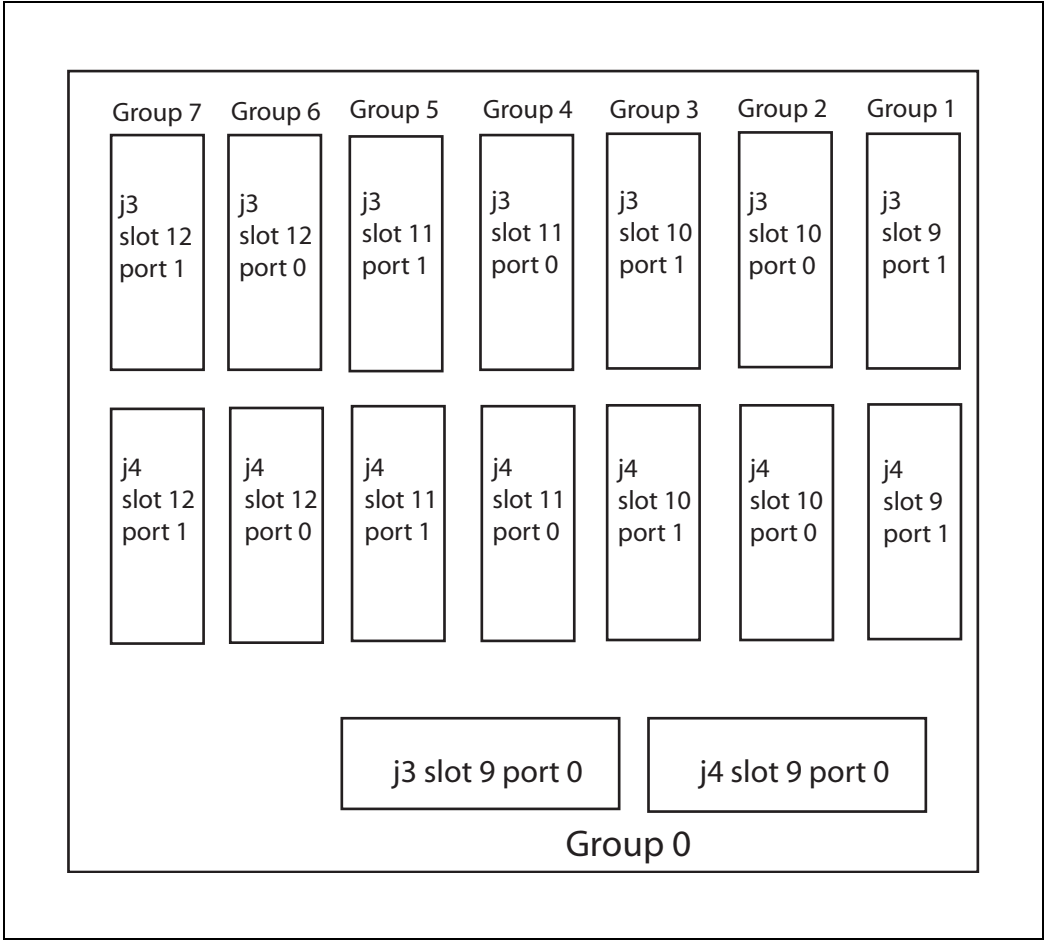


Figure 24
Fanout panel connectors



In Core 0, route and connect the cCNI to 3PE (NTND14) cables

The existing NTND14 cables can be reused for Network groups 1-7. Connect the NTND14 cables to the Fanout Panel in Core/Net 0. See Figure 24 on [page 133](#) and Table 21 on [page 135](#).



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.
- Check existing NTND14 cables. Replace any cables that do not meet the above requirement.

Note: The NTND14 BX 50' cables are manufacture discontinued.

When upgrading to CP PII, it is important to know whether Network group 0 will be in the Core/Net module or not. In many installations, Group 0 will be established in a standard Network shelf, and should occupy a higher Network group in the Core/Net.

If Network group 0 will be in the Core/Net, the factory configuration of the new Core/Net modules is correct, and no further action is required.

If Network Group 0 will not be in the Core/Net module, some re-configuration of the processor module is required to allow for concurrent or future use of the Network portion of the Core/Net for a higher Network group.

The NT4N40 shelf is factory-installed with NT4N29 cables and is configured as group 0. If the network portion of the Core/Net shelf is used as a higher network group, use the extraction tool to disconnect the NT4N29 cables from the Core backplane. Once the cables are disconnected, connect them to the appropriate group. For correct connector replacement, see Figure 24 on [page 133](#).

**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.

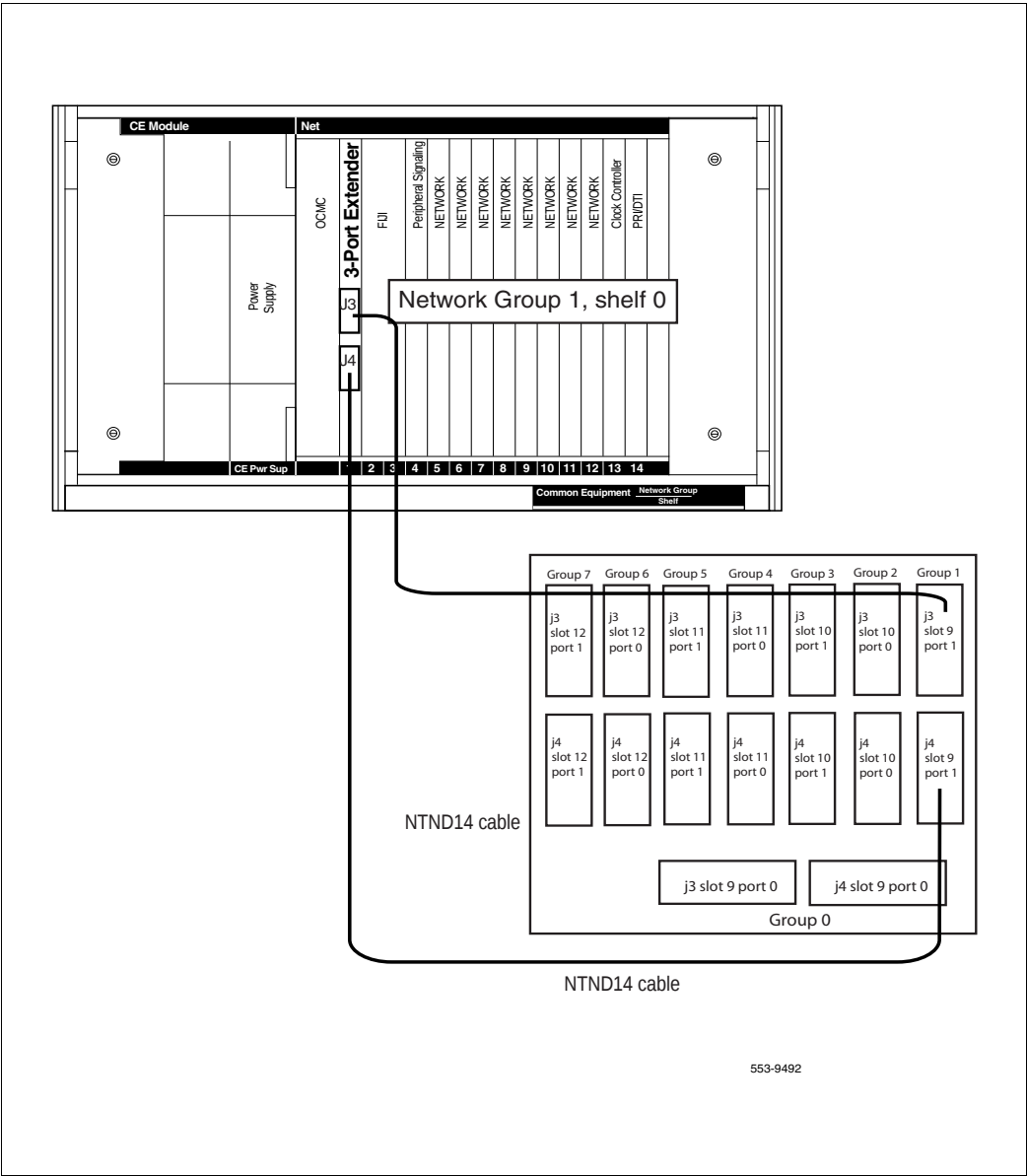
Table 21
Fanout Panel to 3PE card connectors

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 24 on [page 133](#)).

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 25 on [page 136](#))

Figure 25
3PE Fanout Panel connections



Add Side 0 FIJI hardware

Procedure 40

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 41

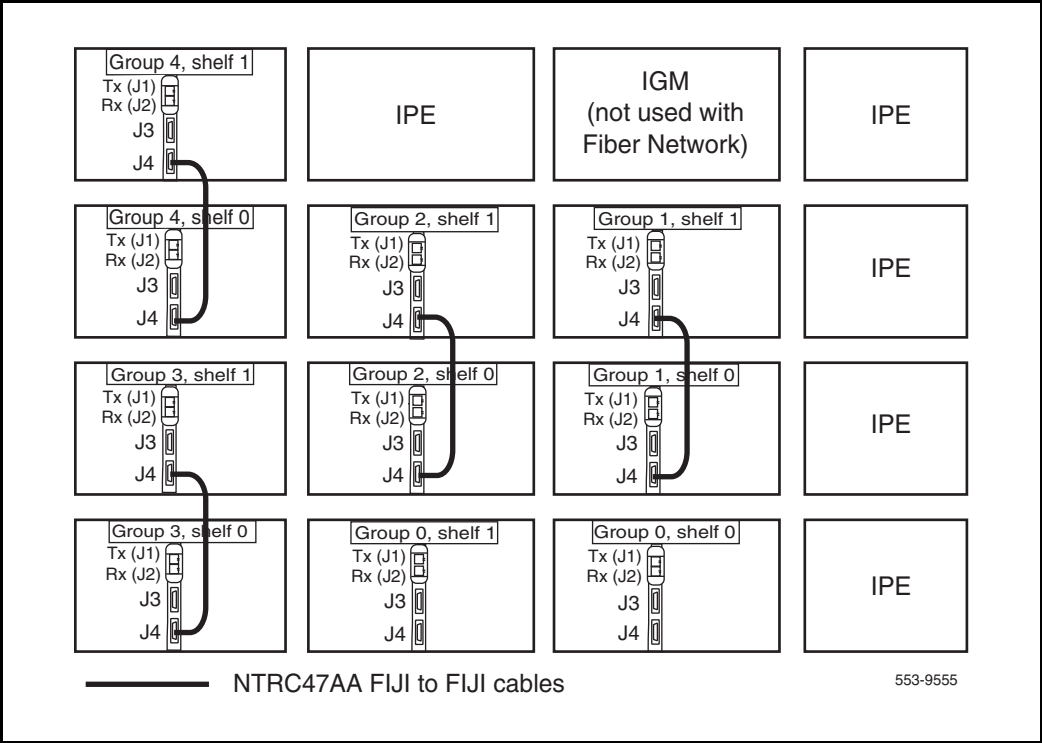
Connect the FIJI to FIJI cables

- 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 42**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 26 on page 140 and Table 22 on [page 141](#)).

**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.

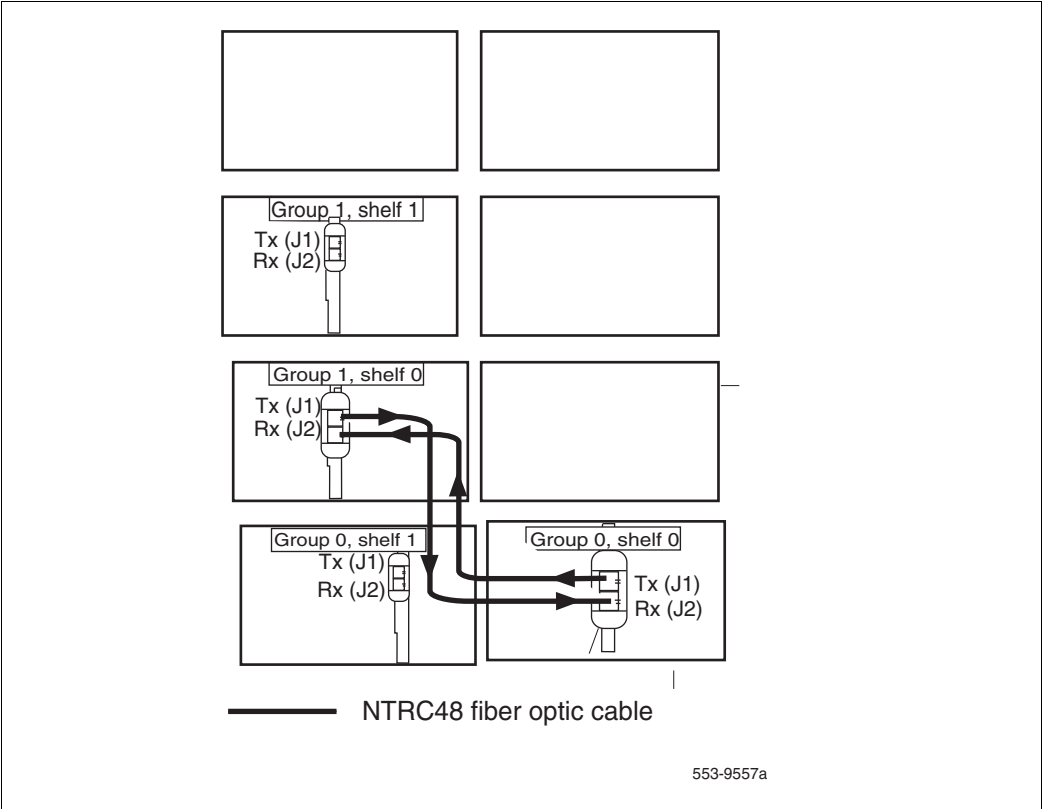
Note: When adding an additional network group, fiber cables must be changed to adhere to the rules above.

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 26
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**.

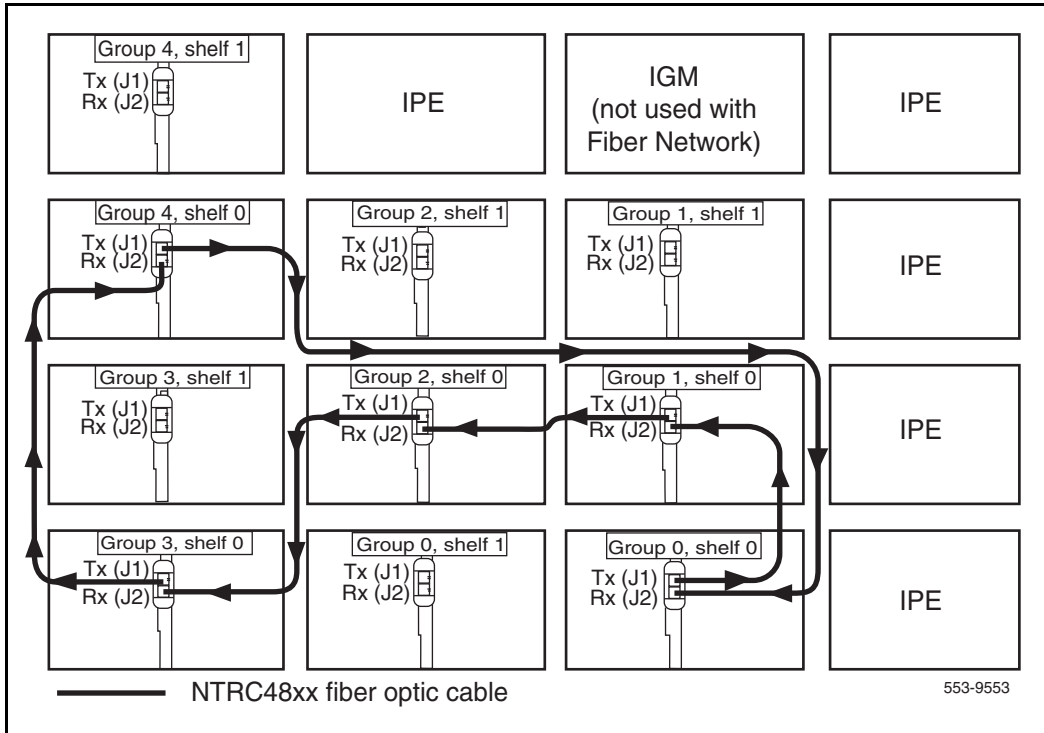
Table 22
FIJI Ring 0 connections

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 27

Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 5 group example)



Procedure 43

Cabling the Clock Controllers to FIJI card

Connect the cables to the Clock Controllers as shown in Figure 28 on [page 144](#):

- 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

Power up Core 0

Procedure 44

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

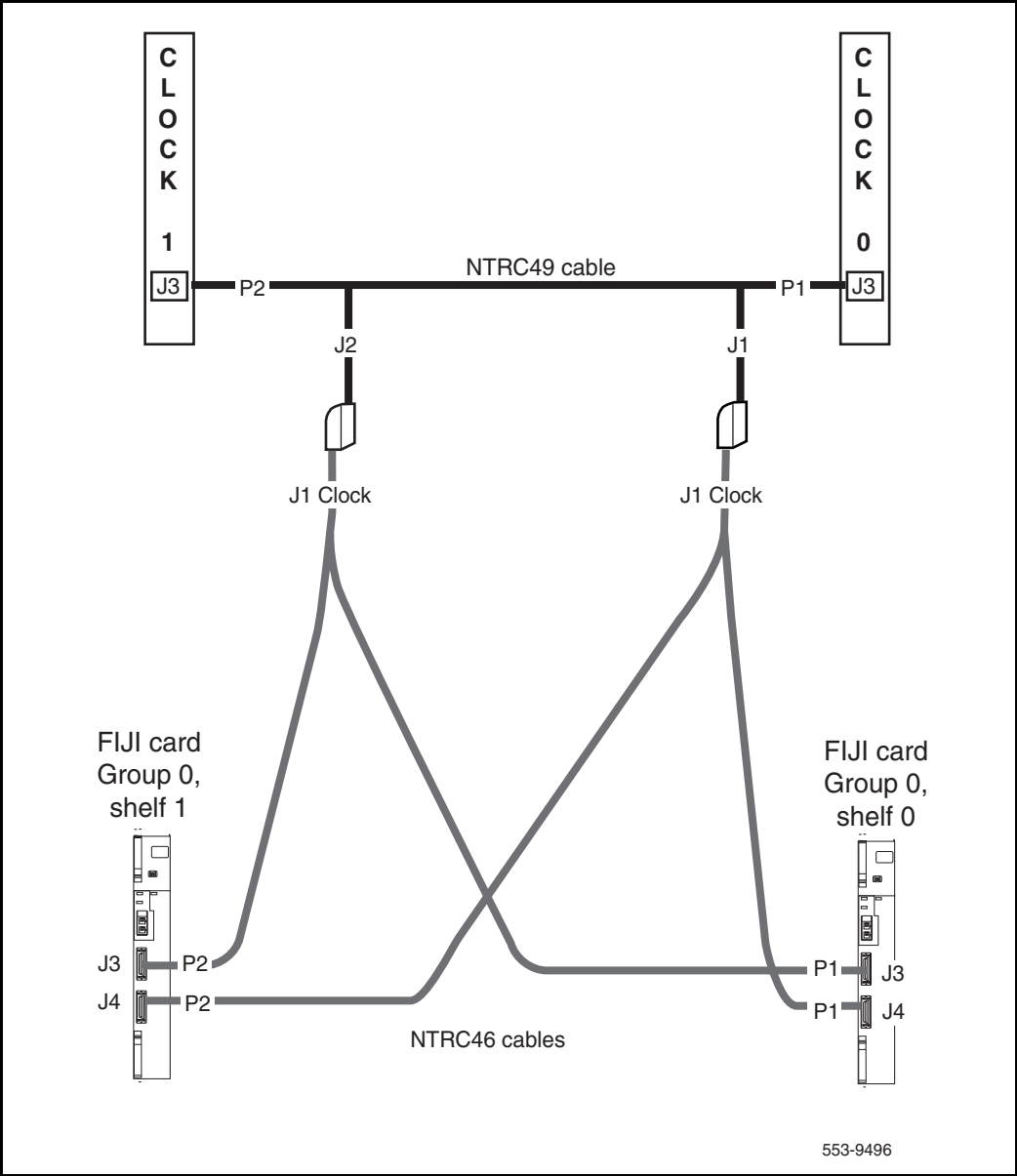
Power up Core cards

Procedure 45

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).

Figure 28
Clock Controller cable configuration



- 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

Procedure 46

Testing Core/Net 1

- 1 Test the Fiber Rings

See the *Software Input/Output: Maintenance* (NN43001-711) 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

- 2 Stat network cards:

LD 32 Load program

STAT x Stat the network card, where x = loop number

**** Exit program

- 3 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

End of Procedure

Install software and customer database on Core 0

Procedure 47

Installing the software and customer 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 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.

- 3 Place the CP PII Install floppy disk into the Core/Net 0 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.

- 4 Press the manual RESET button on the CP PII card faceplate in Core/Net 0.

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!
```

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
    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.

- 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 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

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> n

Note: To choose yes and install the Dependency Lists, proceed to
step 10, otherwise proceed to step 11.
```

10 Choosing Yes for the Dependency Lists installation.

```
Do you want to install Dependency Lists?

Please enter:

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

        <n> - No, Continue without Dependency Lists
installation

Enter choice>

The default choice is YES as shown in the prompt.

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

Are you sure?

Please enter:

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

        <y> - Yes, Go to the next menu

Enter choice>

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

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

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

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

Please enter:

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

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

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

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

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

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

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

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

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

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

INSTALLATION STATUS SUMMARY			

Option	Choice	Status	Comment
SW:CD to disk	yes	ok	install rel 400
Dependency Lists	yes	ok	core Version 1 Terminals Version 2
Database	no		
CP-BOOTROM	yes	ok	

INSTALLATION STATUS SUMMARY			

Option	Choice	Status	Comment
SW: CD to disk	yes	ok	from 300 to 400
Dependency Lists	yes	ok	None Available
SW: disk to ROM	yes	ok	from x210300 to x2103400
Database	no		
CP-BOOTROM	yes	ok	from x210300 to x210400
IOP-ROM	yes	ok	from 02.00 to 02.00

Note: Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. The DepList version can be seen by issuing ISSP command in LD 22 or view the listing of patches in LD 143 by issuing the MDP ISSP command. If there are NO DepLists available on the installation CD the summary should appear as shown below: (IT IS RECOMMENDED TO CHOOSE YES TO INSTALL ANY MANDATORY DEPLIST PATCHES AVAILABLE WITH THE SOFTWARE MEDIA, THEN DOWNLOAD THE CURRENT DEPLISTS FROM THE ENTERPRISE SOLUTIONS PATCH LIBRARY TO OBTAIN

ALL OF THE RECOMMENDED PATCHES).

Installation of DepList on an SSC system through software installation

The DepList should be installed during the software installation if it is present in the PC Card/Pre-Programmed daughter board.

Do you wish to install Dependency Lists? (y/n/[a]bort) :

The installation continues as below:

INSTALLING NEW SOFTWARE AND FILES:

Erasing flash ROM

Installing new flash ROM software modules:

Programming: auxres

Programming: diskos

Programming: sl1res

Programming: ovlres

Programming: loadware

Programming: remupg

Calculating CRC-32 on flash ROM program store

Installing new directory record

Installing new files

Installing Dependency Lists

Building system loadware

Done.

Note: Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. This can be seen by issuing the ISSP command in LD 22.

If the response to the above query is "NO", the user is prompted to confirm the selection.

For example:

Do you wish to install Dependency Lists? (y/n/[a]bort) : **n**

Are you sure? (y/n/[a]bort) : **y**

11 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 |
=====+=====+=====+=====
| 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: XXXXX.

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
XXXXXX
```

- 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. 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:
Month Day Hour:Min:Sec:Year

      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.

```

      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
```

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.

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 0 to INI.

End of Procedure

Checking for Peripheral Software Download to Core 0

Load LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Printing site data” on [page 26](#).

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
****	Exit program

•

- 1 Perform a data dump to save the customer database to the hard drive and floppy disk. Insert a blank floppy into the Core/Net 0 MMDU.

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

LD 43	Load program
--------------	--------------

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

EDD	Begin 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.

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

**** Exit program

End of Procedure

Making the system redundant

Procedure 48

Enabling system redundancy:

- 1 Connect NTRC17BA from LAN 2 of Core/Net 1 to Lan 2 of Core/Net 0.
- 2 Initialize (INI) Core/Net 0.



Once the INI is complete on the *inactive* Core (Core/Net 0), the system will 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

Completing the CP PII upgrade

Procedure 49

Testing 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
TEST LCDs	Test LCDs
DSPL ALL	

- 3 Test the System Utility cards and the cCNI cards:

LD 135	Load program
STAT SUTL	Get status of the System Utility (main and Transition) cards
TEST SUTL	Test System Utility (main and Transition) cards
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 CMDU Test the MMDU card

- 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

- 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

8 Test the Fiber Rings:

See *Software Input/Output: Maintenance* (NN43001-711) 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)

9 Check the status of the FIJI alarms:

STAT ALRM Query the alarm condition for all FIJI cards in all Network Groups

******** Exit program

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

11 Check dial tone.

End of Procedure

Switching call processing

Procedure 50 Switching call processing

LD 135	Load program
SCPU	Switch call processing from Core/Net 1 to Core/Net 0

Core/Net 1 will INI and Core/Net 0 will become the active call processor.

Procedure 51 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 the 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	Display all

3 Test the System Utility cards and the cCNI cards:

LD 135	Load program
STAT SUTL	Get the status of the System Utility (main and Transition) cards

TEST SUTL Test the System Utility (main and Transition) cards

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 CMDU Test the MMDU card

5 Test that the system monitors are working:

LD 37 Load program

STAT XSM Check the system monitors

******** Exit the program

6 Clear the display and minor alarms on both Cores:

LD 135

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 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

- 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

8 Test the Fiber Rings:

See *Software Input/Output: Maintenance* (NN43001-711) 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)

9 Check the status of the FIJI alarms:

STAT ALRM Query the alarm condition for all FIJI cards in
all Network Groups

**** Exit program

10 Check applications (such as CallPilot and Symposium).

11 Check dial tone.

End of Procedure

The Option 81C IGS to CS1000M MG CP PII FNF Upgrade is complete.

Installing a Signaling Server

Contents

This section contains information on the following topics:

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Introduction

This chapter contains general instructions to install a Nortel CP PM server and detailed instructions to install a legacy Nortel ISP1100 server. This chapter contains no instructions to install an IBM X306m or HP DL320-G4 COTS 1U server. Please see the *IBM xSeries 306m Types 8848 and 8491 User Guide* or the *HP ProLiant DL320 Generation 4 Server User Guide* shipped with the COTS servers for detailed installation instructions. Of particular note, the IBM X306m and HP DL320-G4 servers require four-post

rack mounting, as opposed to two-post rack mounting for the Nortel ISP1100 server.

IMPORTANT!

Instructions to install an IBM X306m or HP DL320-G4 COTS 1U server are not included in this chapter. Detailed installation instructions can be found in the IBM xSeries 306m Types 8848 and 8491 User Guide or the HP ProLiant DL320 Generation 4 Server User Guide shipped with the server.

Readiness checklist

Before installing a Signaling Server in a CS 1000 system, complete the following checklist.

**WARNING**

Do not modify or use a supplied AC-power cord if it is not the exact type required in the region where the Signaling Server is installed and used. Be sure to replace the cord with the correct type.

Table 23
Readiness checklist (Part 1 of 2)

Have you:	
Read all safety instructions in <i>Communication Server 1000E: Installation and Commissioning</i> (NN43041-310) or <i>Communication Server 1000M and Meridian 1 Large System Installation and Configuration</i> (NN43021-310), as appropriate for your CS 1000 system?	
Received all equipment and peripherals? For a Nortel ISP1100 (NTDU27AA), IBM X306m (NTDU99AAE5), and HP DL320-G4 (NTDU97AA) Signaling Servers: • installation accessories for rack-mounting the server • AC-power cord • a DTE-DTE null modem cable (supplied) For a CS 1000E Nortel CP PM Signaling Server (NTDW61BAE5): • NTDW6102E5 - CP PM Signaling Server Hard Drive kit • N0118766 - CP PM Signaling Server Hard Drive Installation instructions • NTAK19ECE6 - CP PM Signaling Server 2 port SDI Cable assembly kit • NTDU0606E6 - CP PM Signaling Server 25cm RJ45 Ethernet Cable kit • a DTE-DTE null modem cable (supplied) • for a CS 1000M Nortel CP PM Signaling Server (NTDW66AAE5 model) • NTDW6102E5 - CP PM Signaling Server Hard Drive kit • N0118766 - CP PM Signaling Server Hard Drive Installation instructions • NTAK19ECE6 - CP PM Signaling Server 2 port SDI Cable assembly kit • NTDW69AAE5 - CP PM Signaling Server Large System Cabling kit • N0106745 - CP PM Signaling Large System Cabling • a DTE-DTE null modem cable (supplied) Note: Save the packaging container and packing materials in case you must ship the product.	

Table 23
Readiness checklist (Part 2 of 2)

Have you:	
Made sure the area meets all environmental requirements?	
Checked for all power requirements?	
Checked for correct grounding facilities?	
Obtained the following: • screwdrivers • an ECOS 1023 POW-R-MATE or similar type of multimeter • appropriate cable terminating tools • a computer (maintenance terminal) to connect directly to the Signaling Server, with: — teletype terminal (ANSI-W emulation, serial port, 9600 bps) — a web browser for Element Manager (configure cache settings to check for new web pages) — every time the browser is invoked, and to empty the cache when the browser is closed)	
Prepared the network data as suggested in <i>Converging the Data Network with VoIP</i> (NN43001-260), <i>Communication Server 1000E: Planning and Engineering</i> (NN43041-220) or <i>Communication Server 1000M and Meridian 1 Large System Planning and Engineering</i> (NN43021-220), as appropriate for your CS 1000 system?	
Read all safety instructions in <i>Communication Server 1000E: Installation and Commissioning</i> (NN43041-310) or <i>Communication Server 1000M and Meridian 1 Large System Installation and Configuration</i> (NN43021-310), as appropriate for your CS 1000 system?	

Installing the CP PM Signaling Server hardware

The Nortel CP PM server is a circuit card, and thus is not mounted in a rack. This section contains instructions for installing a Nortel CP PM Signaling Server in a CS 1000E and a CS 1000M system.

This section contains general instructions for installing the CP PM Signaling Server circuit cards in CS 1000E and CS 1000M systems. For more detailed installation instructions, refer to *Circuit Card: Description and Installation* (NN43001-311) and *Signaling Server: Installation and Commissioning* (NN43001-312).

IMPORTANT!

There are several switches on CP PM circuit cards. All switch settings must be factory defaults except for the switch labelled "S5". Switch S5 must be set to position 2 to support the internal hard drive used on the CP PM Signaling Server circuit cards only.

Installation in a CS 1000E system

The NTDW61BAE5 model of the Nortel CP PM server is designed for use in a CS 1000E system. The first task that must be performed is to install the hard drive shipped with the server. For instructions, see "Install the hard drive on a Nortel CP PM Signaling Server" in *Signaling Server: Installation and Commissioning* (NN43001-312).

You can insert the NTDW61BAE5 model of the Nortel CP PM server into any slot of a CS 1000E Media Gateway (MG 1000E or MG 1000B) or 11C cabinet or chassis, except slot 0. Slot 0 is reserved for a Small System Controller (SSC) card or a Media Gateway Controller (MGC) card. Keying prevents the NTDW61BAE5 model from being inserted into this slot.



CAUTION — Equipment Damage

Do not insert the NTDW61BAE5 model of the Nortel CP PM server into any slot of a CS 1000M Universal Equipment Module (UEM). Doing so can cause electrical shorts on adjacent circuit cards.

Installation in a CS 1000M system

The NTDW66AAE5 model of the Nortel CP PM server is designed for use in a CS 1000M system. The first task that must be performed is to install the hard drive shipped with the server. For instructions, see "Install the hard drive on a Nortel CP PM Signaling Server" in *Signaling Server: Installation and Commissioning* (NN43001-312).

You can insert the NTDW66AAE5 model into any slot of a CS 1000M Universal Equipment Module (UEM) except slot 7. The External Peripheral Equipment Controller (XPEC) is next to slot 7 and prevents the double wide faceplate of the NTDW66AAE5 model from seating into slot 7.

The next task that you must perform is to install ELAN and TLAN Ethernet ports on the back of the CS 1000M UEM. These ports are used to connect your Nortel CP PM Signaling Server to the ELAN and TLAN Ethernet subnets of your CS 1000M system.

Use the following procedure to install ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM.

IMPORTANT!

Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M Universal Equipment Module (UEM) is service-disrupting. Power to the shelf must be turned off during this procedure.

Procedure 52

Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM

- 1 Obtain the special cabling kit (NTDW69AAE5) shipped with the CS 1000M model of the Nortel CP PM Signaling Server (NTDW66AAE5). The NTDW69AAE5 cabling kit should include the items shown in Figure 29.

Figure 29

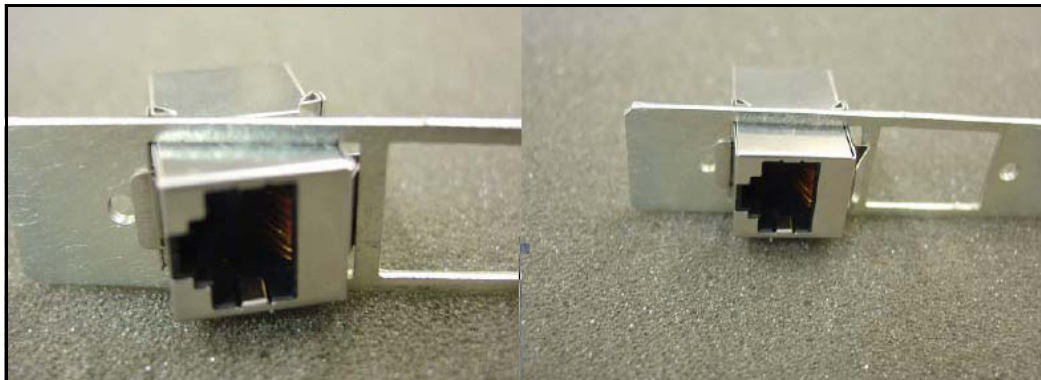
NTDW69AAE5 Cabling Kit contents



The following is a list of items in the NTDW69AAE5 cabling kit:

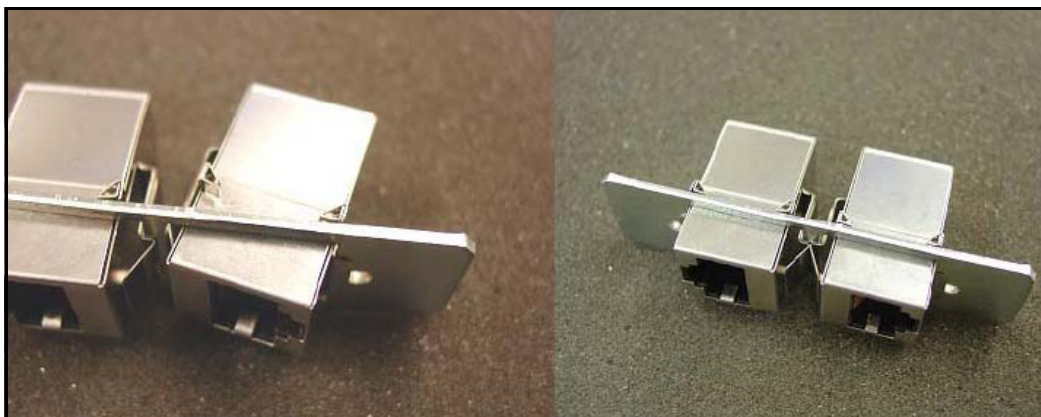
- two RJ-45 CAT5 Ethernet patch cables
 - two Ethernet port couplers
 - one Ethernet port adapter plate
 - two screws
 - two nuts
 - two washers
 - two ferrite beads
- 2 Insert an Ethernet port coupler into the adapter plate. See Figure 30.

Figure 30
One Ethernet port coupler in adapter plate



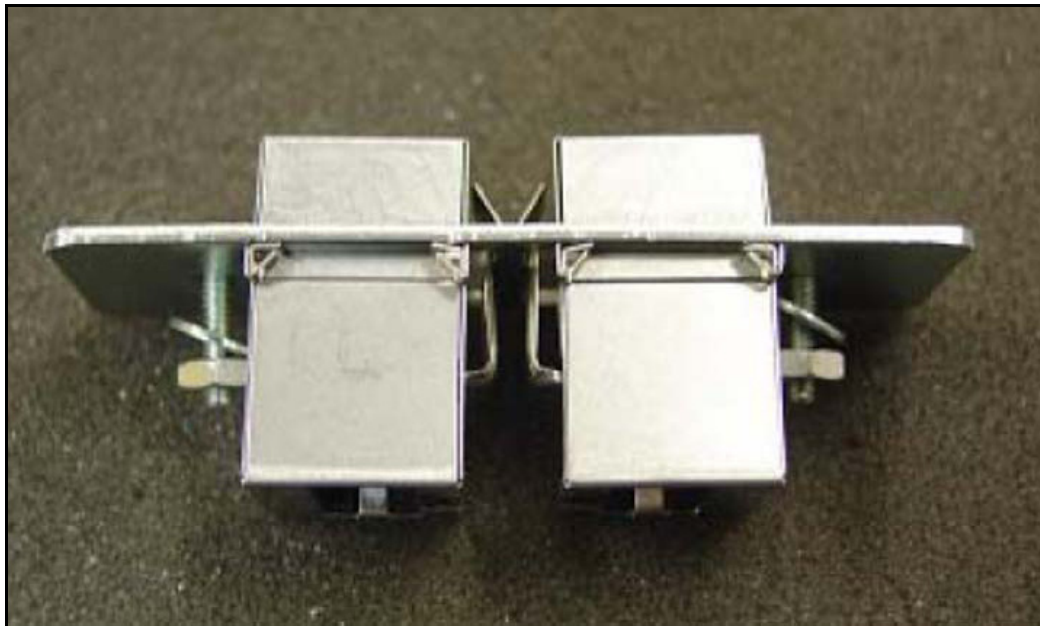
- 3** Insert the other Ethernet port coupler into the adapter plate. See Figure 31 on page 183.

Figure 31
Two Ethernet port couplers in adapter plate



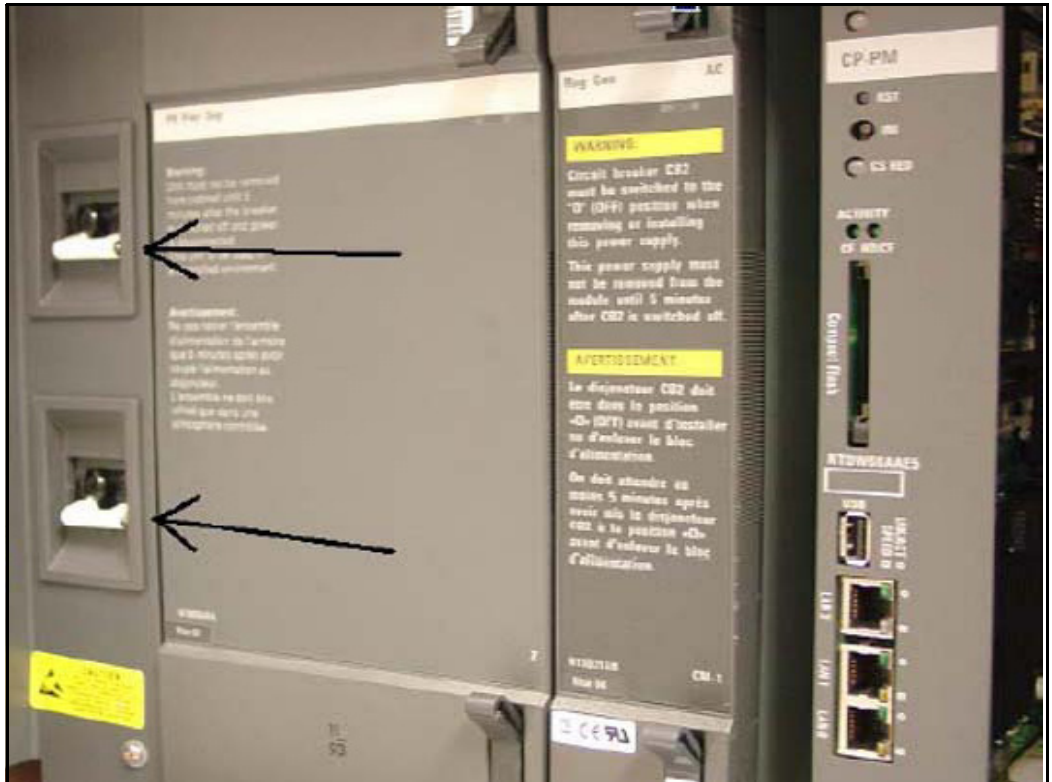
- 4** Loosely attach screws, washers, and nuts to the Ethernet port adapter plate. See Figure 32.

Figure 32
One Ethernet port coupler in adapter plate



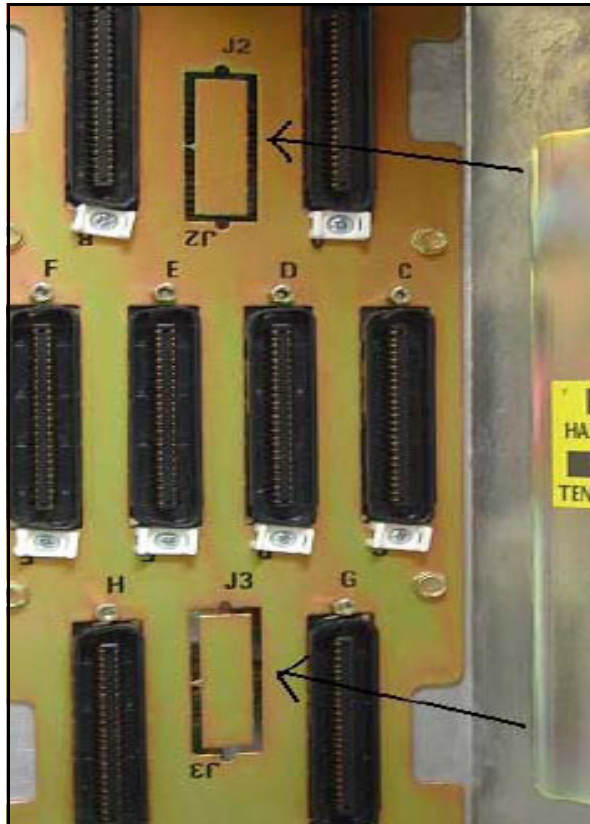
- 5 Switch off the UEM power supplies. See Figure 33.

Figure 33
Shut down UEM power supplies



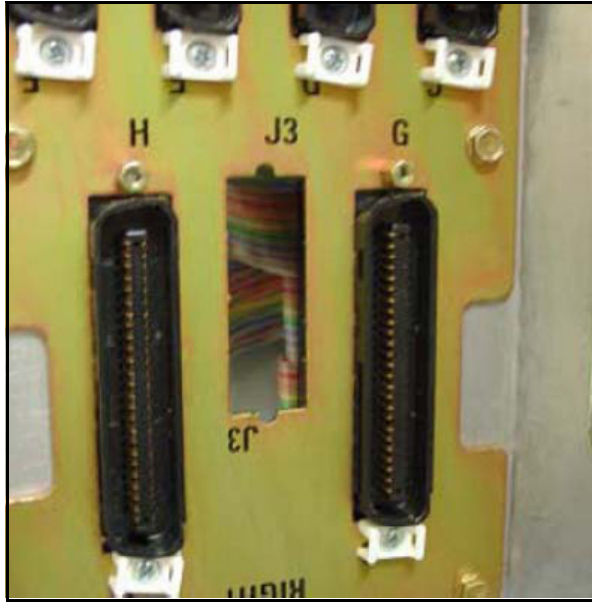
- 6** Select one of the J2-J5 knock-out plates on the back of the UEM. See Figure 34.

Figure 34
J2-J5 plates on back panel of UEM



- 7 Knock out the metal plate from selected J2-J5 location. This provides a hole through which the Ethernet patch cables are routed, and to which the Ethernet port adapter plate is attached. See Figure 35.

Figure 35
Selected J2-J5 plate on back panel of UEM



- 8** Establish an ELAN port on the back panel of the UEM.
 - a.** Insert the end of one of the RJ-45 CAT5 Ethernet patch cables (supplied) into the ELAN network interface (ELAN port) on the faceplate of the server.
 - b.** Route the Ethernet patch cable through the hole you made in the back panel of the UEM.
 - c.** Plug the other end of the Ethernet patch cable into one of the Ethernet port couplers mounted in the Ethernet port adapter plate.
 - d.** Label the Ethernet port coupler as ELAN.

See Figure 36 and Figure 37.

Figure 36
ELAN connection on faceplate



Figure 37
ELAN connection on Ethernet port coupler



- 9** Connect the server to the TLAN subnet.
 - a.** Insert one end of the remaining RJ-45 CAT5 Ethernet patch cable (supplied) into the TLAN network interface (TLAN port) on the faceplate of the server.
 - b.** Route the Ethernet patch cable through the hole you made in the back panel of the UEM.
 - c.** Plug the other end of the Ethernet patch cable into the remaining Ethernet port coupler mounted in the Ethernet port adapter plate.
 - d.** Label the Ethernet port coupler as TLAN.

See Figure 38 and Figure 39.

Figure 38
TLAN connection on faceplate



Figure 39
TLAN connection on Ethernet port coupler



- 10** Fit the Ethernet port adapter plate into the hole on the back of the UEM and tighten the screws. See Figure 40.

Figure 40
Installed Ethernet port adapter plate



11 Attach the ferrite beads to the Ethernet patch cables. See Figure 41.

Figure 41
Attached Ethernet patch cable ferrite beads



————— End of Procedure —————

Installing a Nortel ISP1100 Signaling Server

Complete Procedure 53 to install the ISP1100 Signaling Server hardware into the 19-inch rack. Refer to *Signaling Server: Installation and Commissioning* (NN43001-312) for additional information.

Note: Save the packaging container and packing materials in the event you need to package the server for shipment.

Accessories pouch

You require specific hardware to install the Nortel ISP1100 server in a 19-inch rack. This hardware is included in the Nortel ISP1100 server accessories pouch. The accessories pouch must contain the following items:

- Two support brackets (A)
- Two rack-mounting brackets (B)
- Six rack-mount bracket screws (ten 25 x 1/4 inch pan-head Phillips)

Refer to Figure 42.

Figure 42
ISP1100 Signaling Server mounting accessories



Procedure 53**Preparing an ISP1100 Signaling Server for rack-mounting**

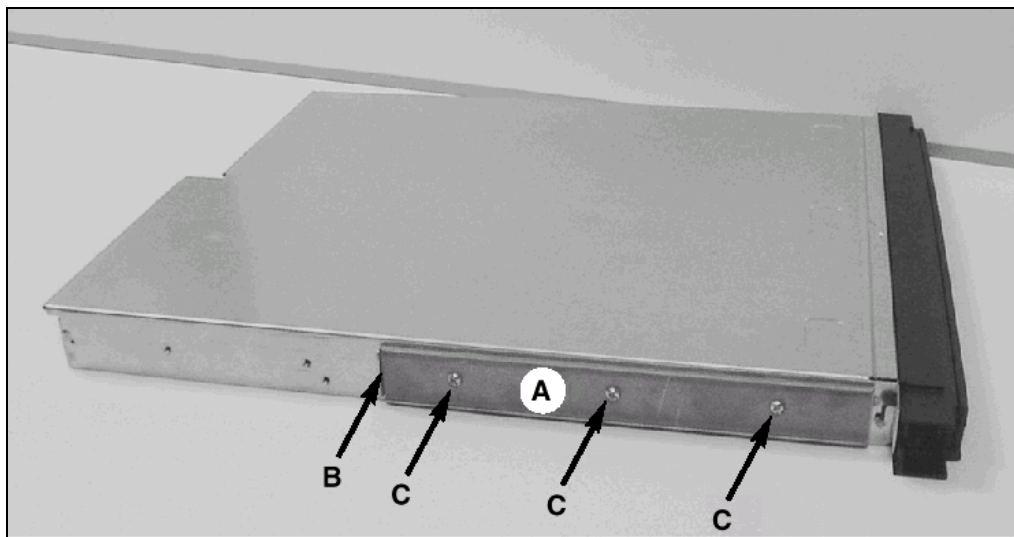
Note: The Front Mount Bracket assembly is not intended for use as a slide rail system. The ISP1100 Signaling Server must be firmly attached to the rack.

**WARNING**

The load rating for this mounting kit is 50 pounds. If you exceed this limit, damage or injury can occur.

- 1 Make sure the Nortel ISP1100 server is not plugged in to an electrical outlet.
- 2 Align the end of the rail with the flange (B) toward the rear of the ISP1100 Signaling Server. See Figure 43.

Figure 43
Nortel ISP1100 Support bracket



- 3 Align the screw holes in the rack-mount rail to the mating holes in the side of the ISP1100 Signaling Server chassis. Use three screws (C) on each side.

Note: Hand-tighten the screws to prevent cross-threading, then use a Phillips screwdriver to secure them.

- 4 Attach the bezel door to the faceplate of the Signaling Server, as shown in Figure 44 and Figure 45 on [page 197](#).

Figure 44
Left hinge mount

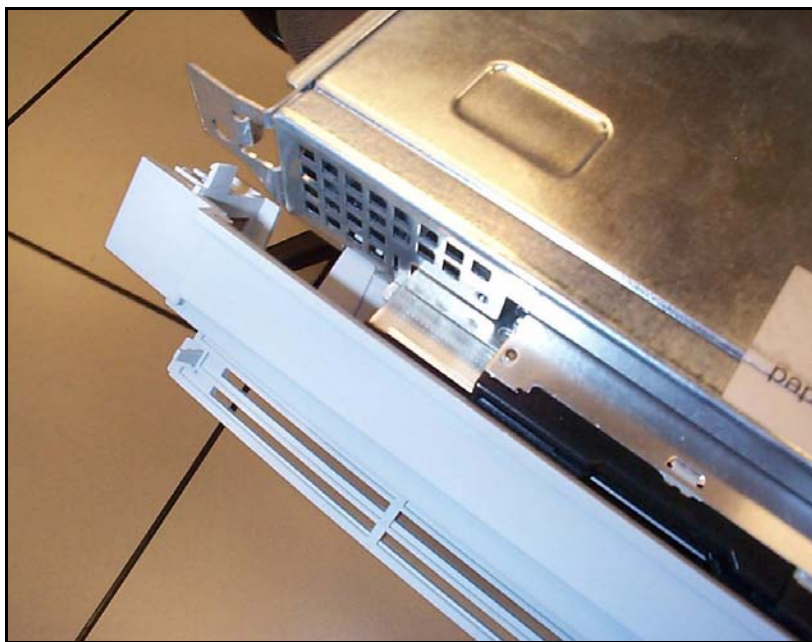
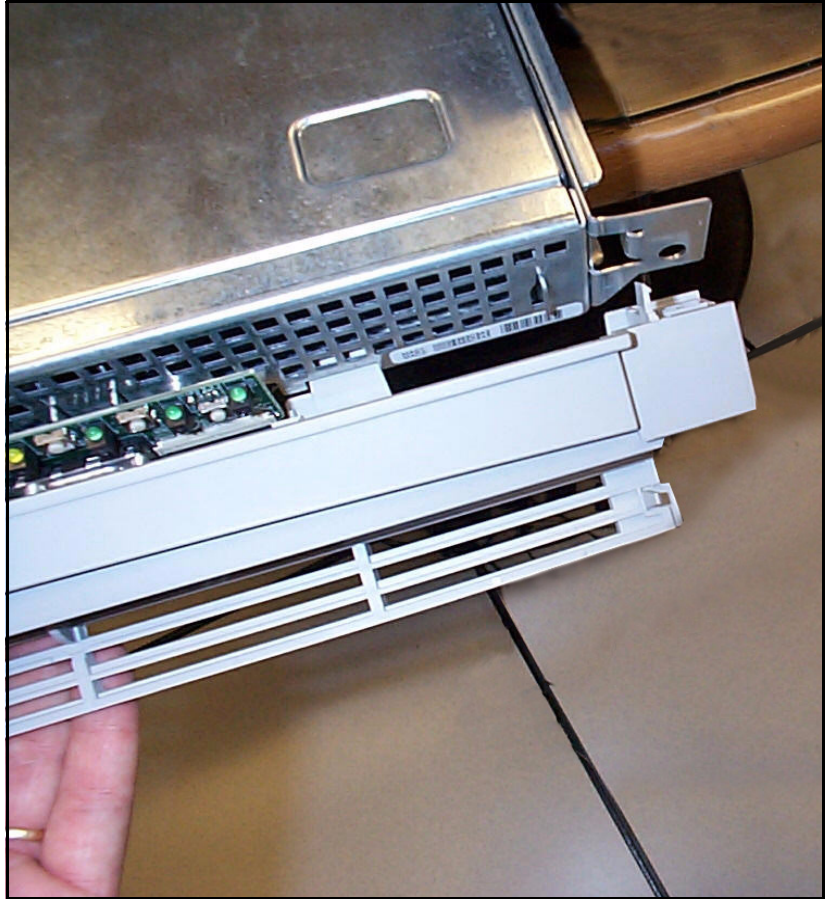
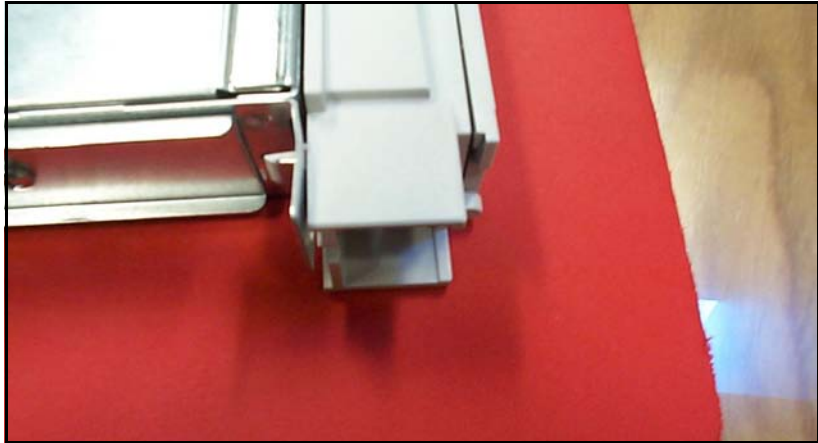


Figure 45
Right hinge mount



When the door is attached to the ISP1100 Signaling Server and rack-mount apparatus, it should appear as shown in [Figure 46 on page 198](#).

Figure 46
Snapped-in bezel door



End of Procedure

Rack-mounting the Nortel ISP1100 server

Procedure 54 **Rack-mounting a ISP1100 Signaling Server**

This procedure describes how to install the server in a rack.

Read the following warnings carefully before you begin installing the ISP1100 Signaling Server in the rack.

**DANGER OF ELECTRIC SHOCK****DISCONNECT AC POWER**

The ISP1100 Signaling Server must be completely disconnected from any AC power source before performing this procedure. Pressing the Power button **DOES NOT** turn off power to this Signaling Server. Some circuitry in the unit can continue to operate even though the front panel Power button is off.

Failure to disconnect the ISP1100 Signaling Server from its AC power source can result in personal injury or equipment damage.

**DANGER OF ELECTRIC SHOCK****GROUNDING THE RACK INSTALLATION**

To avoid the potential for an electrical shock hazard, include a third wire safety grounding conductor with the rack installation.

If the ISP1100 Signaling Server power cords are plugged into AC outlets that are part of the rack, then provide proper grounding for the rack itself.

If the ISP1100 Signaling Server power cords are plugged into wall AC outlets, the safety grounding conductor in each power cord provides proper grounding for the ISP1100 Signaling Server only. Provide additional, proper grounding for the rack and other devices installed in it.



WARNING

MAIN AC POWER DISCONNECT

A main AC power disconnect must be installed. The main AC power disconnect must:

- disconnect power to the entire rack unit
- be readily accessible
- be labeled as controlling power to the entire unit, not just to the ISP1100 Signaling Server(s)



WARNING

OVERCURRENT PROTECTION

The Nortel ISP1100 server is designed for an AC line voltage source with up to 20 amperes (A) of over-current protection. If you install the power system for the equipment rack on a branch circuit with more than 20 A of protection, provide supplemental protection for the Nortel ISP1100 server. If you install more than one server in the rack, the power source for each server must be from a separate branch circuit.

- 1 Attach the rack-mount brackets ("B" as shown in Figure 42 on [page 194](#)) to the equipment rack. Install the left and right side at an equal height. Use standard length screws from the accessories pouch, and screw them into the top and bottom drill holes of the bracket (see Figure 47 on [page 201](#)).

Figure 47
Installed rack-mount bracket



- 2** When both brackets are fixed in place:
 - a.** Align the rack-mount brackets on the ISP1100 Signaling Server with the slide rail system on the rack posts.
 - b.** Slide the ISP1100 Signaling Server in place. Refer to Figure 48 on [page 202](#).

Figure 48
Rack-mounting the ISP1100 Signaling Server



- 3** Tighten the screws through the faceplate of the ISP1100 Signaling Server to the rack-mount bracket.

Note: Do not apply excessive torque while tightening the bolts. The bezel door is plastic and does not require or withstand overtightening.

End of Procedure

Connections

Connection checklist



WARNING

Do not modify or use a supplied AC power cord if it is not the correct type required for the host region.

IMPORTANT!

Nortel CP PM servers are powered through the backplane of the Media Gateway, Universal Equipment Module or 11C cabinet into which they are installed and thus require no power cord.

Before connecting a Signaling Server, ensure that you have the following materials on-hand.

Table 24
Connections checklist

Have you:	
Obtained a serial cable (DTE-DTE null modem cable) to connect the server to a maintenance terminal?	
Obtained the NTA19EC cable (if you are connecting a Nortel CP PM server)? This cable adapts the 50-pin MDF connector on the back of the shelf of the Media Gateway, Universal Equipment Module, or 11C cabinet to a 25-pin DB connector.	
Obtained the CAT5 cables (or better) to connect the server to the ELAN and TLAN subnets?	

Connecting a Nortel CP PM Signaling Server

This section contains instructions for connecting the NTDW61BAE5 and NTDW66AAE5 models of the Nortel CP PM Signaling Server to the ELAN

and TLAN subnets of a CS 1000E and CS 1000M system respectively. It also contains instructions for connecting a maintenance terminal to the Nortel CP PM Signaling Server.

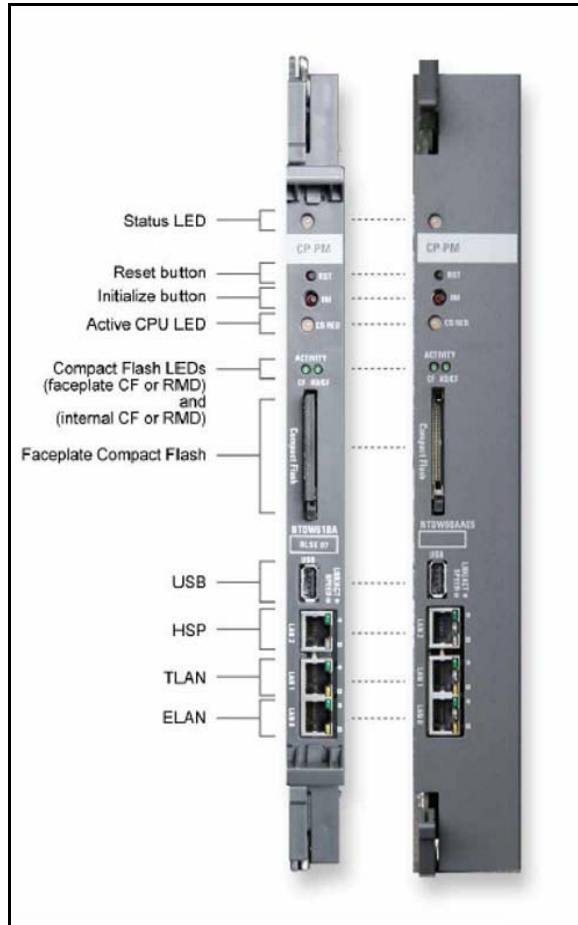
The NTDW61BAE5 model of the Nortel CP PM Signaling Server was designed for use in a CS 1000E system. As such, it is inserted into a slot of the Media Gateway (MG 1000E or MG 1000B). The Media Gateway also hosts the Media Gateway Controller (MGC) that has Ethernet ports for connecting to the ELAN and TLAN subnets of your CS 1000 system.

However, it is common in a CS 1000E system for the Call Server to be connected to the MGC through these ELAN and TLAN Ethernet ports. If the Call Server is not connected to the MGC through these Ethernet ports, the NTDW61BAE5 model of the CP PM Signaling Server uses them to connect to the ELAN and TLAN subnets of the CS 1000E system. If the Call Server is using the MGC ELAN and TLAN Ethernet ports, the Nortel CP PM Signaling Server is connected directly to the ELAN and TLAN Ethernet switches from the faceplate ELAN and TLAN Ethernet ports.

The NTDW66AAE5 model of the Nortel CP PM Signaling Server was designed for use in a CS 1000M system. As such, it is inserted into a slot of a Universal Equipment Module (UEM). UEMs do not have built-in ELAN and TLAN Ethernet ports. These Ethernet ports must be installed on the back of the UEM to enable the Nortel CP PM Signaling Server to connect to the ELAN and TLAN subnets of your CS 1000 system (see Procedure 52: "Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM" on [page 182](#).)

Figure 49 shows the faceplates of the two models of the Nortel CP PM Signaling Server with labeling for all components (NTDW61BAE5 on the left and NTDW66AAE5 on the right).

Figure 49
Faceplates of the Nortel CP PM server



Procedure 55

Connecting a Nortel CP PM Signaling Server

Note: Refer to Figure 49 when performing the following procedure.

- 1 Establish a maintenance terminal connection at the back of the shelf of the IPMG, IPE cube, or 11C chassis. The com (SDI) port of the CP PM circuit card Signaling Server is routed through the backplane of the shelf to the 50 pin MDF connector on the back of the shelf. A special cable is shipped with the CP PM signaling server that adapts the 50 pin MDF connector to a 25 pin DB connector (NTAK19EC). A DTE-DTE null modem serial cable is required to adapt the SDI port to a typical PC serial port.
 - a. Connect the NTAK19EC cable (shipped with the CP PM Signaling Server) to the 50 pin MDF connector on the back of the desired shelf of the IPMG, IPE cube or 11C chassis.
 - b. Connect a DTE-DTE null modem serial cable to the 25 pin DB connector at the end of the NTAK19EC cable.
 - c. Connect the other end of the DTE-DTE null modem serial cable to the serial port on the maintenance terminal.
- 2 Insert the Signaling Server circuit card into an appropriate slot on the shelf of the IPMG, IPE cube, or 11C chassis. The CP PM Signaling Server is hot-pluggable so it may be inserted without powering off the system. The maintenance terminal now has access to the CP PM Signaling Server through the 50-pin MDF connector connected at the back of the shelf of the IPMG, IPE cube or 11C chassis.
- 3 Connect the Signaling Server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable into the LAN1 port (TLAN network interface) on the front of the Signaling Server. The LAN1 port is the middle one of the three network interfaces.
- 4 Connect the Signaling Server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable into the LAN0 port (ELAN network interface) on the front of the Signaling Server. The LAN0 port is the bottom one of the three network interfaces.

5 Set the COM port on the maintenance terminal as follows:

- Terminal type: VT100
- Speed: 9 600
- Data bits: 8
- Parity: none
- Stop bits: 1
- Flow control: none

Note: The CP PM Signaling Server is shipped with the Admin Serial port set to 9600 Bit/s. Other available speeds are 19 200, 38 400, and 115 200 Bits. You can change the port speed using the maintenance terminal. To verify or change the baud rate on a Nortel CP PM Signaling Server, see *Signaling Server: Installation and Commissioning* (NN43001-312).

6 Configure the Signaling Server maintenance terminal. Refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

End of Procedure

Complete Procedure 56 to connect a Nortel CP PM Signaling Server (model NTDW61BAE5) to the ELAN and TLAN subnets of a CS 1000E system.

Procedure 56**Connecting a CP PM Signaling Server to the ELAN and TLAN subnets of a CS 1000E system****1** Connect the Signaling Server to the ELAN subnet.

- if the Call Server is not connected to the Media Gateway Controller (MGC)
 - Insert the end of one of the 25-cm RJ-45 CAT5 Ethernet cables shipped with the server (NTDU0606E6) into the ELAN network interface port (ELAN port) on the faceplate of the server
 - insert the other end of the 25-cm RJ-45 CAT5 Ethernet cable into the MGC ELAN Ethernet port
- if the Call Server is connected to the MGC

- Insert the end of a longer RJ-45 CAT5 Ethernet cable (not supplied) into the ELAN network interface port (ELAN port) on the faceplate of the server
 - Insert the other end of the RJ-45 CAT5 Ethernet cable into an Ethernet port on the ELAN Ethernet switch
- 2** Connect the Signaling Server to the TLAN subnet.
- if the Call Server is not connected to the Media Gateway Controller (MGC)
 - Insert the end of one of the 25-cm RJ-45 CAT5 Ethernet cables shipped with the server (NTDU0606E6) into the TLAN network interface port (TLAN port) on the faceplate of the server
 - Insert the other end of the 25-cm RJ-45 CAT5 Ethernet cable into the MGC TLAN Ethernet port
 - if the Call Server is connected to the MGC
 - Insert the end of a longer RJ-45 CAT5 Ethernet cable (not supplied) into the TLAN network interface port (TLAN port) on the faceplate of the server
 - Insert the other end of the RJ-45 CAT5 Ethernet cable into an Ethernet port on the TLAN Ethernet switch

End of Procedure

Note: If the Call Server is connected to the Media Gateway Controller, you can not use the 25-cm CAT5 Ethernet cables shipped with the Signaling Server (NTDU0606E6). You must obtain CAT5 Ethernet cables that are long enough to connect the Signaling Server directly to the ELAN and TLAN Ethernet switches from the faceplate ELAN and TLAN Ethernet ports.

Complete Procedure 57 to connect a Nortel CP PM Signaling Server (model NTDW66AAE5) to the ELAN and TLAN subnets of a CS 1000M system.

IMPORTANT!

Connecting a Nortel CP PM Signaling Server to the ELAN and TLAN subnets of a CS 1000M system causes a service disruption.

Procedure 57**Connecting a CP PM Signaling Server to the ELAN and TLAN subnets of a CS 1000M system**

- 1** Insert the end of an RJ-45 CAT5 Ethernet cable (not supplied) into the ELAN network interface port (ELAN port) on the back of the CS 1000M UEM. (You installed this ELAN port at the back of the UEM when you installed the Signaling Server in the UEM. See “Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM” on [page 182](#).)
- 2** Insert the other end of the RJ-45 CAT5 Ethernet cable into an Ethernet port on the ELAN Ethernet switch.
- 3** Insert the end of another RJ-45 CAT5 Ethernet cable (not supplied) into the TLAN network interface port (TLAN port) on the back of the CS 1000M UEM. (You installed this TLAN port at the back of the UEM when you installed the Signaling Server in the UEM (see “Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM” on [page 182](#)).
- 4** Insert the other end of the RJ-45 CAT5 Ethernet cable into an Ethernet port on the TLAN Ethernet switch.

End of Procedure

Verify or change the baud rate

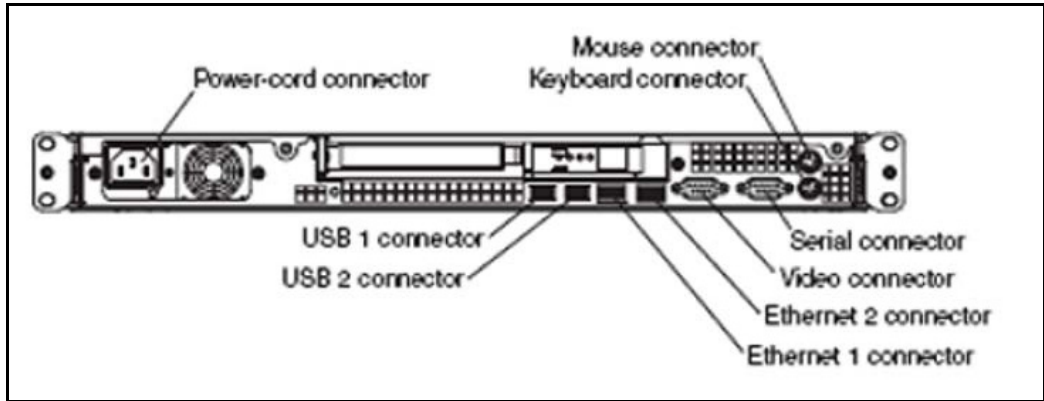
To verify or change the baud rate on a Nortel CP PM Signaling Server, see *Signaling Server: Installation and Commissioning* (NN43001-312).

Connecting an IBM X306m Signaling Server

In geographic regions that are susceptible to electrical storms, Nortel recommends that you plug the IBM X306m Signaling Server into an AC surge suppressor.

Figure 50 shows the rear view of the IBM X306m Signaling Server.

Figure 50
IBM X306m Signaling Server (rear view)



Note: Refer to Figure 50 when performing the following procedure.

Procedure 58
Connecting an IBM X306m Signaling Server

- 1 Connect the Signaling Server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable into Port 1 (TLAN network interface) on the back of the Signaling Server. Port 1 is the right-most of the two network interfaces.
- 2 Connect the Signaling Server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable into PEthernet 2 connector (ELAN network interface) on the back of the Signaling Server. Port 2 is the left-most of the two network interfaces.
- 3 Connect a DTE–DTE null modem serial cable from the serial port on the back of the Signaling Server to the serial port on a maintenance terminal.
- 4 Connect the Signaling Server power cord.
 - a. Check that the power cord is the type required in the region where the Signaling Server is used. Do not modify or use the supplied AC power cord if it is not the correct type.
 - b. Attach the female end of the power cord to the mating AC power receptacle on the left side of the Signaling Server's back panel. Plug the male end of the AC power cord into the AC power source (wall outlet).

- 5 Set the baud rate for the serial port on the Signaling Server to 9 600 b/ps. See *Signaling Server: Installation and Commissioning* (NN43001-312).

Note: The IBM X306m Signaling Server ships with the serial port set to 9600 b/ps.

- 6 Configure the connected maintenance terminal. See *Signaling Server: Installation and Commissioning* (NN43001-312).
- 7 Press the Power switch.

Note: Refer to the Signaling Server Product Guide on the CD-ROM shipped with the IBM X306m Signaling Server for additional operating information.

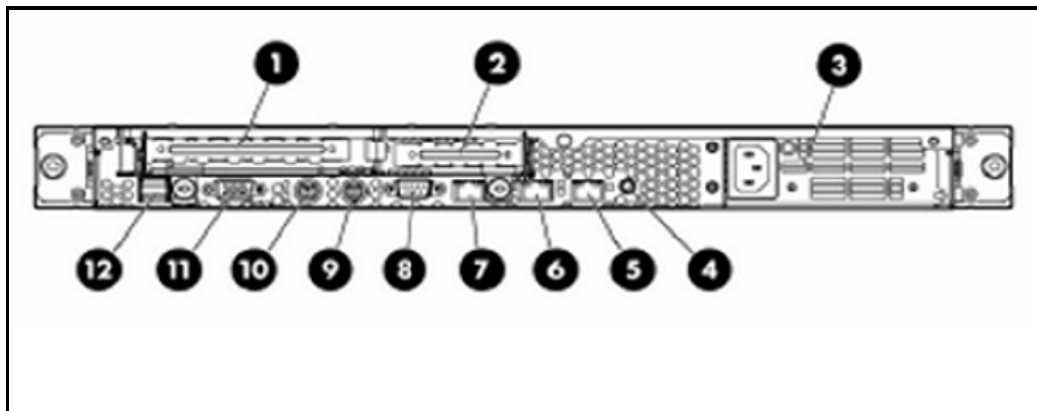
End of Procedure

Connecting an HP DL320-G4 Signaling Server

In geographic regions that are susceptible to electrical storms, Nortel recommends that you plug the HP DL320-G4 Signaling Server into an AC surge suppressor.

Figure 51 shows the rear view of the HP DL320-G4 Signaling Server.

Figure 51
HP DL320-G4 Signaling Server (rear view)



Procedure 59

Connecting an HP DL320-G4 Signaling Server

- 1** Connect the Signaling Server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable labeled with the number 5 into the port (TLAN network interface) on the back of the Signaling Server.
- 2** Connect the Signaling Server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable labeled with the number 6 into the port (ELAN network interface) on the back of the Signaling Server.
- 3** Connect a DTE–DTE null modem serial cable from the Serial Port on the back of the Signaling Server to a maintenance terminal.
- 4** Connect the Signaling Server power cord.
 - a.** Check that the power cord is the type required in the region where the Signaling Server is used. Do not modify or use the supplied AC power cord if it is not the correct type.
 - b.** Attach the female end of the power cord to the mating AC power receptacle on the right-hand side of the Signaling Server's back panel. Plug the male end of the AC power cord into the AC power source (wall outlet).
- 5** Configure the COM1 serial port as the communication port for the connected maintenance terminal. Set the COM 1 baud rate for the serial port on the Signaling Server to 9 600 b/ps. See *Signaling Server: Installation and Commissioning* (NN43001-312).
- 6** Configure the connected maintenance terminal. See *Signaling Server: Installation and Commissioning* (NN43001-312).
- 7** Press the Power switch.

End of Procedure

Maintenance terminal configuration parameters

To configure Signaling Server maintenance terminal configuration parameters, see the Maintenance chapter of *Signaling Server: Installation and Commissioning* (NN43001-312).

Installing the Signaling Server software

IMPORTANT!

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

Introduction

This section provides installation procedures for CS 1000 Release 5.0 Signaling Server software on an IBM X306m or HP DL320-G4 Signaling Server.

IMPORTANT!

CP PM, IBM X306m and HP DL320-G4 Signaling Servers do not support any Signaling Server software prior to CS 1000 Release 5.0.

IMPORTANT!

CS 1000 Release 5.0 Signaling Server software does not need to be installed on the CP PM Signaling Server. It is delivered with the Signaling Server software, operating system, applications and web files pre-loaded onto the hard drive. Only basic system configuration parameters need to be entered on the first boot of the CP PM Signaling Server.

Before you begin

Before installing the software, you must do the following:

- Connect and power up the Signaling Server. See “Connections” on [page 203](#).
- For CP PM Signaling Servers, ensure that Switch S5 is set to position 2 (to support the internal hard disk drive)
- For IBM X306m and HP DL320-G4 Signaling Servers, you must obtain the CS 1000 Release 5.0 Signaling Server Software Install CD.

Installing the software

To install software and enter basic system configuration parameters on an IBM X306m or HP DL320-G4 Signaling Server, complete Procedure 60.

Procedure 60 **Installing Signaling Server software**

Upon completion of Step 1, this procedure takes approximately 45 minutes to complete.

- 1 From your Planning and Engineering group, obtain the following network and IP Telephony data for this Signaling Server:
 - node ID for the IP Telephony node
 - node IP address for the IP Telephony node
 - hostname for the Signaling Server
 - ELAN network interface IP address, Subnet mask, and Gateway
 - TLAN network interface IP address, Subnet mask, and Gateway
 - ELAN network interface IP address of the Call Server
 - Primary and Alternate NRS IP addresses for this networked system. Refer to *IP Peer Networking: Installation and Commissioning* (NN43001-313)
 - NRS role, if applicable. Refer to *IP Peer Networking: Installation and Commissioning* (NN43001-313)
- 2 Boot the Signaling Server from the Removable Media Device (RMD):
 - For IBM X306m, HP DL320-G4, or Nortel ISP1100 Signaling Servers, insert the CS 1000 Release 5.0 Signaling Server Software CD into the CD drive and press the RST button on the front panel of the Signaling Server to trigger a cold boot. This forces the Signaling Server to boot from the CD.
 - For a Nortel CP PM Signaling Server, insert the CS 1000 Release 5.0 Signaling Server Software CF card into the faceplate CF drive and press the RST button on the faceplate of the Signaling Server to trigger a cold boot. The CP PM System BIOS Configuration screen appears (see Figure 52) with an instruction to press F to force the Signaling Server to boot from the CF card.

Figure 52
Nortel CP PM system BIOS configuration

+-----+ System BIOS Configuration, (C) 2005 General Software, Inc. +-----+			
System CPU	: Pentium M	Low Memory	: 632KB
Coprocessor	: Enabled	Extended Memory	: 1011MB
Ide 0 Type	: 3	Serial Ports 1-2	: 03F8 02F8
Ide 1 Type	: 3	ROM Shadowing	: Enabled
Ide 2 Type	: 3	BIOS Version	: NTDU74AA 15
+-----+			
Press F to force board to boot from faceplate drive.			

- The VxWorks™ banner screen appears (see Figure 53) followed by system messages indicating that the Signaling Server Software Installation Tool is being loaded from either the Signaling Server Software CD or CF Card.

The system verifies the file systems.

- If the hard drive of the Signaling Server is not partitioned, the file systems verification process fails. Upon failure, the menu in Figure 55 appears.

Figure 55
File systems verification failure

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

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

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

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

Enter Choice> a
```

- a. Enter a to partition and initialize the hard disk, and to reboot the Signaling Server.

The system displays the messages:

```
Partitioning hard disk ...
Hard disk partitioning succeeded.
```

```
Creating filesystems ...
Filesystems creation succeeded.
```

```
Rebooting system ...
```

- b. The Install Tool banner screen (Figure 54 on [page 217](#)) reappears. Go back to beginning of Step 2.. If the hard drive of the Signaling Server is partitioned, the following system messages appear.

```
Filesystems verification succeeded.
```

- c. Confirm or enter the date and time (Figure 56 on [page 219](#)).

Figure 56
Date and time

```

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

You should ensure the system date and time are correct prior to
installation, since all files copied or created during install will
be time-stamped.

You can press <CR> to accept the current values.

Current date is: FRIDAY 01-04-2006
Enter new date (dd mm yyyy): 04 04 2006
Date is set to: MONDAY 04-04-2006
Current time is: 09:47:18
Enter new time (hh mm ss): 08 38 30
Time is set to: 08:38:30
Current date and time is:
MONDAY 04-04-2005, 08:38:30

```

- When reinstalling the software on an existing system, the system verifies the file systems. The disk check reports:
 Filesystems verification succeeded.
 The system summary appears (Figure 57 on [page 220](#)). Enter **a** to continue the installation.
Note: For a new installation, the data fields in the system summary are blank.

Figure 57
System Summary

```

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

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

+=====+
|  Hostname: SS_Node276_Ldr           S/W Ver: x.xx.xx          |
|                                     |                          |
|      Role: Leader                   Set TPS: Disabled          |
|      Node ID:                      Vtrk TPS: Disabled          |
|      Node IP:                      NRS Config: Alternate SIP    |
|      H.323 ID: SS_Node276_Ldr       CS IP:                     |
|                                     |                          |
|      ELAN IP: 192.168.10.20         TLAN IP: 192.168.20.20     |
|      ELAN SM: 255.255.255.0         TLAN SM: 255.255.255.0     |
|      ELAN GW: 192.168.10.1         TLAN GW: 192.168.20.1      |
|      ELAN MAC: 00:02:b3:c5:51:c6   TLAN MAC: 00:02:b3:c5:51:c7 |
+=====+

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

Enter Choice>

```

Figure 58
Install Tool Main Menu

```

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

                M A I N      M E N U

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

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

Enter Choice>

```

- 4** At the Main Menu (Figure 58), enter **a** to install Signaling Server software. Option **a** performs options **b**, **c**, **d**, and **e**.

The following sample lines display on the screen:

```

Copying "/cd0/sse37012.p3/disk.sys" to "/u/disk.sys".
Processing the install control file ...
"/cd0/sse37012.p3/install.dat" parsed.

```

The Dependency Lists installation screen appears (Figure 59).

Figure 59
Dependency lists installation

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

Do you want to install Dependency Lists?.

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

      Enter Choice>
```

- 5 Press <CR> or enter y to install the dependency lists. The Installation Status Summary screen appears:

The Installation status screen appears (Figure 60 on [page 223](#)).

Figure 60
Installation Status

----- INSTALLATION STATUS SUMMARY -----			
Option	Choice	Status	Comment
Software	yes		new install x.xx.xx
Dependency Lists	yes		copy ALL
firmware	yes		copy ALL
loadware	yes		copy ALL
configuration	yes		
Please enter: <CR> -> <y> - Yes, start complete installation. <n> - No, cancel complete installation and return to the Main Menu. Enter Choice>			

- 6** Enter **y** to start the installation. The screens shown in Figures 61 to 67, which start on [page 224](#), appear.

Figure 61
Installation output

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

You have selected to install version x.xx.xx on the system. As
this is a new install, all necessary directories and files will
be created on the hard disk.

Starting new install of version x.xx.xx.

Initializing protected partition ...
"/p" initialized.

Creating directory ... (many directories are created here) ...
Copying ... (many files are copied here) ...

Boot ROM "/p/load/bootrom.bin" installed.
```

Figure 62
Software installation success

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

Software version x.xx.xx was installed successfully.

All files were copied to the hard disk.
```

Figure 63
IP Phone firmware

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

The installation source contains multiple Internet Telephone firmware
files.

Copying "/cd0/0603Bxx.bin" to "/u/fw/0603Bxx.bin".
Copying "/cd0/0602Bxx.bin" to "/u/fw/0602Bxx.bin".
Copying "/cd0/0604Dxx.bin" to "/u/fw/0604Dxx.bin".
```

Figure 64
Voice Gateway Media Card loadware

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

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

Copying "/cd0/IPL4xxxx.p2" to "/u/fw/IPL4xxxx.p2".
Copying "/cd0/IPL4xxxx.sa" to "/u/fw/IPL4xxxx.sa".
```

- 7 After the Signaling Server software and system components are installed, the Restore IP configuration screen appears (Figure 65 on [page 226](#)).

Figure 65
Restore IP configuration

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

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

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

Enter Choice> b
```

8 Do one of the following:

- If you are migrating a Leader Signaling Server (see "Signaling Server migration" in *Signaling Server: Installation and Commissioning* (NN43001-312), insert the Removable Media Device (RMD) into the appropriate drive, and press <CR> or enter a to restore the IP configuration data. After the restore is complete, the following system message appears:

Done copying IP configuration to disk

The IP Telephony parameter confirmation screen appears (Figure 66 on [page 227](#)). Go to step 12 on [page 252](#).

Figure 66
IP telephony parameter confirmation

```

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

You have entered the following parameters for this Leader SS :
(Press <a>-<l> to correct, <y> to proceed, <n> to reconfigure all.)

    Please enter:
<CR> -> <y> - Yes, these parameters are correct.
        <n> - Re-enter all of the parameters

        <a> - Node ID           I : 9
        <b> - Hostname           : CS1000E_PIV
        <c> - ELAN IP             : 192.167.102.4
        <d> - ELAN subnet mask   : 255.255.255.0
        <e> - ELAN gateway IP    : 192.167.102.1
        <f> - TLAN IP            : 192.167.103.2
        <g> - TLAN subnet mask   : 255.255.255.0
        <h> - TLAN gateway IP    : 192.167.103.1
        <i> - Node IP            : 192.167.103.3
        <j> - Call Server IP      : 192.167.102.3
              NRS configuration : Primary GK + SIP
        <k> - Primary NRS IP     : 192.167.103.2
        <l> - Alternate NRS IP   :

    Enter Choice>

```

- 9** If you are installing a new Signaling Server, or you are migrating a Follower or Standalone Signaling Server (see "Signaling Server migration" in *Signaling Server: Installation and Commissioning* (NN43001-312)), select b to bypass the restoration of IP configuration data. The Signaling Server role selection screen appears (Figure 67 on [page 228](#)).

Figure 67
Signaling Server role selection

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

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

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

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

      Enter Choice>
```

10 Configure the Signaling Server as Leader or Follower. See Figure 67 on [page 228](#).

- If there is already a Leader Signaling Server in the IP Telephony node, enter **b** at the prompt to set this Signaling Server as Follower. The Follower Signaling Server configuration screen appears (Figure 68 on [page 229](#)). Go to step 10 on [page 248](#).

Figure 68
Follower Signaling Server configuration

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

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

To identify this Signaling Server, please enter a Hostname.

Hostname : SS_Node276_Ldr
```

- If there is not already a Leader Signaling Server in the IP Telephony node, or if the Signaling Server is to be a stand-alone Signaling Server, enter **a** at the prompt to configure this Signaling Server as Leader. The Application configuration screen appears (Figure 69 on [page 229](#)).

Figure 69
Application configuration

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

Please select the application configuration for this Signaling Server.

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

Enter Choice>
```

- 11** Configure the application configuration for this Signaling Server. See Figure 69 on [page 229](#).
- If the IP Phone TPS, Virtual Trunk TPS, and optional Network Routing Service (NRS) applications are to be enabled on this Signaling Server, enter **a** at the prompt to configure this Signaling Server as a co-resident Signaling Server.
 - If only the NRS is to be enabled on this Signaling Server:
 - If this Signaling Server is to be associated with a Call Server, enter **a** at the prompt to configure this Signaling Server as a co-resident Signaling Server. After you have finished installing the Signaling Server software, you can disable the Set TPS and Virtual Trunk TPS in Element Manager (refer to *Element Manager: System Administration* (NN43001-332)).
 - If this Signaling Server is not to be associated with a Call Server, enter **b** at the prompt to set this Signaling Server as a stand-alone Signaling Server.

Depending on the application configuration selected, either the NRS - Coresident Signaling Server screen or the NRS - Standalone Signaling Server screen appears.

Figure 70
Network Routing Service (NRS) — co-resident Signaling Server

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

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

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

Enter Choice>
```

Figure 71
Network Routing Service (NRS) — stand-alone Signaling Server

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

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

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

Enter Choice>
```

- 12** Select the Network Routing Service (NRS) to be provided by this Signaling Server. See Figure 70 on [page 230](#) for a co-resident Signaling Server or Figure 71 on [page 231](#) for a stand-alone Signaling Server.
- Enter **d** if this Signaling Server is configured as a Coresident Leader and is not providing an NRS. Go to step 13.
 - Press <CR> or enter **a** if this Signaling Server is to provide an H.323 Gatekeeper and a SIP Redirect/Proxy Server.
 - Enter **b** if this Signaling Server is to provide only an H.323 Gatekeeper.
 - Enter **c** if this Signaling Server is to provide only a SIP Redirect/Proxy Server. Refer to *Network Routing Service Installation and Commissioning* (NN43001-564) for more information on the NRS.

Depending on the application configuration selected, either the NRS type: Coresident Signaling Server screen or the NRS type: Standalone Signaling Server screen appears.

Figure 72
NRS type — co-resident Signaling Server

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

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

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

      Enter Choice>
```

Figure 73
NRS type — stand-alone Signaling Server

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

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

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

      Enter Choice>
```

- 13** Select the type of NRS to be provided by this Signaling Server. See Figure 72 for a co-resident Signaling Server.
- If this Signaling Server is to be the Primary NRS, enter **a**.
 - If this Signaling Server is to be the Alternate NRS, enter **b**.
 - If this Signaling Server is not a stand-alone Signaling Server and is to be the Fail-safe NRS, enter **c**.

Refer to *Network Routing Service Installation and Commissioning* (NN43001-564) for more information on the NRS.

Depending on whether the Signaling Server is configured as Leader or Standalone, either the Leader Signaling Server configuration screen (Figure 74) or the Standalone Signaling Server configuration screen (Figure 75) appears.

Figure 74
Leader Signaling Server configuration

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

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

Node ID           : 276

Hostname          : SS_Node276_Ldr

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

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

Node IP           : 192.168.10.20

Call Server IP    : 192.168.10.10
```

Figure 75
Stand-alone Signaling Server configuration

```

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

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

Hostname           : SS_SA

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

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

```

- 14 Enter the data networking and IP telephony parameters for the Signaling Server, as prompted. The IP information applies to a temporary IP Telephony node, to ensure that the existing node is not affected. The entry of data networking and IP telephony parameters also preconfigures the IP Telephony node files. After the Signaling Server software installation, the node files are imported into Element Manager for further configuration (see "Importing IP Telephony nodes" in *Signaling Server: Installation and Commissioning* (NN43001-312)).
 - If this is a Leader Signaling Server, enter the parameters for the Node, ELAN network interface, TLAN network interface, and Call Server as required.
 - If installing the Signaling Server at an office that is not a branch office, enter the ELAN network interface IP address of the Call Server.
 - If installing the Signaling Server at a branch office, enter the ELAN network interface IP address of the MG 1000B Core.
 - If this is a Follower Signaling Server, enter the Hostname of the Leader Signaling Server. Then go to step 16 on [page 237](#).
 - If this is a stand-alone Signaling Server and not associated with a Call Server (that is, **b** was selected in step 11 on [page 230](#)), enter the

TLAN subnet parameters as required. The Call Server IP address is automatically set to 0.0.0.0.

Depending on whether the Signaling Server is configured as Primary, Alternate, or Standalone, either the Primary NRS IP address screen, the Alternate NRS IP address screen, or both (in succession) appear. Both screens appear in succession for a Standalone Signaling Server.

Figure 76
Primary NRS IP address

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
Please enter the Primary NRS IP Address:
Primary NRS IP   :
```

Figure 77
Alternate NRS IP address

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
Please enter the Alternate NRS IP Address:
Alternate NRS IP :
```

- 15 Enter the Primary NRS IP address or the Alternate NRS IP address, depending on the option entered in step 12 on [page 231](#) or step 13 on [page 232](#).
 - If **a** was entered in step 13, you can enter the address of the Alternate NRS if you know it, but it is not required. See.
 - If **b** was entered in step 13, enter the address of the Primary NRS..
 - If **c** was entered in step 13:
 - Enter the address of the Primary NRS..
 - Enter the address of the Alternate NRS.
 - If **d** was entered in step 12:

- Enter the address of the Primary NRS (optional).
- If you did enter the address of the Primary NRS, enter the address of the Alternate NRS (also optional).

The Gatekeeper configuration can be updated later using Element Manager.

The IP Telephony parameter confirmation screen appears (Figure 78).

Figure 78
IP Telephony parameter configuration

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

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

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

Please enter:
<CR> -> <y> - Yes, these parameters are correct.
      <n> - No, these parameters are not correct.

Enter Choice>
```

16 Enter <CR> or **y** to confirm the parameters.

The example in Figure 78 on [page 236](#) is for a Leader Signaling Server configured with an Alternate H.323 and SIP NRS. The confirmation screens for a Follower and stand-alone Signaling Server are similar, showing the same list of parameters, specifically:

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

After you confirm the IP configuration, the following system messages appear:

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

Wrote config file "/u/config/bootp.tab".

Wrote config file "/boot/nvram.sys".

Wrote config file "/u/config/config.ini".

Wrote config file "/u/config/nrsconf.xml".

Note: You must configure the ELAN network interface MAC address for the newly installed Signaling Server in the Element Manager node configuration web page.

17 To complete the installation, the Installation Status Summary screen appears as shown in Figure 79 on [page 238](#).

Figure 79
Installation Status Summary

----- INSTALLATION STATUS SUMMARY -----			
Option	Choice	Status	Comment
software	yes	ok	new install x.xx.xx
Dependency Lists	yes	ignore	copy NONE
firmware	yes	ok	copy Ixxxx version x.xx
firmware	yes	ok	copy Ixxxx version x.xx
firmware	yes	ok	copy PhaseX IP Firmware version x.xx
firmware	yes	ok	copy Ixxxx IP Firmware version x.xx
firmware	yes	ok	copy Ixxxx IP Firmware version x.xx
firmware	yes	ok	copy Ixxxx IP Firmware version x.xx
firmware	yes	ok	copy Ixxxx IP Firmware version x.xx
loadware	yes	ok	copy IP Line x.xx.xx for P2
loadware	yes	ok	copy IP Line x.xx.xx for SA
loadware	yes	ok	copy IP Line x.xx.xx for MC32S
configuration	yes	ok	set as Leader
Please press <CR> when ready ...			

- 18** Press <CR> to exit to the Main Menu (see Figure 80 on [page 239](#)). Enter q at the Main Menu to quit the installation process. Figure 81 on [page 239](#) appears. Enter q again.

Figure 80
Install Tool Main Menu

```

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

                M A I N      M E N U

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

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

        Enter Choice>

```

Figure 81
Quit

```

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

You have selected to quit the Install Tool.

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

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

        Enter Choice> q

```

- 19** Remove the Signaling Server Software CD or the Signaling Server Software CF Card (as appropriate) from the RMD drive of the Signaling Server and enter q to close/terminate the Installation Tool and reboot the system. The following system messages appear:

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

```
Rebooting system ....
```

End of Procedure

First boot of a new Nortel CP PM Signaling Server

Nortel CP PM Signaling Servers have CS 1000 Release 5.0 software, applications, operating system, and web files preloaded on the hard drive when they are shipped. On the first boot of a Nortel CP PM Signaling Server, the Signaling Server Software Installation Tool prompts you to enter basic system configuration parameters.

Before you begin

Before booting the new Nortel CP PM Signaling Server for the first time and entering basic system configuration parameters, you must perform the following tasks:

- Install and connect the Signaling Server (refer to “Installing the CP PM Signaling Server hardware” on [page 179](#)).
- Obtain the network and IP Telephony data for the Signaling Server from your Planning and Engineering group:
 - node ID for the IP Telephony node
 - node IP address for the IP Telephony node
 - hostname for the Signaling Server
 - ELAN network interface IP address, Subnet mask, and Gateway
 - TLAN network interface IP address, Subnet mask, and Gateway
 - ELAN network interface IP address of the Call Server

- 2 Press <CR> to continue with the configuration. The Restore IP configuration screen appears (Figure 83).

Figure 83
Restore IP configuration

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

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

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

- 3 Enter b at the prompt to bypass the restore of IP configuration data. The CP PM board location screen appears (Figure 84).

Figure 84
CP PM board location

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

This CS 1000 signaling server is currently located in the IPMG
configured as (Loop-Shelf-Card) :

Please enter new IPMG location for this CPPM SS, or press <CR> to skip.
Note: If the IPMG has not been configured yet, the IPMG loop and
      shelf information can be left as the current value. To update
      the loop and the shelf information later, use OAM shell)

New IPMG location (Loop and Shelf only) [LL SS] :
```

- 4 Enter the location (loop and shelf) of the IPMG board.

Note: If the IPMG has not been configured yet, the loop and shelf information can be left at the current value. The IPMG board location can be updated using OAM shell commands after the Signaling Server is configured.

- 5 The Leader/Follower configuration screen appears (Figure 85).

Figure 85
Leader/Follower Signaling Server configuration

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

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

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

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

      Enter Choice>
```

- 6 Configure the Signaling Server as a Leader or Follower. If there is already a Leader Signaling Server in the IP Telephony node, enter b at the prompt to configure this Signaling Server as Follower. The Follower Signaling Server configuration screen appears (Figure 86). Go to step 15 on [page 235](#).

Figure 86
Follower Signaling Server configuration

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

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

To identify this Signaling Server, please enter a Hostname.

Hostname : SS_Node276_Ldr
```

- 7 If there is not a Leader Signaling Server in the IP Telephony node already, or if the Signaling Server is to be a stand-alone Signaling Server, press <CR> or enter a at the prompt to configure this Signaling Server as Leader.

- 8** Configure the application configuration for this Signaling Server. See Figure 87.
- If you are planning on enabling the IP Phone TPS, Virtual Trunk TPS, and optional Network Routing Service (NRS) applications on this Signaling Server, enter **a** at the prompt to configure this Signaling Server as a co-resident Signaling Server.
 - If you are planning on enabling only the NRS on this Signaling Server:
 - If this Signaling Server is to be associated with a Call Server, enter **a** at the prompt to configure this Signaling Server as a co-resident Signaling Server. After you finished installing the Signaling Server software, you can disable the IP Phone TPS and Virtual Trunk TPS in Element Manager (refer to *Element Manager: System Administration* (NN43001-332)).
 - If this Signaling Server is not to be associated with a Call Server, enter **b** at the prompt to set this Signaling Server as a Standalone Signaling Server - NRS.

Figure 87
Application configuration

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

Please select the application configuration for this Signaling Server.

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

Enter Choice>
```

Depending on the application configuration selected, either the NRS type: co-resident Signaling Server screen (Figure 88 on [page 246](#)) or the NRS type: standalone Signaling Server screen (Figure 89 on [page 246](#)) appears.

Figure 88
Standalone Signaling Server - NRS

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

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

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

Enter Choice>
```

Figure 89
NRS type — co-resident Signaling Server

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

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

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

Enter Choice>
```

- 9** Select the type of NRS to be provided by this Signaling Server. See Figure 89 for a co-resident Signaling Server. See Figure 88 for a stand-alone Signaling Server.
- If this Signaling Server is to be the Primary NRS, enter **a**.
 - If this Signaling Server is to be the Alternate NRS, enter **b**.
 - If this Signaling Server is not a stand-alone Signaling Server and is to be the Fail-safe NRS, enter **c**.

Refer to *IP Peer Networking: Installation and Commissioning* (NN43001-313) for more information on the NRS.

Depending on whether the Signaling Server is configured as Leader, Follower or Stand-alone, the Leader Signaling Server configuration screen (Figure 90), the Follower Signaling Server configuration screen (Figure 91) or the Stand-alone Signaling Server configuration screen (Figure 92) appears.

Figure 90
Leader Signaling Server configuration

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

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

Node ID           : 276

Hostname          : SS_Node276_Ldr

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

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

Node IP           : 192.168.10.20

Call Server IP    : 192.168.10.10
```

Figure 91
Follower Signaling Server configuration

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

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

To identify this Signaling Server, please enter a Hostname.

Hostname : SS_Node276_Ldr
```

Figure 92
Stand-alone Signaling Server configuration

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

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

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

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

- 10** Enter the data networking and IP telephony parameters for the Signaling Server, as prompted.
- If this is a Leader Signaling Server, enter the parameters for the Node, ELAN network interface, TLAN network interface, and Call Server as required. See Figure 74 on [page 233](#). For the Call Server:
 - If installing the Signaling Server at an office that is not a branch office, enter the ELAN network interface IP address of the Call Server.
 - If installing the Signaling Server at a branch office, enter the ELAN network interface IP address of the MG 1000B Core.
 - If this is a Follower Signaling Server, enter the Hostname of the Leader Signaling Server. The IP telephony parameter configuration screen appears (Figure 93 on [page 249](#)).

Figure 93
IP Telephony parameter configuration

```

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

You have entered the following parameters for this Leader SS :
(Press <a>-<l> to correct, <y> to proceed, <n> to reconfigure all.)

Please enter:
<CR> -> <y> - Yes, these parameters are correct.
        <n> - Re-enter all of the parameters

        <a> - Node ID           I : 9
        <b> - Hostname          : CS1000E_PIV
        <c> - ELAN IP           : 192.167.102.4
        <d> - ELAN subnet mask  : 255.255.255.0
        <e> - ELAN gateway IP   : 192.167.102.1
        <f> - TLAN IP           : 192.167.103.2
        <g> - TLAN subnet mask  : 255.255.255.0
        <h> - TLAN gateway IP    : 192.167.103.1
        <i> - Node IP            : 192.167.103.3
        <j> - Call Server IP     : 192.167.102.3
        NRS configuration      : Primary GK + SIP
        <k> - Primary NRS IP     : 192.167.103.2
        <l> - Alternate NRS IP   :

Enter Choice>

```

- Proceed to step 16 on [page 237](#).
- If this is a stand-alone Signaling Server and not associated with a Call Server (that is, **b** was selected in step 11 on [page 230](#)), enter the TLAN subnet parameters as required. The Call Server IP address is automatically set to 0.0.0.0.

The IP information applies to a temporary IP Telephony node. This ensures that the existing node is not impacted. This also preconfigures the IP Telephony node files. In *Signaling Server: Installation and Commissioning* (NN43001-312), the node files are imported to Element Manager for further configuration.

Depending on whether the Signaling Server is configured as Primary, Alternate or Stand-alone, the Primary NRS IP address screen (Figure 94), the Alternate NRS IP address screen (Figure 95), or both in succession (for a Stand-alone Signaling Server) appear.

Figure 94
Primary NRS IP address

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
Please enter the Primary NRS IP Address:
Primary NRS IP   :
```

Figure 95
Alternate NRS IP address

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
Please enter the Alternate NRS IP Address:
Alternate NRS IP :
```

- 11 Enter the Primary NRS IP address or the Alternate NRS IP address, depending on the option entered in step 12 on [page 231](#) or step 13 on [page 232](#).
 - If **a** was entered in step 13, you can enter the address of the Alternate NRS if you know it, but it is not required. See Figure 77 on [page 235](#).
 - If **b** was entered in step 13, enter the address of the Primary NRS. See Figure 76 on [page 235](#).
 - If **c** was entered in step 13:
 - Enter the address of the Primary NRS. See Figure 76.
 - Enter the address of the Alternate NRS. See Figure 77.
 - If **d** was entered in step 12:
 - Enter the address of the Primary NRS (optional).

- If you did enter the address of the Primary NRS, enter the address of the Alternate NRS (also optional).

The Gatekeeper configuration can be updated later using Element Manager. The IP telephony parameter configuration screen appears (Figure 96).

Figure 96
IP Telephony parameter configuration

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

You have entered the following parameters for this Leader SS :
(Press <a>-<l> to correct, <y> to proceed, <n> to reconfigure all.)

Please enter:
<CR> -> <y> - Yes, these parameters are correct.
      <n> - Re-enter all of the parameters

      <a> - Node ID           I : 9
      <b> - Hostname          : CS1000E_PIV
      <c> - ELAN IP           : 192.167.102.4
      <d> - ELAN subnet mask  : 255.255.255.0
      <e> - ELAN gateway IP   : 192.167.102.1
      <f> - TLAN IP          : 192.167.103.2
      <g> - TLAN subnet mask  : 255.255.255.0
      <h> - TLAN gateway IP   : 192.167.103.1
      <i> - Node IP           : 192.167.103.3
      <j> - Call Server IP    : 192.167.102.3
            NRS configuration : Primary GK + SIP
      <k> - Primary NRS IP    : 192.167.103.2
      <l> - Alternate NRS IP  :

Enter Choice>
```

12 Press <CR> or enter y to confirm all parameters entered, n to re-enter all parameters, or a letter a through l to change the value of the corresponding system parameter. The configuration screens for a Follower and Standalone Signaling Server - NRS are similar, showing the same list of parameters, specifically:

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

The following message is displayed:

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

Note: The ELAN network interface MAC address must be configured in the Element Manager node configuration web page.

The Install Tool Main Menu screen appears (Figure 97):

Figure 97
Install tool

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

                M A I N      M E N U

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

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

Enter Choice> q
```

- 13** Enter **q** to quit the Install Tool. Confirm to reboot the system. The Installation Tool quit confirmation screen appears (Figure 98).

Figure 98
Installation Tool quit confirmation

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
You have selected to quit the Install Tool.

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

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

Enter Choice> q
```

- 14** Enter **q** to close/terminate the Installation Tool and reboot the Signaling Server.

End of Procedure

Adding a follower Signaling Server

After configuration and reboot, a Follower Signaling Server sends out BOOTP requests and waits for a response. Since the Follower Signaling Server is not yet configured in an IP Telephony node, there is no BOOTP response. Do not wait for this response. Complete Procedure 62, “Adding a Follower Signaling Server to an IP Telephony node,” on [page 255](#) .

Procedure 62**Adding a Follower Signaling Server to an IP Telephony node**

Note: The first time the Follower Signaling Server is installed, it cannot obtain the system login and password, and does not have the current CONFIG.INI file with the Call Server IP address, therefore the FTP fails. In subsequent Follower installations, FTP succeeds.

- 1 Open the Web browser.
- 2 Enter the **Signaling Server Node IP address** in the Address Bar of the browser window and press Enter on the keyboard.

Note: The ELAN network interface IP address can be required, instead of the Node IP address, to access the Element Manager login Web page in secure environments.

- 3 The Element Manager **Login** Web page opens.

- a. Enter a valid **User ID** and **Password** combination.

— A valid User Id and Password combination is one that is defined on the Call Server.

The IP Address of the Call Server appears in the Call Server IP Address field.

- b. Click **Login**.

The System Overview Web page appears.

- 4 Select **IP Network > Nodes: Servers, Media Cards** from the navigator. The Node Configuration web page opens, as shown in Figure 99.

Figure 99
Node Configuration web page

Managing: **207.179.153.99**
IP Telephony » Nodes: Servers, Media Cards » Node Configuration

Node Configuration

New Node

+ Node: 8 Node IP: 192.168.253.7

- 5 Click Edit next to the node to which the Follower Signaling Server is to be added. The Edit web page opens, as shown in Figure 100.

Figure 100
Edit web page

Managing: **Navigation Sytem Name (192.167.102.3)**
 System » IP Network » Node Configuration » IP Telephony: Node ID 9 » Edit

Edit

- IP Telephony Node

Node ID 9

Telephony LAN (TLAN) Node IP address *

Embedded LAN (ELAN) gateway IP address

Embedded LAN (ELAN) subnet mask

Voice LAN (TLAN) subnet mask

+ VGW and IP phone codec profile

+ QoS

+ LAN configuration

+ SNTP

+ Virtual Trunk Network Health Monitor configuration

+ H323 GW Settings

+ Firmware

+ SIP GW Settings

+ SIP URI Map

+ SIP CD Services

+ SIP CTI Services

+ Cards

+ Signaling Servers

**Mandatory fields of current configuration*

- 6 Click Add next to Signaling Servers. The section expands to show a list of Signaling Servers and a blank template for entering Signaling Server xxx.xxx.xxx.xxx properties, as shown in Figure 101.

Figure 101
Signaling Server properties template

- Signaling Servers	Add
+ Signaling Server 192.167.102.4 Properties	Remove
- Signaling Server 0.0.0.0 Properties	Remove

Role **Unknown**
 Type **UnknownSS**

Embedded LAN (ELAN) IP address *
 Embedded LAN (ELAN) MAC address *
 Telephony LAN (TLAN) IP address *
 Telephony LAN (TLAN) gateway IP address
 Hostname *
 H323 ID

Enable Line TPS ☒
 Enable IP Peer Gateway (Virtual Trunk TPS)

If Telephony LAN(TLAN) IP address and Telephony LAN(TLAN) gateway IP address are not set, Telephony LAN(TLAN) Node IP address when Line TPS or IP Peer Gateway applications will not run.

Enable SIP Proxy / Redirect Server ☐
 Local SIP TCP/UDP Port to Listen to
 SIP Domain name
 SIP Gateway Endpoint Name
 SIP Gateway Authentication Password
 Enable Gatekeeper ☐
 Network Routing Service Role

** Mandatory fields of current configuration*

- Enter the information corresponding to the Follower Signaling Server. The Role field will automatically revert to Follower once the Follower Signaling Server has been added.

- 8 Click Save and Transfer to transfer the updated IP Telephony node information to the other elements of the node. Refer to Transferring IP Telephony files, and *IP Line: Description, Installation, and Operation* (NN43001-500) for detailed instructions on transferring IP Telephony node information.

End of Procedure

Unpacking Help files for Virtual Terminal Emulator

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

Unpacking the Help files is optional. However, they can be unpacked at any time after the Signaling Server software is installed. To unpack the files, refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

IMPORTANT!

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

Refer to *Element Manager: System Administration* (NN43001-632) for more information on Element Manager and the Virtual Terminal Emulator.

Logging in to the Signaling Server

Use Procedure 63 on [page 260](#) to log in to the vxWorks™ shell to access the Signaling Server from a maintenance terminal.

Procedure 63

Logging in to the Signaling Server

Before you begin, make sure the DTE–DTE null modem cable (supplied with the Signaling Server) runs between the serial port on the back of the Signaling Server and the maintenance terminal.

- 1 Make sure the Signaling Server is powered up and connected to the maintenance terminal. Refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

The Signaling Server must boot successfully before the user can log in.

- 2 Press <CR> to invoke the login prompt.
- 3 Enter the login credentials by doing one of the following:
 - If the Signaling Server has connected to the Call Server (the startup messages indicate if the PBX link is up), use the PWD1 login to access the Signaling Server.
 - If the Signaling Server is not connected to the Call Server:
 - a. Enter the default Signaling Server Command Line Interface (CLI) login **admin**.
 - b. Enter the Signaling Server Command Line Interface (CLI) password.
 - If this Signaling Server has just been installed and you are logging in for the first time, enter the default password **cseadmin**.

The system immediately prompts you to change the default password.
 - If this is not the first login to the Signaling Server, enter the appropriate password.

If you have forgotten the password, reset it from the Tools Menu (see *Signaling Server: Installation and Commissioning* (NN43001-312)).

End of Procedure

To log out of the Signaling Server, enter **exit** at the command line.

Verifying a successful configuration

To ensure that the Signaling Server Ethernet connections (for the ELAN and TLAN subnets) are configured correctly, perform a ping test to one or more of the other devices connected to the network, particularly the Call Server.

Procedure 64

Verifying the Signaling Server Ethernet connection

- 1 Log in to the Signaling Server, using Procedure 63 on [page 260](#).
- 2 Ping the IP address of the Signaling Server. Enter the command:

```
ping x.x.x.x
```

Where **x.x.x.x** is the Signaling Server ELAN network interface IP address.

- 3 Ping the IP address of the Call Server. Enter the command:

```
ping x.x.x.x,3
```

Where **x.x.x.x** is the Call Server ELAN network interface IP address.

- 4 If desired, repeat step 3 for other devices connected to the network.

End of Procedure

Testing the Leader Signaling Server

Configure two IP Phones to register to the Signaling Server on its temporary node. These IP Phones must be provisioned on the Call Server. Refer to *Communication Server 1000E: Installation and Commissioning* (NN43041-310), *Communication Server 1000M and Meridian 1: Large System Installation and Commissioning* (NN43021-310), or *Communication Server 1000M and Meridian 1: Small System Installation and Configuration* (NN43011-310) for the procedure appropriate to the system. After provisioning, the telephones can call each other.

Appendix A: Upgrade checklists

Contents

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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 25
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 26
Upgrade details

Current Software - Generic	
Target Software - Generic	
Hardware being added	
Feature Upgrade	
License Upgrade	

Pre-upgrade checklists

Software Upgrade

Software audit

Table 27
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 28
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 29
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 30
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 30
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 31
Hardware audit

Hardware Audit		
Perform the Hardware Audit prior to the scheduled upgrade.		
	Yes	No
Verify Shipping List - Complete and Accurate		
Audit Site for new hardware locations		
Pre Run Cables if possible		
Review All switch settings for new cards		
Read all applicable NTP Procedures completely		

Pre-conversion steps

Table 32
Pre-conversion steps (Part 1 of 2)

Pre Conversion Steps
A capture file should be made of the following information using a PC or Printer.
Perform an overall system check:
LD 135 SCPU (ensure that the system is redundant)
LD 137 STAT/TEST CMDU
LD 96 STAT DCH
LD 48 STAT AML
LD 32 STAT
LD 60 STAT

Table 32
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 LD 143 - MDP ISSP -Prints all inservice patches and patch handle numbers (includes all DepList patches)
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 33
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 34
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 34
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 4	0
3	1	1	2	9	2	9	TOP	J14	1 5	1
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 8	0
4	1	1	2	9	2	9	TOP	J14	1 9	1
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 35**
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	112-127	3 1	off on on on on off off off	off on on off on off off off
4	0	8	128-143	4 0	off on on on off on on on	off on on off off on on on
4	1	9	144-159	4 1	off on on on off on on off	off on on off off on on off
5	0	10	160-175	5 0	off on on on off on off on	off on on off off on off on
5	1	11	176-191	5 1	off on on on off on off off	off on on off off on off off
6	0	12	192-207	6 0	off on on on off off on on	off on on off off off on on
6	1	13	208-233	6 1	off on on on off off on off	off on on off off off on off

Table 35
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 36
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

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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 37 on [page 276](#) 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 37
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 37
Customer Technical Services (Part 2 of 2)

Location	Contact
Network Technical Support (NTS)	Asia Pacific Telephone: +61 28 870 8800 Australia Telephone: 1800NORTEL (1800 667835) or +61 2 8870 8800 E-mail: asia_support@nortel.com People's Republic of China Telephone: 800 810 5000 E-mail: chinatsc@nortel.com Japan Telephone: 010 6510 7770 E-mail: supportj@nortel.com Hong Kong Telephone: 800 96 4199 E-mail: chinatsc@nortel.com Taiwan Telephone: 0800 810 500 E-mail: chinatsc@nortel.com Indonesia Telephone: 0018 036 1004 Malaysia Telephone: 1 800 805 380 New Zealand Telephone: 0 800 449 716 Philippines Telephone: 1 800 1611 0063 or 632 917 4420 Singapore Telephone: 800 616 2004 South Korea Telephone: 0079 8611 2001 Thailand: Telephone: 001 800 611 3007

Services available

Services available through the Technical Assistance Centers include:

- diagnosing and resolving software problems not covered by support documentation
- diagnosing and resolving hardware problems not covered by support documentation
- assisting in diagnosing and resolving problems caused by local conditions

There are several classes of service available. Emergency requests (Class E1 and E2) receive an immediate response. Service for emergency requests is continuous until normal system operation is restored. Non-emergency

requests (Class S1, S2, and NS) are serviced during normal working hours.
Tables 38 and 39 describe the service classifications.

Table 38
Technical service emergency classifications

Class	Degree of failure	Symptoms
E1	Major failure causing system degradation or outage	System out-of-service with complete loss of call-processing capability. Loss of total attendant console capability. Loss of incoming or outgoing call capability. Loss of auxiliary Call Detail Reporting (CDR) in resale application. Call processing degraded for reasons such as trunk group out-of-service: • 10% or more lines out-of-service • frequent initializations (seven per day or more) • inability to recover from initialization or SYSLOAD • consistently slow dial tone (eight seconds or more delay)
E2	Major failure causing potential system degradation or outage	Standby CPU out-of-service. Frequent initializations (one per day or more). Disk drive failure. Two sets of disks inoperative.

Table 39
Technical services non-emergency classifications

Class	Degree of failure	Symptoms
S1	Failure that affects service	Software or hardware trouble directly and continuously affecting user's service or customer's ability to collect revenue. Problem that will seriously affect service at in-service or cut-over date.
S2	Intermittent failure that affects service	Software or hardware faults that only intermittently affect service. System-related documentation errors that directly result in or lead to impaired service.
NS	Failure that does not affect service	Documentation errors. Software inconsistencies that do not affect service. Hardware diagnostic failures (not defined above) that cannot be corrected by resident skills. Test equipment failures for which a backup or manual alternative can be used. Any questions concerning products.

Except as excluded by the provisions of warranty or other agreements with Nortel, a fee for technical assistance may be charged, at rates established by Nortel. Information on rates and conditions for services are available through Nortel sales representatives.

Requesting assistance

Collect the information listed in Table 40 before you call for service.

Table 40
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 38 and 39)	_____
Description of assistance required	_____

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Nortel Communication Server 1000

Communication Server 1000M and Meridian 1

81C IGS to CS 1000M MG CP PII FNF Upgrade

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